**User Manual** 

# — 4/8/16CH DVR —



This document contains preliminary information and subject to change without notice.



# 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.



This symbol is intended to alert the user to the presence of unprotected "Dangerous voltage" within the product's enclosure that may be strong enough to cause a risk of electric shock.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

#### **WARNING**

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

**NOTE:** This equipment has been tested and found to comply with the limits for a class digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

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# **CHAPTER 1 PACKING DETAIL AND INSTALLATION**

# 1-1 PACKING



1. DVR



2. Quick Start



3. IR Remote Control



4.Batteries x2



5. CD



6. Hard Disk Mount x2



7. Screws x20



8. Power Adaptor



9. Power Cord



10. SATA Cord x3



# 11. DB 26 Flat Cables (16ch only)

# 1-2 Hard Disk Installation

Step 1) Fix the HDD to rack mount with the screws as indicated.



Step 2) Place the HDD on the HDD plate and screw it as indicated.



Step 3) Connect the power and the SATA cables as indicated.

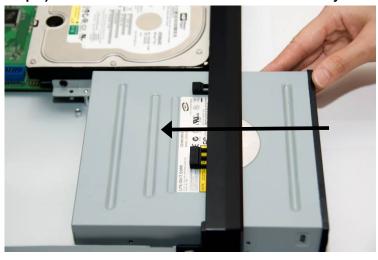


1-3 DVD-RW Installation

Step 1) Remove the front cover from DVR.



Step 2) Put the DVD-RW into the DVR as indicated by the arrow.



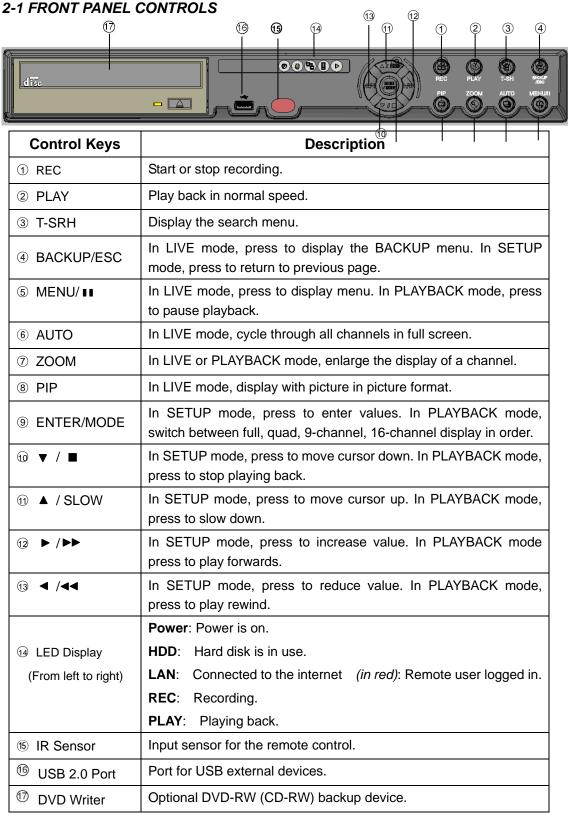
Step 3) Screw the bottom of the DVR as indicated to fix the DVD-RW.



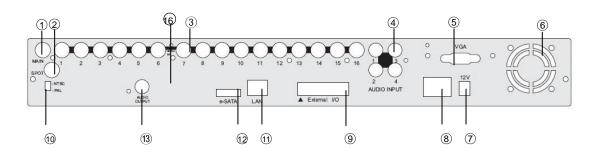
Step 4) Connect the power and the SATA cables.



#### **CHAPTER 2 PANEL LOCATION**

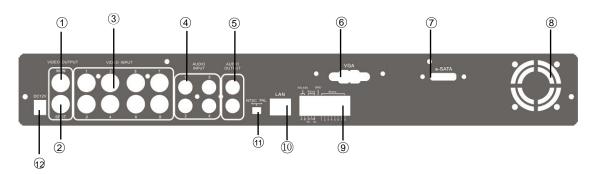


# 2-2 16CH REAR PANEL CONNECTORS

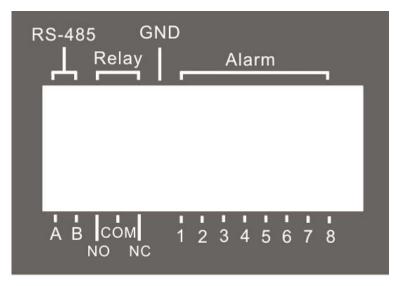


① MAIN monitor	BNC port for the main monitor.
② SPOT monitor	BNC port to display full screen image of all installed cameras in sequence.
③ VIDEO IN	BNC input ports for cameras, 16 in total.
④ AUDIO IN	RCA input port for audio signal.
⑤ VGA	VGA port.
6 Fan	DC 12V 40mm X 40mm fan.
⑦ DC 12V	Socket for a DC 12V input.
8 POWER	Power switch.
EXTERNAL I/O	EXTERNAL I/O port for DB 26 flat cables. (Please refer to the APPENDIX II for pin definition.)
NTSC / PAL Switch	Switch between NTSC and PAL format.
11 LAN	Network port.
12 E-SATA	External SATA hard disks port.
® AUDIO OUT	RCA output for audio signal.

# 2-3 8CH REAR PANEL CONNECTORS

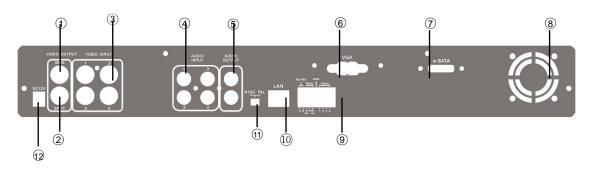


① MAIN monitor	BNC port for the main monitor.
② SPOT monitor	BNC port to display full screen image of all installed cameras in sequence.
③ VIDEO IN	BNC input ports for cameras, 8 in total.
④ AUDIO IN	RCA input port for audio signal.
⑤ AUDIO OUT	RCA output port for audio signal.
6 VGA	VGA port
⑦ E-SATA	External SATA hard disks port.
® Fan	DC 12V 40mm X 40mm fan
9 EXTERNAL I/O	EXTERNAL I/O port (see below for pin definition)
10 LAN	Network port
① NTSC / PAL switch	Switch between NTSC and PAL format.
12 DC 12V	Socket for a DC 12V input.

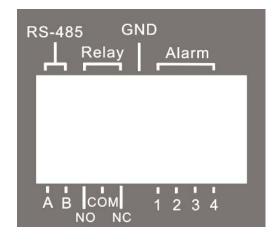


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# 2-4 4CH REAR PANEL CONNECTORS



① MAIN monitor	BNC port for the main monitor.
② SPOT monitor	BNC port to display full screen image of all installed cameras in sequence.
③ VIDEO IN	BNC input ports for cameras, 4 in total.
④ AUDIO IN	RCA input port for audio signal.
⑤ AUDIO OUT	RCA output port for audio signal.
6 VGA	VGA port
⑦ E-SATA	External SATA hard disks port.
8 Fan	DC 12V 40mm X 40mm fan
9 EXTERNAL I/O	EXTERNAL I/O port (see below for pin definition)
10 LAN	Network port
11 NTSC / PAL Switch	Switch between NTSC and PAL format.
12 DC 12V	Socket for a DC 12V input.



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# CHAPTER 3 LIVE, PLAYBACK AND PTZ OPERATIONS

The IR remote control and mouse operate differently under each mode; this chapter describes the functions of them under three different modes: LIVE, PLAYBACK and PTZ.

#### 3-1 LIVE Mode

You can monitor all the channels, listen to audio signal and have some related operations under *LIVE* mode. This paragraph describes the IR remote control, mouse operation and on screen graphical icons under LIVE mode.

Table 3-1.1 Remote control functions under the LIVE mode

Button	ote control functions under the LIVE mode  Description
	•
REC	Start/Stop recording.
LOCK	Enable/Disable the Keypad function on the front panel, the remote control and the mouse.
PLAY	Start playing back the most recently recorded segment.
T-SRH	Display search menu.
AUTO	In AUTO mode, all available channels will be cycled through in full screen.
PTZ	Start/Stop PTZ control.
$\blacksquare$	Switch to quad display.
	Switch to 9-channel display.
	Switch to 13-channel display.
	Switch to 16-channel display.
MENU	Enable/ Disable Menu.
MUTE	Switch between channels with audio signals. CH1/ CH2/ CH3/ CH4/ Mute in Live in order. It can also be switched by pressing direction key + enter key.
BK-UP	Display backup menu.
ENTER/MODE	Switch to full screen, quad, 9-channel, 13-channel, or 16-channel display.
Zoom +	Zoom in to double the screen size
Zoom -	Zoom out from double screen size.
7	Enable/ Disable double screen size display.
Zoom	You can click on the channel name for choosing a specific channel.
STATUS	Display Status.
1,27,8,9	Select the channel to monitor in full screen from channel 1 to 9.
+10	Select the channel to monitor in full screen from channel 10 to 16.
FREEZE	Turn on/off screen freeze function.
PIP	Turn on picture-in-picture format. Click on the channel name can switch to other channels.
OSD	Turn on/off the screen display

Note: 4CH will show quad display; 8 CH will show quad and 9-channel display.

**Table 3-1.2** Graphical icons that will display after right-clicking your mouse under LIVE mode.

	Graphical icons that will display after right-clicking your mouse under LIVE mode
Icon	Description
	Resting the cursor on this icon will bring up the following four menu icons.
0	Main menu.
吕	Search menu.
100	Backup menu.
<b>5</b>	PTZ mode.
口	Turn on/off recording.
	Playback.
무	Resting the cursor on this icon will bring up the following five display icons.
II	FREEZE.
	PIP, picture in picture
Q	ZOOM, double the screen size
	AUTO-sequence
	LOCK, activate the key lock.
	Full screen display.
==	Quad display.
***	9-channel display.
	13-channel display.



16-channel display.

Note: 4CH will show quad display; 8 CH will show quad display and 9-channel display.

Table 3-1.3 Description of on screen graphical icons in LIVE mode

Icon	Description
	Recording is on
<b></b> 1~4	Live Audio is on
	Live Audio is off
À	Motion detected on the channel
2	Sensor triggered on the channel
	Video loss detected on the channel
	USB device detected
<u></u>	DVD burner is detected
	Remote user currently logging into DVR
<b>■ ②</b>	Timer recording is on Red: Timer is set and recording has been started White: Timer is set but recording has not yet been started
3	AUTO-seq is on
2X	2X zoom in is on
	Freeze is on, screen is frozen
<u>P</u>	LOCK is on
	PTZ control is on



IR remote signal has been set to 1-8 to correspond to your 1-to-8 remote controller; the standard remote controller can't control this DVR under this situation. It can only be controlled by1-to-8 remote controller (optional device).

### 3-2 PLAYBACK Mode

Switch to PLAYBACK mode by pressing "PLAY" under the LIVE mode, the graphical icon will show up on the upper center of the screen and the operation panel (see below picture) will show up at right lower corner of the screen. You can drag the panel by mouse to place it on any location of your screen.

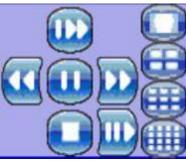


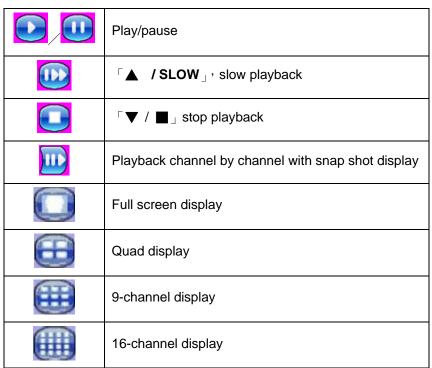
Table 3-2.1 Remote control functions under the PLAYBACK mode

Button	Description
ENTER / MODE	Switch to full screen, quad, 9-channel or 16-channel display.
MENU / II	Turn on/off PAUSE.
PLAY	Play back at normal speed.
▲ / SLOW	Play back at slower speed. The speed will be slowed to 1/2, 1/4, 1/8, 1/16 by each pressing of the button till the slowest limitation of 1/16 of the normal speed. Current playback speed is shown in the upper center of the screen.
44 / 4	Fast rewind. Each press increases the speed to the next level. There are six speeds: 2x, 4X, 8X, 16x, 32X and 64X.
<b>&gt;&gt;</b> / <b>&gt;</b>	Fast forward. Each press increases the speed to the next level. There are six speeds: 2x, 4X, 8X, 16x, 32X and 64X.
▼ / ■	Stop playback.

**Table 3-2.2** The mouse operation under the PLAYBACK mode.

Icon	Description
•	「 ◀◀ / ◀」 Fast rewind
	「►► / ► Fast forward

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Note: 4CH will show quad display; 8 CH will show quad display and 9-channel display.

## 3-3 PTZ Mode

Switch to the PTZ mode by pressing "PTZ" button under the LIVE mode. The PTZ icon will appear on upper left of the screen but it can be re-located on any place of your screen by dragging the mouse.



Table 3-3.1 Remote Control functions under the PTZ mode

Button	Description
▲ / SLOW	Move PTZ up.
▼/■	Move PTZ down.
<b>◄◄/</b> ◀	Move PTZ to the left.
▶ / ▶	Move PTZ to the right.
ZOOM +	PTZ zoom-in.
ZOOM -	PTZ zoom-out.
FOCUS +	PTZ focus-in.
FOCUS -	PTZ focus-out.
IRIS +	PTZ iris-open.
IRIS -	PTZ iris-close.
TOUR	Activate PTZ pre-set tour.
PRESET+ Number	Setup the Preset location  Press "PRESET" key first then two-digit number; DVR will set the current PTZ location at entered preset number.
PLAY+ Number	Go to Preset location  Press "PLAY" key first then two-digit number, PTZ will go to the correspondent preset number location.
PIP	Set current PTZ location as the start of line-scan.
FREEZE	Activate auto line-scan.
ZOOM	Set current PTZ location as the end of line-scan



**Table 3-3.2** Mouse operation under the PTZ mode

Table 3-3.2 Mouse o	peration under the PTZ mode	
Icon	Description	
×	Leave PTZ Mode , back to the LIVE mode	
1 🚝	Pre-set number N. (1~64)	
	Go to pre-set number N.	
P <sub>1</sub>	Set current PTZ location at pre-set number N.	
5	「TOUR」, press to activate pre-set tour	
<b>⇔</b>	$\lceil PIP \rfloor$ , Set current PTZ location as the start of line-scan.	
<b>=</b>	「FREEZE」, Activate line-scan.	
<b>(=</b>	「ZOOM」, Set current PTZ location as the end of line-scan.	
* * *	To move PTZ in 360°	
<u>+</u> Z00M	PTZ zoom in; PTZ zoom out	
+ Focus -	PTZ focus in; PTZ focus out.	
+ IRIS -	PTZ IRIS open, PTZ IRIS close.	
Below functions need support from specific PTZ manufacturer. Please check user manual of your PTZ for more detail.		
1	AUX 1, 「AUTO」 Key + Number key「1」	
2	AUX 2, 「AUTO」 Key + Number key 「2」	
3	AUX 3, $\lceil$ AUTO $\rfloor$ Key $+$ Number key $\lceil$ 3 $\rfloor$	
4	AUX 4, 「AUTO」 Key + Number key「4」	
5	AUX 5, 「AUTO」 Key + Number key 「5」	
6	AUX 6, 「AUTO」 Key + Number key 「6」	
7	AUX 7, 「AUTO」 Key + Number key「7」	

8	AUX 8, 「AUTO」 Key + Number key「8」
	「Backup」, Customized function ∘

# **CHAPTER 4 MAIN MENU SETUP**

To enter the main menu and set up DVR, log-in account and user password are required. The default password of the administrator is "123456". Please check the "Account Setup" for related setup of other log-in users.



 Table 4-0.1
 Some definition of virtual keyboard.

Item	Description
û	Switch between capital and small letters.
.?123 , ABC	Switch between numbers and letters.
Esc	Press to cancel the setup, and re-choose the login account.
€	Delete the last character.
-2	Enter to identify the password. It will enter the set up menu, If the password is verified.



Table 4-0.2 The operation of remote control under the setting menu

Item	Description
<b>◆ ▶</b>	Switch to different options under one item
<b>▲ ▼</b>	Switch to different items
MENU	Save setup and back to LIVE mode
ESC	Back to Upper level of menu without saving
ENTER	Enter the menu, or display virtual keyboard

## **4-1 RECORD SETUP**



Item	Description
	Select STOP to stop recording or OVERWRITE to reuse the HDD when HDD is full
HDD FULL	「 <b>Stop</b> 」: Stop Recording
	「Overwrite」: Start to overwrite that begin from the oldest data

	of HDD, and continue to record.
Record Normal	Enable/Disable normal recording
Record Motion	Enable/Disable recording while Motion is detected
Record Sensor	Enable/Disable recording while Sensor is triggered
Pre Alarm Record	Enable/Disable pre-event recording while motion or sensor is triggered but not in the recording mode. The pre-recording time is approximate at 10 seconds (16 MB).
Audio Record	Enable/Disable Audio recording.
Quality & Frame Rate Setup	Setup the quality and frame rate for each channel under normal recording and event recording type.

# 4-1.1 Quality & Frame Rate Setup



Note: 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.

Item	Description
Resolution	Choose record resolution from : CIF / HD1(2CIF) / D1.
Record Type	You can setup quality and FPS separately for record type.
No.	Check/uncheck the box will enable/disable recording of that channel.
Quality	Choose from Lowest/ Low/ Normal/ High/ Highest
FPS	Choose recording frame rate.

# **4-2 EVENT SETUP**



Item	Description
Al	Set up alarm duration in seconds.
Alarm Duration (Seconds)	Drag the white bar or press ◀ ▶ to adjust value.
Motion Setup	Enter to set up motion detection
Sensor Setup	Enter to set up sensor detection

## **4-2.1 MOTION SETUP**



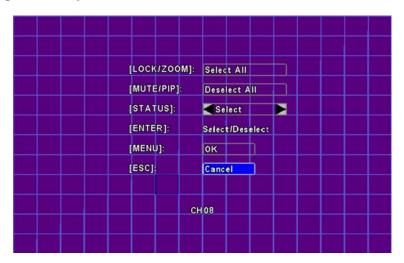
Item	Description
Motion Detection	Check the box to Enable/Disable Motion Detection for all channels.
Motion Popup	Check the box to Enable/Disable popup screen function for all channels. When motion is detected in LIVE mode, the detected channel image will pop up in full screen display.
1~16	You can setup independently for each channel.
Selected Channel Turn	Check the box to Enable/Disable motion detection for each channel.
Object Size	Drag the white bar or press ◀ ▶ to set up Object Size from value 1 to 15 for each channel. The lower value you set the higher sensitivity it will be. Value set up as 1, the motion will be detected easiest.
Sensitivity	Drag the white bar or press ◀ ► to set up Sensitivity from value 1 to 15 for each channel. The lower value you set the higher sensitivity it will be
Motion Area Setup	Enter to setup motion detection area

Note: 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.

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### 4-2.1.1 MOTION AREA SETUP

The motion area setup allows users to select multiple areas where camera should watch for motion detection. The default area is entire screen. Click and drag the cursor without lifting to mark your selected motion detection area.



Item	Description
LOCK/ZOOM	Press LOCK/ZOOM to select entire screen as detection area.
MUTE / PIP	Press MUTE/PIP to deselect entire screen as detection area.
STATUS	Switch between "select" and "deselect" for cursor-dragging function
ENTER	Press to function on the selected area with assigned status
MENU	Press to save the setup and leave
ESC	Press to cancel the setup and leave

### **4-2.2 SENSOR SETUP**



Item	Description
Sensor Detection	Check the box to Enable/Disable sensor detection for all channels.
Sensor Popup	Check the box to Enable/Disable popup screen function for all channels. When Sensor is detected in LIVE mode, the detected channel image will pop up in full screen display.
Sensor Polarity	Click or press ▼ to select between HIGH, LOW voltage for triggering sensor detection or OFF to turn off polarity for each channel
	<b>Low</b> Polarity: Sensor has not been triggered. When connected, sensor will be turned on
	<b>High</b> Polarity: Sensor has been triggered. When connected, sensor status will be turned off
	Off : Sensor is deactivated, and will not be turned on/off.

Note: 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.

### **4-3 SCHEDULE SETUP**

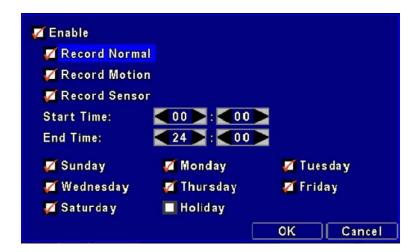
Except from starting recording manually, you can also setup the recording time by weeks and schedule including normal, motion detect, and sensor detect recording type.



Item	Description
Page	Click or press ▼ to select Page. Each page provides 10 schedules
	for setup. 5 pages in total.
Holiday Setup	Enter to setup holiday, up to 50 days, other than weekends,.
View Event Setup	View Normal/ Motion / Sensor Setup

#### 4-3.1 Schedule Record Setup

Click on the time on the left side. The setup menu will be displayed. You can have detail setup by dates, Time and event.

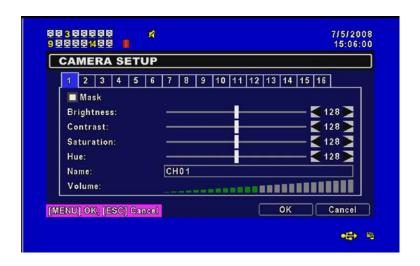


### 4-3.2 Holiday Setup

Since holidays are different by different country and region, you can setup the holiday of your location accordingly.



#### 4-4 CAMERA SETUP



Item	Description
1~16	You can setup independently for each channel.  Note: 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.
Mask	Check the box to Enable/Disable mask function for LIVE mode
Brightness	Drag the white bar or press ◀ ► to adjust Brightness of your camera from value 1 to 255. The default value is 128.
Contrast	Drag the white bar or press ◀ ► to adjust Contrast of your camera from value 1 to 255. The default value is 128.
Saturation	Drag the white bar or press ◀ ▶ to adjust Saturation of your camera from value 1 to 255. The default value is 128.
Hue	Drag the white bar or press ◀ ► to adjust Hue of your camera from value 1 to 255. The default value is 128. ( This function doesn't support at PAL system)
Name	Set up name of each channel

Volume	Select to adjust audio volume for CH1 to CH 4 under LIVE mode and
voidifie	recording mode.

#### 4-5 ACCOUNT SETUP

The Account Setup menu is used to provide role-based permission independently setting for each user (maximum of 4 users) to access DVR over network. The default admin account is 「admin」 and password is "123456".



Item		Description	
Auto Lock	After one minute without any action, the DVR will switch to <i>LIVE</i> mode automatically. Auto lock can function differently according to the setting below.		
	Function Setting	Auto Logout	Key Lock
	Key lock	$\bigcirc$	$\bigcirc$
	Key unlock	$\circ$	×
	Disable	×	X
No.	Check to activate the	user's account.	
Password	Enter to set up password for each user. Password can be set up to characters mixed by letters and numbers with case-sensitive.		•
Permissions	Enter to set up Permi	ssions for each user。	
Change Admin Password	Enter to change administrator's password		

- P.s.1: When logged out automatically, you will have to operate in limited authority such as operations like: Freeze the screen, Picture in picture, Zoom in/ out, switch between channels...etc. If you need to enter the Setup menu, Search menu, backup menu, Record...etc, user's account and password are required.
- P.s.2: When the key lock automatically, remote control and mouse can't function before entering verified password.
- P.s.3:  $\lceil \bigcirc \rfloor$ : Enable the function,  $\lceil x \rfloor$ : Disable the function

## 4-5.1 Permission Setup

The Account Setup is set to provide individual user (maximum of 4 users) role-based permissions, including access to Setup menu, Network operation, PTZ function, Playback, Utility, Backup and Mask on specific channels while playing back.



Note: 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.

### 4-6 NETWORKING SETUP



Item	Description
Connect type	Setup mode for network connection: DHCP \ LAN \ ADSL.
HTTP Setup	Enter to set up HTTP for remote access into DVR.
DDNS Setup	Enter to Enable/Disable DDNS function and set up.
Mail Setup	Enter to enable/disable Email notification and setup. There are up to 10 email addresses can be notified with different event options.

### 4-6.1 NETWORKING SETUP

The DVR supports DHCP, LAN and ADSL accesses for network connection. If the settings are subsequently changed, pressing "PLAY" button to drive new settings for re-connection is required.

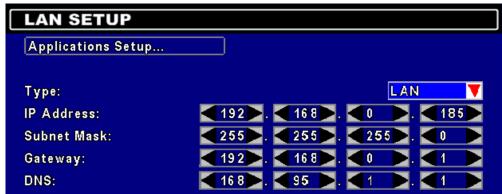
#### 4-6.1.1 DHCP

If the DHCP option is used for DVR network connection, an IP address is assigned by the DHCP server automatically.



#### 4-6.1.2 LAN

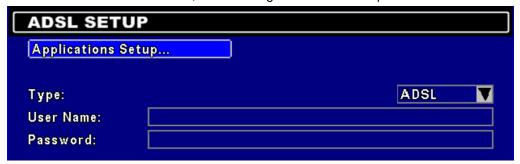
Select LAN for network connection, the following information is required.



Item	Description
IP Address	Enter IP address provided by ISP
Subnet Mask	Enter IP address of Subnet Mask provided by ISP
Gateway	Enter IP address of Gate way provided by ISP
DNS	Enter DNS address provided by ISP. (Note: The correct DNS address must be entered for DDNS function).

### 4-6.1.3 ADSL

Select ADSL for network connection, the following information is required.



Item	Description
User Name	Enter user name provided by ISP
Password	Enter password provided by ISP

## 4-6.2 HTTP Setup



Item	Description
Enable HTTP	Check to enable HTTP server. Users can remotely access into the
Server	DVR over the network if the HTTP function is activated.
Port	Enter a valid port value from 1 up to 65000. The default value is 80.

# 4-6.3 DDNS Setup



Item	Description
Enable DDNS	Check/Uncheck to enable/disable DDNS function.

DDNS Server	Enter the registered SMTP Server:  DYNDNS.ORG \ NO-IP.ORG \ CUSTOM.COM \  I-DVR.NET (Provided by our company, please refer to appendix I for more information)
SMTP Server	Enter the registered SMTP Server.
User Name	Enter user name.
Password	Enter password.

# 4-6.4 Mail Setup

E-mail can be used as a form of notification when an event occurs (VLOSS, MOTION, SENSOR).



Item	Description
Enable E-mail	Check the box to enable/disable E-mal Notification function.
Notification	
SMTP Server	Enter to set up SMTP Serve name.
User Name	Enter to set up User Name.
Password	Enter to set up Password.
Sender E-mail	Enter to set up e-mail address of receivers.
E-mail address	Enter to set up e-mail addresses for up to 10 receivers individually.
Trigger Event	Enter to select events to send out E-mail notifications when below circumstances happen: Motion, Sensor and Vloss (Video Loss).

## 4-6.5 MSN Setup

MSN will send out a message when there is an event occurred. (VLoss, Motion, Sensor).



Icon	Description
<b>Enable MSN Notification</b>	Check/Uncheck to enable/disable MSN notification.
MSN Account	MSN account to be logged in.
Password	account password to log into MSN.
MSN Receiver	MSN account to receive event notification messages.

## 4-7 PTZ & RS485 SETUP

The DVR allows users to control PTZ functions of your camera. To enable PTZ function, the 485 cable should be connected to the RS-485 port of DVR.



Item	Description
Enable PTZ	Click the box to Enable/Disable PTZ function for each channel.
Protocol	Set up the protocol of PTZ cam. The supported protocol are PELCO-P, PELCO-D, KND, LI-LIN.
PTZ ID	Click or press ◀ ► to set up PTZ ID. The valid ID value is from 1 to 64.
Baud Rate	Select Baud Rate for PTZ from 2400 \ 4800 \ 9600

Note: 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.

## 4-8 SYSTEM SETUP



Item	Description
DVR Name	The name of DVR will be shown when users login from remote access.
DVR Location	The location of DVR will be shown when users login from remote access
Language	Click or press ▼ to select OSD language from English, Chinese, Greek, Italian, Japanese, Portuguese, Spanish, German, French or Russian.
Auto-Seq Interval ( Seconds)	Click or press ◀ ▶ to set up duration time in seconds for the interval between channels under Auto-Seq mode.
Remote ID	The default Remote ID is 0, when DVR is controlled by standard remote controller. To operate DVR by optional 1-to-8 remote controller, the Remote ID from1 to 8 is required for recognition corresponding to 1-8 remote controllers.
Display Setup	Enter to set up Display
Date/Time Setup	Enter to set up Date/Time
Buzzer & Relay Setup	Enter to set up Buzzer & Relay
Spot Setup	Enter to set up Spot

## 4-8.1 DISPLAY SETUP



Item	Description
OSD	Turn On / Off OSD display
DVR Status	Turn On / Off DVR illustration and record status display
Date/Time	Turn On / Off date and time display
Message	Turn On / Off message display
Channel Name	Turn On / Off channel name display
Border Set	Set up the color of border in LIVE , PLAYBACK mode. ( black \ dark
	grey · light grey · white )

#### 4-8.2 DATE/TIME SETUP



Item	Description
Hour Format	12HOURS/ 24HOURS
Date Format	MM-DD-YY/DD-MM-YY/YY-MM-DD
Date/Time Position	Choose the position of Time and Date display
Change Date & Time	Setup time and date of DVR
Time Zone Setup	Set up GMT and Daylight Saving Time.
Internet Time Setup	Setup automatic synchronization with internet server

#### 4-8.2.1 CHANGE DATE & TIME

Users are allowed to setup date and time of DVR manually according to your local time.

## 4-8.2.2 TIME ZONE SETUP

In time zone setup, users can change your time zone and activate Daylight Saving Time function according to your DVR location.



Item	Description
Select Time Zone	Enter to modify GMT from GMT- 13 to GMT+ 13
Daylight Saving Time	Turn on/ off Daylight Saving Time

#### 4-8.2.3 INTERNET TIME SETUP

Synchronize your DVR time with internet time server.



Item	Description
Automatic Synchronization	Check to enable DVR automatic synchronization function. Effective by this option selected, DVR will automatically synchronize the time upon rebooting or by every 24 hours after booting.
Update Now	Effectively, Date and Time show on DVR will immediately correspond with those in internet server.

## 4-8.3 BUZZER & RELAY SETUP



Item	Description
KEY TONE	Enable/Disable keystrokes.
Relay Switch Connection	Set relay signal to be Normal Close (N.C.) or Normal Open (N.O.).
Buzzer Duration	Set up the duration from 1~999 seconds.
ALARM BUZZER	Enable/Disable buzzer operation when the alarm is triggered for sensor, motion and vloss (Video Loss).
ALARM RELAY	Enable/Disable the signal to be sent to the RELAY OUT blocks when the alarm is triggered for sensor, motion and vloss.

## 4-8.4 SPOT SETUP



The DVR has two modes of video output; one is main video output, the other is spot video output. SPOT setup is for controlling the order of channels the system cycles through in SPOT mode. User can monitor every channel in the SPOT mode.

Item	Description
SPOT MODE	Channels display in spot for three different modes:
	MANUAL: select channels to display manually.
SPOT MODE	SEQUENCE: Auto-sequence for all channels in order.
	<b>EVENT:</b> Display channels with event occurred.
Interval (Seconds)	The duration time in seconds for the interval between channels under
	SPOT mode.
Skip Video Loss	Whether to skip channels without video signal.
Channel	

## **4-9 UTILITY SETUP**



on
ation menu. Please stop menu. Enter the menu, del ,volume ) of HDD that DD you'd like to initialize ation is successful when
er USB initialization and ata on your USB. The wed "Succeed".
DVR.
vice. There will be a file
SB device into DVR.
kup setup configuration

Notice! DO NOT TURN OFF POWER OR UNPLUG USB DEVICE DURING THE UPGRADE as it may cause incomplete firmware upgrade and damage to the DVR.

## **4-10 DIAGNOSTIC**



Item	Description
Version	The current firmware version of DVR
IP Address	The connected IP address of DVR. If disconnected from network, the screen will display" NETWORK DISCONNECT".
MAC Address	MAC Address of DVR
HDD Volume	The capacity of HDD
HDD Used Rate	Percentage of space used on HDD.
	Shows HDD status.
	USING means the HDD is being used for recording now
HDD Status	<b>GOOD/BAD</b> means the HDD has a known/unknown format for the DVR. (Note: Please initialize your newly-installed HDD before using it, otherwise it can be recognized as BAD by DVR.)
Format Time	The latest format time of HDD

#### CHAPTER 5 BACKUP & SEARCH

#### 5-1 BACKUP SETUP

User can backup any segment of recorded data in a specified time frame. To do so, either a CD R/W or storage device, like USB, must be connected to the DVR. The format of backup file is *IRF* file that can be played by "DVRemoteDesktop.exe" or "iCMS"



Item	Description
From	The start time of backup file
То	The end time of backup file
Device	Select USB or CD/RW as the backup device
Free Space	The available space in your backup device
Refresh	Recalculate the available space of backup device
Calculate	Calculate the size of backup file
Start	Start backup operation. Be sure to calculate the size of backup file BEFORE operating backup.

Notice! Do not unplug the USB device or turn off the DVR during the backup process to avoid unrecoverable error.

## **5-2 SEARCH SETUP**



Item	Description
Event Search	Press to enter event search menu
Time Search	Press to enter time search menu

#### 5-2.1 EVENT SEARCH



The DVR automatically records events with type, time and channel information included. If there is recording data for an event, a yellow signal will be shown on the left side of time information. Rest your cursor under the line and press "enter", or left click your mouse to playback the recording data.

Item		Description
Criteria	Setup conditions of	f event search
Page	Convert pages of e	events
Date/Time	Date/time when ev	ent occurred.
	Event type, define	ed as following
	VLOSS	Video Loss
	MOTION	Motion Detected
	SENSOR	Sensor Detected
	REMOTEIN	user log-in over the network
Event Type	REMOTEOUT	user log-out over the network
	POWER ON	System Rebooting
	KEY LOCK	System key are locked
	KEY UNLOCK	System key are unlocked
	HDD FULL	HDD is FULL
Channel	The channel where event occurred.	

#### 5-2.1.1 CRITERIA SETUP FOR EVENT SEARCH

The amount of events can be numerous. Therefore, you can facilitate event sorting by setting up "criteria". Setup "start time" and "end time" for event search, then the search result will be limited to this specific period of time. Only checked events and channels will be sorted in event search as well.



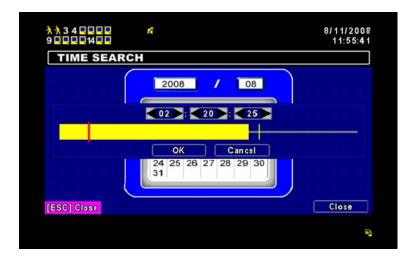
Note: 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.

#### 5-2.2 TIME SEARCH

TIME SEARCH can search for the specific time of recording data to playback. To specify a date, use or to move the cursor up and down, use or roll the mouse to change dates. Press "Enter" or left click on the desired date to playback. Note that dates with recording data are marked with a red square " "System will start playing back according to the date you selected. Calendar will be shown by using mouse to click on "year" and "month".



Click "date" to display recording time of that specific date with time bar. You can change time (hour/minute/second) or click on a specific time of time bar by mouse then press "YES". DVR will playback the selected recording data.

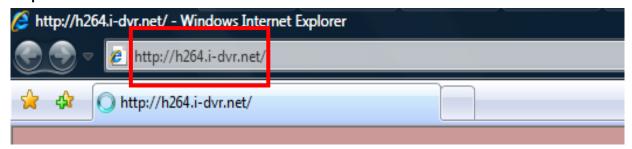


## **CHAPTER 6 NETWORK SURVEILLANCE**

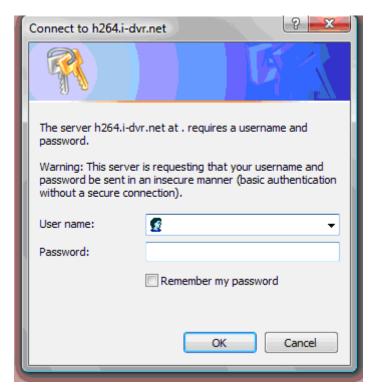
AP software:  $\lceil DVR \text{ Remote Desktop} \rfloor$  can allow you to remotely access and control the DVR from PC.

## 6-1 AP Software Installation and Setup

Step One: Enter the IP address of DVR in IE browser



**Step Two**: Below windows will be shown up. Please enter the user name and password. Default user name is **admin** and password is **123456**. Other related setup about user account and password, please check **"4-5 Account Setup**. "



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**Step Three**: Click on the link to start downloading the AP software.

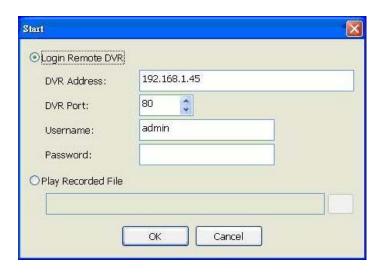


Download DVR Remote Desktop (Windows XP/Vista)

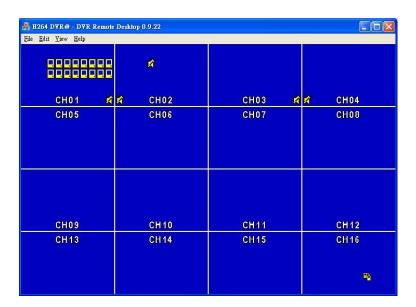
Step Four: Run or Save our AP software.



**Step Five**: If you choose to run the software, Start window will be shown up. Please enter information of login DVR: IP, Port, Username and Password, or choose "Play Recorded File" to open backup files in your PC.



 $\textbf{Step Six}: \ \, \textbf{You've logged into the DVR}$ 



## 6-2 AP Software Operation

Open the file "DVRemoteDesktop.exe"; enter the information of DVR "IP address", "Port" "Username" and "Password" and click "OK". You should be able to login DVR successfully and start to use the software. The default username and password is  $\ ^{\lceil}$  admin/ 123456  $_{\rfloor}$ 

The operation of AP software remains the same as local DVR, furthermore, it provides some exclusive functions for remote users. Please check **Table 6-2.1** for detail information and **Table 6-2.2** for system requirements for AP software.

Table 6-2.1 Toolbar of AP software

File - Record to Local	Record data to your PC, including LIVE and Playback.
File - Play Recorded Files	Play recorded files ".irf"
File - Exit  / Alt + F4	Close the AP software.
Edit - Channel Name	Edit channel name of your DVR including font, size
/ F2	italic, and boldface of characters
Edit - Reset Channel Name	Reset channel name back to default.
View - Hide Caption & Menu / F9	Hide the Caption and
View - Disable resizing  / F10	Disable resizing the window.
View - Full screen  / F11	Switch it to full screen
Help – About	Show information about software and information

Table 6-2.2 System Requirements for AP software

CPU Intel Pentium 4 above	
OS	Microsoft Windows Vista · Windows XP SP2 above
RAM 512M above	
Others	DirectX 9.0 above

# **CHAPTER 7 SPECIFICAITONS**

1. VIDEO		
Input Level		1.0 Vp-p±10% Composite, 75Ω Balanced
Diamley Coased	NTSC	480 fps(16CH), 240fps(8CH), 120fps(4CH)
Display Speed	PAL	400 fps(16CH), 200fps(8CH) , 100fps(4CH)
Display Bookstion	NTSC	720(H) X 480(V)
Display Resolution	PAL	720(H) X 576(V)
Monitor Output		2Vp-p Composite, 75Ω Balanced
2. RECORDING		
Compression Method		H.264
Recording Speed		Refer to table 7-1
December December	NTSC	720 X 480, 720 X 240, 352 X 240
Recording Resolution	PAL	720 X 576, 720 X 288, 352 X 288
Quality	Independent for each channel	Lowest/ Low/ Normal/ High/ Highest
Schedule		Setup by "minute" as unit
Mode		Manual / Event (Motion, Sensor) / Schedule
		By resolution, fps and quality
Method		Setup fps and quality separately for normal and event recording
3. SATA DEVICE		
Capacity	Internal Storage	3 HDDs or 2 HDDs + 1DVD-RW (16 CH) 2 HDDs or 1 HDDs + 1 DVD-RW (4CH/ 8CH)
	External Storage	1 HDD
Туре		SATA / SATA
External Bay Interface		E-SATA
4. ALARM		
Sensor Input		16(16CH), 8(8CH), 4(4CH)
Loop Out		1 Relay out
Motion Detection		Available per each camera/ Multi-detection level
5. CONNECTIONS		
0. 00111120110110		
Video Input		BNC 16 ports (16CH), 8 ports (8CH), 4 ports (4CH)
		BNC 16 ports (16CH), 8 ports (8CH), 4 ports (4CH) BNC 2 port, VGA 1 port (Optional)
Video Input		
Video Input Video Output		BNC 2 port, VGA 1 port (Optional)
Video Input Video Output Audio Input		BNC 2 port, VGA 1 port (Optional) RCA 4 CH
Video Input Video Output Audio Input Audio Output		BNC 2 port, VGA 1 port (Optional) RCA 4 CH RCA 1 CH
Video Input Video Output Audio Input Audio Output USB 2.0		BNC 2 port, VGA 1 port (Optional)  RCA 4 CH  RCA 1 CH  USB memory stick, USB Mouse, USB Touch Panel

D	DC 12V / 6.25A (16CH),
Power Source	DC 12V / 5A (8CH) , DC 12V / 5A (4CH)

7. ENVIRONMENTAL		
Operation Temperature		5°C ~ + 40°C
Humidity		Less than 90%
8. PHYSICAL		
Dimension		430(W) x 293(D) x 55(H) mm
Weight		2.5kg (3.5kg including 1 HDD and CD-RW)
9. BACKUP		
	USB Stick	Video Data, Audio
BACKUP	CD-RW/DVD±RW	Video Data, Audio
	Network	Video Data, Audio
10. SEARCHING & PLAYE	ACK	
Searching Type		Event/ Time
Playback speed		120 FPS
11. MULTI-REMOTE SURVEILLANCE		
Monitoring Environment		Web / Client Software(CMS)
Max. client		Supporting multi-client (5 clients accessible)
12. OTHERS		
OS		Embedded Linux
Multi Task	Pentaplex	Live · Record · Playback · Network · Data transfer
Control Device		Front Keys / Remote Control / 1-to-8 Remote Control (Optional)  Virtual Keyboard / Mouse / AP Software
PC Viewer		Direct monitoring of DVR's HDD on PC
Numbers of event list		10240

## Table 7-1

Recording	NTSC	352 x 240	240fps / 16CH, 8CH
Speed			120fps / 4CH
(Independent		720 x 240	120fps / 16CH, 8CH
setting for each			60fps / 4CH
channel)		720 x 480	60fps / 16CH, 8CH
			30fps / 4CH
	PAL 352 x 288	252 v 200	200fps / 16CH, 8CH
		332 X 200	100fps / 4CH
		720 x 288	100fps / 16CH, 8CH
		720 X 200	50fps / 4CH

		720 x 576	50fps / 16CH, 8CH 25fps / 4CH
Compression Method			H.264

#### **CHAPTER 8 MOBILE APPLICATION INSTALLATION AND USAGE**

You can remotely monitor all channels of DVR through your mobile device. The required mobile application is from DVR manufacturer and it supports mobile OS for both Windows mobile 5.0 above and Symbian.

Please confirm network function of DVR has been activated before mobile connection:

Main menu → Network Setup → HTTP Setup → Check the "Enable HTTP Server"

## 8-1 Mobile Application Installation and Operation for Symbian System.

Mobile Device: Nokia, SonyEricsson···etc.

#### System requirement:

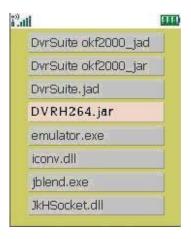
GPRS/ 3G must be provided from your telecom service.

Mobile device that support GPRS/ 3G protocol and Java cldc1.0/midp 2.0 environment.

#### 8-1.1 Mobile Application Installation

Please follow the steps cited below to perform the mobile device surveillance function.

- Step 1: The mobile application called "**DVRH264.jar**" need to be installed in your mobile device. The application can be downloaded directly from the manufacturer's website to your mobile or; alternatively, it can be transferred to your mobile device from the CD that packed with DVR through Bluetooth or USB cable.
- Step 2: Install the application software "**DVRH264.jar**" in your mobile device. It might be installed automatically after downloading; otherwise, select it from the downloading file for installation.



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#### 8-1.2 Mobile Application Operation

After the installation, enter the Program Files menu in your mobile device to run a file called "**H264 MIDlet**".

Select "Menu" at the right lower corner of your mobile screen, 4 commands, **Login Add Modify** and **Delete**, will show up.

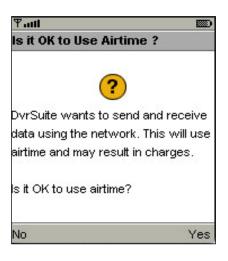
#### 8-1.2.1 Add New Login DVR

To log into the DVR, you need to enter the logging-in DVR information. Find "Add" under the "Menu" then enter logging-in DVR's IP address, Port number, account name and password. Press "Add" to save this information after entering.



#### 8-1.2.2 Logging Onto the DVR

Use the Login command to log onto a DVR and monitor live images. If multiple DVRs have been added to the mobile application, they will be listed by name, you can select one to log onto.

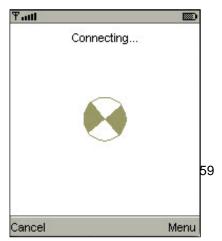




A confirmation message might show up for network charge before connection. The fee rate will depend on the telecom company and package fee you go with.

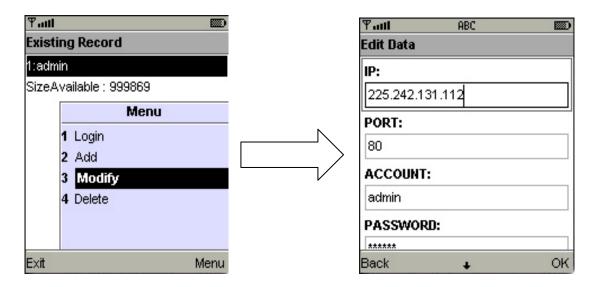
Network connectivity will take some time. It'll be affected by networking environment and bandwidth flow. Live image will show up after a successful connection.

PS. The *Live* can not be displayed in your mobile 2008.11.10 V1.6



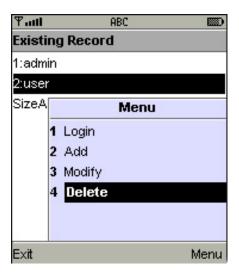
# when the recoding is off in local DVR. 8-1.2.3 Modify the Login Information of DVR

You can use the "Modify" command to change the login information of DVR. The dialogue is identical to that of the "Add" command.



#### 8-1.2.4 Delete the Login Information of DVR

"**Delete**" command can be used to remove the DVR information if it is no longer useful. Select the DVR on the name list then choose "**Delete**"



#### 8-1.3 Live Monitoring Operation

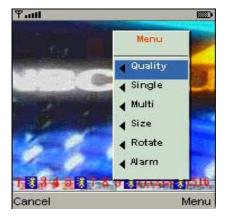
This paragraph describes some operation under the LIVE monitoring mode in mobile device.

## 8-1.3.1 Scroll the Image

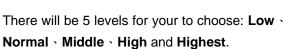
You can use the keypad on your mobile device to scroll the image if it's oversized.

Key	Action
2	Scroll Up
4	Scroll Left
6	Scroll Right
8	Scroll Down

## 8-1.3.2 Image Quality Setup



Select "Quality" under the "Menu"





## 8-1.3.3 Channel Display

You can choose single or quad channel display for live monitoring.



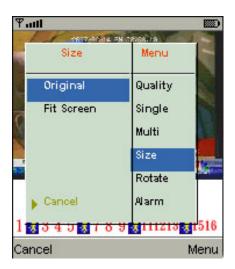
Select "Single" under the "Menu", there will be all channels of your DVR in list for you to choose.

PS. The *Live* can not be displayed in your mobile when the recoding is off in local DVR.

## 8-1.3.4 Size of Image

The screen size of different mobile device can be different. You can select "Size" under the "Menu" to choose from "Original" or "Fit Screen" to resize the display image.

Item	Description		
Original	The image will be shown in original size.		
Fit Screen	The image will be shown to fit the screen.		



## 8-1.3.5 Rotate the image

The Live image can be displayed in normal or rotate to 90 degrees. Select "Rotate" under the "Menu" for this operation.



#### 8-1.3.6 Alarm

This application not only allows you to remotely monitor through mobile device but receive the alarm that has been triggered by events such as Motion Detected, Sensor Triggered and Vloss.

Graphical icons below will be shown on the status:

: Motio

: Motion detected

: Sensor triggered

: Video loss

Select the "Alarm" under the "Menu" to switch this 2008.11.10 V1.6



function on or off.

## 8-2 Mobile Application Installation and Operation for Windows Mobile System

There are two kinds of applications for Window Mobile OS: JPEG compression and H.264 compression. The one for H.264 compression can transfer both audio and video signal to your mobile device.

#### System Requirement:

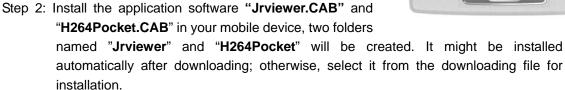
Mobile device OS: Windows mobile system 5.0 above.

Mobile device need to support internet: GPRS / 3G / Wifi... etc.

## 8-2.1 Mobile Application Installation

Please follow the steps cited below to perform the mobile device surveillance function on your mobile device (mobile phone, PDA ...etc).

Step 1: The mobile application called "Jrviewer.CAB" and "H264Pocket.CAB" need to be installed in your mobile device. The application can be downloaded directly from the manufacturer's website to your mobile or; alternatively, it can be transferred to your mobile device from the CD that packed with DVR through Bluetooth or USB cable.











## 8-2.2 Mobile Application Operation

After the installation, enter the Program Files menu in your mobile device to run files named "Jrviewer" and "H264Pocket".

This application allows you to remotely logon and monitor DVR. Press "**OK**" to bring up the operation menu, see below chart to further information.

Item	Function	Description
Add	Add login DVR	Enter DVR's name, IP address, Port, Account user, Password then press " <b>OK</b> "
		Choose the DVR that you'd like to log on , then press "OK"
		• PS. The <i>Live</i> can not be displayed in your mobile
		when the recoding is off.
Login	Logon DVR	PS. Network connectivity will be affected by networking
		environment and bandwidth flow. The fee rate will depend on the telecom company and package fee you go with.
Modify	Modify Login DVR	Choose DVR, press "Modify", and press"OK" to save change.
Delete Login DVR		Choose DVR and press "Delete" to delete the DVR info.

## The operation of **Jrviewer**



#### The operation of H264Pocket



## 8-2.3 Operation under the LIVE monitoring.

After successful logon the DVR, press "View" to bring up operation menu. You can choose the channel, resize the image, choose the quality, and turn on/off the status bar, alarm, full screen display....etc

## 8-2.3.1 Operation uner the LIVE monitoring for Jrviewer





Item	Function	Description			
Channel 1~16	Display for CH 1~16	Choose from CH1~16 to display			
		Original: image size as original			
Screen	Size of image	Stretch: stretch the size as full screen			
		Fit: resize the image to fit the screen			
Quality	Quality	Change the quality of image. Please note the			
Quality		better quality, the slower data transfer rate.			
		Graphical icons indicated below will be shown			
	Status Bar	on the status bar if there is event such as			
		motion detected, sensor triggered and video			
		loss to be detected on any channel. You can			
		also uncheck the "Status Bar" to inactivate			
Status Bar		this function.			
		Icon Description			
		Motion Detect			
		🗼 Sensor Trigger			
		V-Loss			
		Alarm through your mobile device can be			
Alarm	Alarm	triggered if there is event to be detected. You			
		can also uncheck the "Alarm" under the			

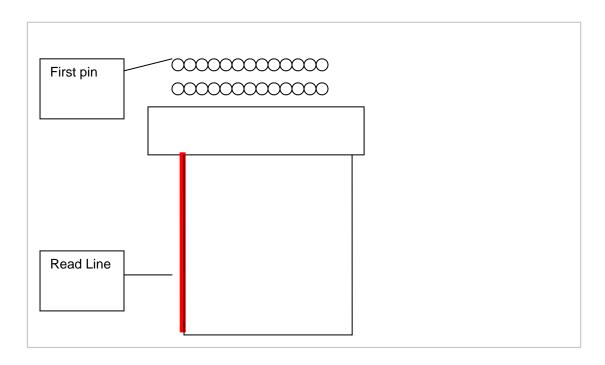
## 8-2.3.2 Operation under the LIVE monitoring for H264 Pocket





Item	Function	Description			
Channel 1~16	Display for CH 1~16	Choose from CH1~16 to display. CH1~4 can			
Charmer 1~10		receive audio signal.			
		Graphical icons indicated below will be shown			
Status Bar	Status Bar	on the status bar if there is event such as			
		motion detected, sensor triggered and video			
		loss to be detected on any channel. You can			
		also uncheck the "Status Bar" to inactivate			
		this function.			
			Icon	Description	
			*	Motion Detect	
			*	Sensor Trigger	
			5	V-Loss	
Alarm	Alarm	Alarm through your mobile device can be			
		triggered if there is event to be detected. You			
		can also uncheck the "Alarm" under the			
		"View" to inactivate this function.			
Full Screen	Full screen display	You can choose one channel to display in full			
i un ocieen		screen by check this function.			

# **APPENDIX II DB 26 DIFINITION (For 16CH DVR only)**



NUM.	WIRE	COLOR	NUM.	WIRE	COLOR
1.	GND	BLUE	14.	SENSOR 4	ORANGE
2.	GND	GREEN	15.	SENSOR 5	RED
3.	RS 485_B	YELLOW	16.	SENSOR 6	BROWN
4.	RLY1_NO	ORANGE	17.	SENSOR 7	BLACK
5.	RS485_A	RED	18.	SENSOR 8	WHITE
6.	RLY1_COM	BROWN	19.	SENSOR 9	GRAY
7.	VCC +5V	BLACK	20.	SENSOR 10	AMETHYST
8.	RLY1_NC	WHITE	21.	SENSOR 11	BLUE
9.	IR_LED	GRAY	22.	SENSOR 12	GREEN
10.	GND	AMETHYST	23.	SENSOR 13	YELLOW
11	SENSOR 1	BLUE	24.	SENSOR 14	ORANGE
12.	SENSOR 2	GREEN	25.	SENSOR 15	RED
13.	SENSOR 3	YELLOW	26.	SENSOR 16	BROWN

Note: Pin Num.9 allows extending IR receiver wire.