H.264 HD-SDI DVR

User Manual

Version: 1.7

2014/06/25

WARNINGS, CAUTION & COPYRIGHT

Reduce the risk of fire or electric shock. And do not expose this product to rain.

Do not insert any metallic object through ventilation grills.

CAUTION	
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to presence of insinuated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons	The exclamation point within an equilateral rhombus is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying product.

RISK OF ELECTRIC SHOCK DO NOT OPEN

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

USER OF THE SYSTEM ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES COIPCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNAL. ULTRAK SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS SYSTEM IN VIOLATION OF CURRENT LAWS AND STATUTES.

1)   The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

2) CAUTION-Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type.

3)   The apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

4)   The batteries installed shall not be exposed to excessive heat such as sunshine, fire or the like.

5)   The plug or appliance coupler shall remain readily operable for the purpose of disconnection from the mains

Accessories

Power Adaptor

Mouse

Digital Video Recorder

User Manual

Welcome DVR User Manual

Software Tools Disk

CONTENTS:

1. Introduction

1.1 Illustration

The system is the Digital Video Recording System (DVR). System designed with new compression H.264 format. Because of H.264 compression is the "Advanced Video Coding" that provide the best recording method for DVR. The HDD can record long time. The surveillance system combine with the HDD recorder, the video/audio multiplexer, and web server

Basic operation mode include: MONITOR, PLAYBACK SEARCH and SETTING. The interface of DVR is GUI design. The system designed with simple operation mode to use the PS/2 MOUSE or IR Remote Controller to operate the function and setting. The DVR also support many applications such as PTZ, GPS and POS.
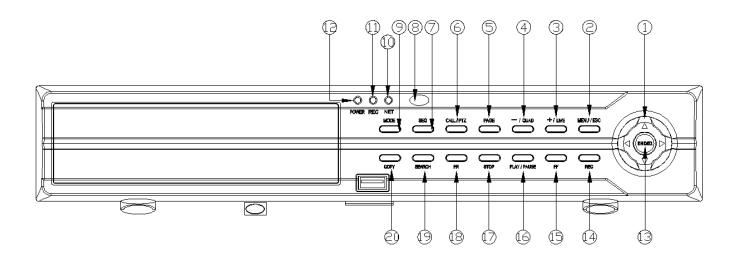
1.2 HD DVR specification

Product	4-CH HD	2CH HD + 8CH D1
OS System	Embedded Linux 3.0 kernel	Embedded Linux 3.0 kernel
Compression	H.264 - Video；ADPCM - Audio	H.264 - Video；ADPCM - Audio
Multiplex operation	Simultaneous "Record, Live, Playback, Backup, control & Remote access"	Simultaneous "Record, Live, Playback, Backup, control & Remote access"
Live Display	NTSC：(Full D1) 30fps PAL：(Full D1) 25fps	NTSC：(Full D1) 30fps PAL：(Full D1) 25fps
Split Screen	1/4 CH	1/4/5/10 CH
Live Digital Zoom	X2 X4	X2 X4
Recording Playback	HD：4-CH HD-SDI；720p,1080p 120/100 fps	HD：4-CH HD-SDI；720p,1080p 60/50 fps
		Analog：8-CH, BNC；Full-D1：240/200 fps
Waltermark	Yes	Yes
Recording Mode	Manual/Schedule/Motion	Manual/Schedule/Motion
Pre-record Mode	0-10 sec	0-10 sec
Post-record Time	0-60 minutes	0-60 minutes
Playback Search	Video Loss, Event, Date/Time, Smart search	Video Loss, Event, Date/Time, Smart search
Main Monitor	HDMI, BNCx1,VGA D-SUBx1	HDMI, BNCx1,VGA D-SUBx1
Call Monitor	BNCx1	BNCx1
Loss Detection	Yes	Yes
Audio Input	SDI：4-CH, 4 RCA-jack connectors	SDI：2-CH, 10 RCA-jack connectors
Audio Output	2 RCA-jack connectors(up to 2Vrms)	2 RCA-jack connectors(up to 2Vrms)
Buzzer	Yes	Yes
Alarm Input	16	16
Alarm Output	2	2
Alarm Set/unset	Yes	Yes
Alarm Panic	Yes	Yes
Storage HDD	Up to 2 sets of SATA HDDs with storage＞3TB/HDD	Up to 2 sets of SATA HDDs with storage＞3TB/HDD
	HDD extension for 1 eSATA connect	HDD extension for 1 eSATA connect
RS-232	Yes	Yes
RS-485	2 PIN PTZ control	2 PIN PTZ control
3G Dongle Support	Yes	Yes
Password Security	Multi-level password(3 levels, up to 18 accounts)protection	Multi-level password(3 levels, up to 18 accounts)protection
Dimension/Weight	350(W)x350(D)x60(H)mm	350(W)x350(D)x60(H)mm
Power Consumption	+12VDC	+12VDC
Temperature	0℃~+45℃	0℃~+45℃
Timer	Built-in real time clock	Built-in real time clock

4CH HD + 12CH D1	8-CH HD	16-CH HD
Embedded Linux 3.0 kernel	Embedded Linux 3.0 kernel	Embedded Linux 3.0 kernel
H.264 - Video；ADPCM - Audio	H.264 - Video；ADPCM - Audio	H.264 - Video；ADPCM - Audio
Simultaneous "Record, Live, Playback, Backup, control & Remote access"	Simultaneous "Record, Live, Playback, Backup, control & Remote access"	Simultaneous "Record, Live, Playback, Backup, control & Remote access"
NTSC：(Full D1) 30fps PAL：(Full D1) 25fps	NTSC：(Full D1) 30fps PAL：(Full D1) 25fps	NTSC：(Full D1) 30fps PAL：(Full D1) 25fps
1/4/8/12/16 CH	1/4/9 CH	1/4/7/9/10/13/16 CH
X2 X4	X2 X4	X2 X4
HD：4-CH HD-SDI；720p,1080p 120/100 fps, Analog：12-CH, BNC；Full-D1：360/300 fps	HD：8-CH HD-SDI；720p,1080p 120/100 fps,	HD：16-CH HD-SDI；720p,1080p 480/400 fps,
Yes	Yes	Yes
Manual/Schedule/Motion	Manual/Schedule/Motion	Manual/Schedule/Motion
0-10 sec	0-10 sec	0-10 sec
0-60 minutes	0-60 minutes	0-60 minutes
Video Loss, Event, Date/Time, Smart search	Video Loss, Event, Date/Time, Smart search	Video Loss, Event, Date/Time, Smart search
HDMI, BNCx1,VGA D-SUBx1	HDMI, BNCx1,VGA D-SUBx1	HDMI, BNCx1,VGA D-SUBx1
BNCx1	BNCx1	BNCx1
Yes	Yes	Yes
SDI：4-CH, 16 RCA-jack connectors	SDI：8-CH connectors	SDI：16-CH connectors
2 RCA-jack connectors(up to 2Vrms)	2 RCA-jack connectors(up to 2Vrms)	4 RCA-jack connectors(up to 2Vrms)
Yes	Yes	Yes
16	16	16
4	2	4
Yes	Yes	Yes
Yes	Yes	Yes
Up to 5 sets of SATA HDDs with storage＞3TB/HDD	Up to 5 sets of SATA HDDs with storage＞3TB/HDD	Up to 5 sets of SATA HDDs with storage＞3TB/HDD
HDD extension for 1 eSATA connect	HDD extension for 1 eSATA connect	HDD extension for 1 eSATA connect
Yes	Yes	Yes
2 PIN PTZ control	2 PIN PTZ control	2 PIN PTZ control
Yes	Yes	Yes
Multi-level password(3 levels, up to 18 accounts)protection	Multi-level password(3 levels, up to 18 accounts)protection	Multi-level password(3 levels, up to 18 accounts)protection
430(W)x350(D)x66(H)mm	430(W)x350(D)x66(H)mm	430(W)x350(D)x66(H)mm
+12VDC	+12VDC	+12VDC
0℃~+45℃	0℃~+45℃	0℃~+45℃
Built-in real time clock	Built-in real time clock	Built-in real time clock
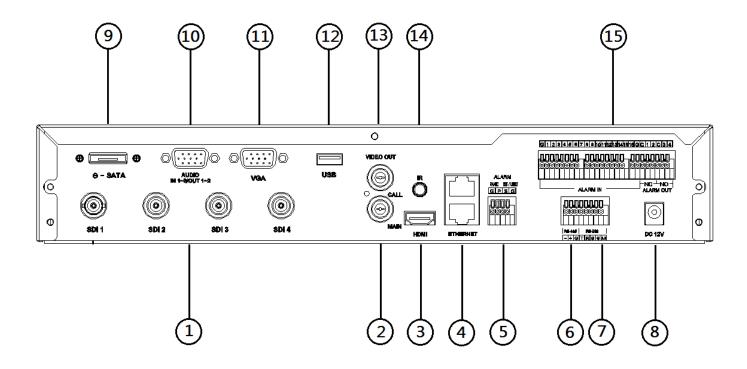
2 Hardware overview

2.1 4ch HD Front Panel
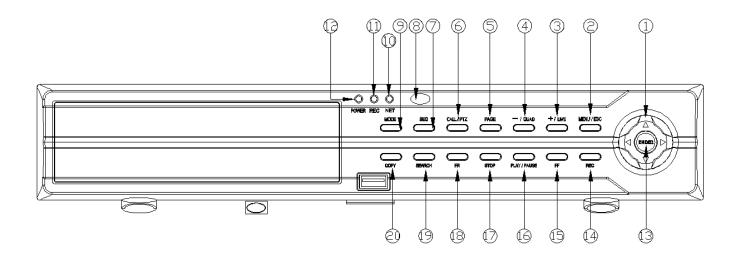
Function Interface					
1	Direction Control	8	IR Receiver Mode	15	FF
2	MENU /ESC	9	Mode	16	Play / Pause
3	＋	10	Network LED	17	Stop
4	－	11	Rec LED	18	FR
5	PAGE	12	Power LED	19	Search
6	PTZ/CALL	13	Enter bottom	20	Copy
7	SEQ	14	REC		

2.2 4ch HD   Rear Panel
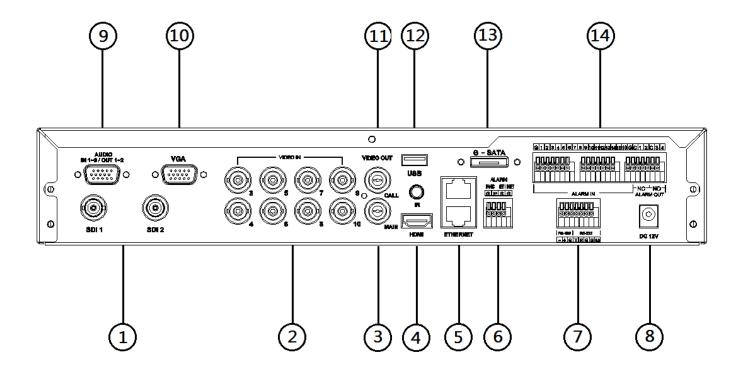
Hardware Interface			
1	HD CAM Input (1～4CH)	9	e-SATA port
2	Main BNC Input /	10	Audio intput (1～8 CH) Output (1~2 CH)
3	HDMI Interface	11	VGA Connecter
4	RJ45 Ethernet Connecter	12	USB Mouse
5	Alarm Panic / set & unset	13	Call BNC Output
6	RS485 Connecter	14	ALARM Input
7	RS232 Connecter	15	ALARM Ooutput
8	DC 12 V Power Adapter		
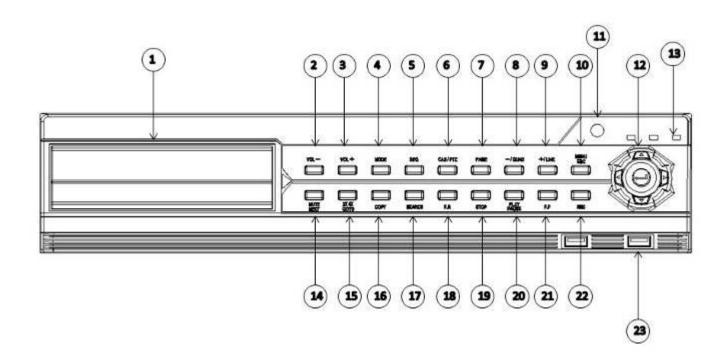
Function Interface

1	Direction Control	8	IR Receiver Mode	15	FF
2	MENU /ESC	9	Mode	16	Play / Pause
3	＋	10	Network LED	17	Stop
4	－	11	Rec LED	18	FR
5	PAGE	12	Power LED	19	Search
6	PTZ/CALL	13	Enter bottom	20	Copy
7	SEQ	14	REC		

2.4 2ch HD+ 8ch D1 Rear Panel

Hardware Interface			
1	HD CAM Input (1～2CH)	9	Audio intput (1～8 CH) Output (1~2 CH)
2	SD CAM Input (3～8CH)	10	VGA Connecter
3	Main BNC Input	11	Call BNC Output
4	HDMI Interface	12	USB Mouse
5	RJ45 Ethernet Connecter	13	e-SATA port
6	Alarm Panic / set & unset	14	ALARM Input /Output
7	RS485 Connecter /RS232 Connecter		
8	DC 12 V Power Adapter		

2.5 4ch HD + 12ch D1 Front Panel
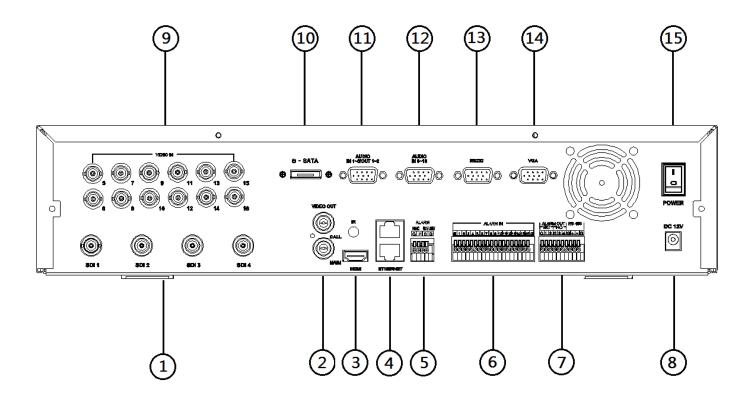
Function Interface						
1	DVD Device	9	+/LIVE Display	17	Search
2	Vol -	10	MENU /ESC	18	Fast Rewind
3	Vol +	11	IR Receiver	19	Stop
4	Mode	12	Direction Control	20	Play
5	SEQ	13	Power LED/ Network LED	21	Fast Forward
6	Call/PTZ	14	MUTE/NEXT	22	REC
7	Page	15	2X 4X/GOTO	23	USB Backup
8	QUAD Playback/-	16	Copy		
NOTE：					
BACKUP function also can be copy function to copy DVR setting.					
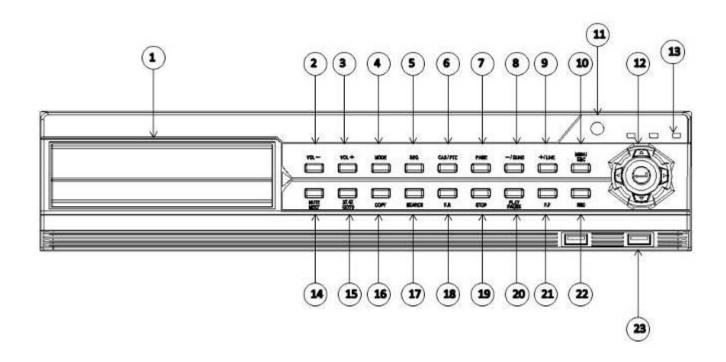
2.6 4ch HD + 12ch D1 Rear Panel

Hardware Interface			
1	HD CAM Input (1～4CH)	9	SD CAM Input (5～12CH)
2	Main BNC Input	10	e-SATA port
3	HDMI Interface	11	Audio Input (1～6 CH) Output (1~2CH)
4	RJ45 Ethernet Connecter	12	Audio Input (7～12 CH)
5	Alarm Panic / set & unset	13	RS232 Connecter
6	ALARM Input	14	VGA Connecter
7	ALARM Output / RS485 Connecter	15	Power Switch
8	DC 12 V Power Adapter		

2.7　8ch HD　Front Panel
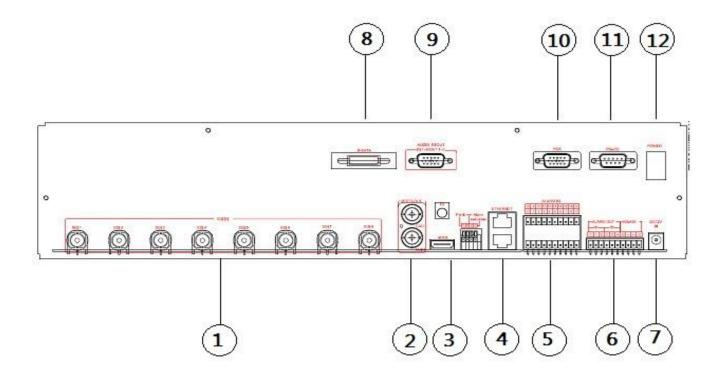
Function Interface							
1	DVD Device	9	+/LIVE Display	17	Search		
2	Vol -	10	MENU /ESC	18	Fast Rewind		
3	Vol +	11	IR Receiver	19	Stop		
4	Mode	12	Direction Control	20	Play		
5	SEQ	13	Power LED/ Network LED	21	Fast Forward		
6	Call/PTZ	14	MUTE/NEXT	22	REC		
7	Page	15	2X 4X/GOTO	23	USB Backup		
8	QUAD Playback/-	16	Copy				

NOTE：
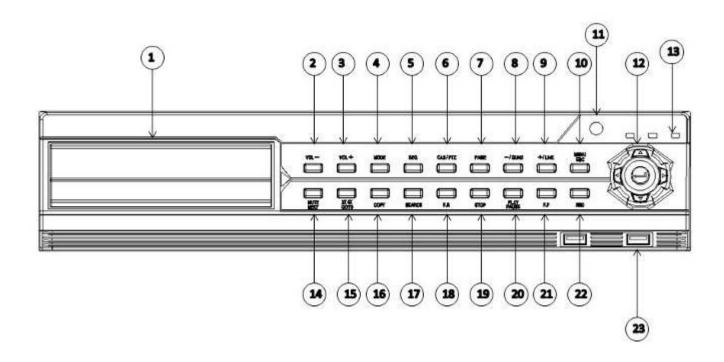
BACKUP function also can be copy function to copy DVR setting.

2.8 8ch HD Rear Panel

Hardware Interface			
1	HD CAM Input (1～8CH)	9	Audio Input (1～8 CH) Output (1~2CH)
2	Main BNC Input	10	RS232 Connecter
3	HDMI Interface	11	VGA Connecter
4	RJ45 Ethernet Connecter	12	Power Switch
5	ALARM Input/ ALARM Output		
6	RS485 Connecter		
7	DC 12 V Power Adapter		
8	e-SATA port		

2.9   16ch HD   Front Panel
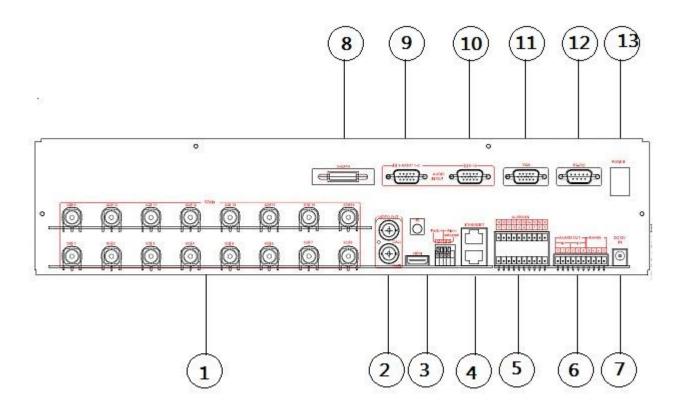
Function Interface

1	DVD Device	9	+/LIVE Display	17	Search
2	Vol -	10	MENU /ESC	18	Fast Rewind
3	Vol +	11	IR Receiver	19	Stop
4	Mode	12	Direction Control	20	Play
5	SEQ	13	Power LED/ Network LED	21	Fast Forward
6	Call/PTZ	14	MUTE/NEXT	22	REC
7	Page	15	2X 4X/GOTO	23	USB Backup
8	QUAD Playback/-	16	Copy		

NOTE：

BACKUP function also can be copy function to copy DVR setting.

2.10　16ch HD　Rear Panel

Hardware Interface			
1	HD CAM Input (1～16CH)	9	Audio Input (1～6 CH) Output (1~2CH)
2	Main BNC Input	10	Audio Input (7～12 CH)
3	HDMI Interface	11	RS232 Connecter
4	RJ45 Ethernet Connecter	12	VGA Connecter
5	ALARM Input /ALARM Output	13	Power Switch
6	RS485 Connecter		
7	DC 12 V Power Adapter		
8	e-SATA port		

2.11 Front Control Buttons Illustration

The Chapter will explain How to use the function of front panel button.   some button will offer two functions definition.   Please follow the illustration item as below:

Button：

In the normal circumstances, press the button to enter the sub-mode or other setting item.

In the MONITOR mode, press the button to open GPS/POS/OSD Display setting.   Please select the Type (GPS or POS), Position, Background, Rows, and number of Characters on the screen.

And   Left/Right Button:

In the normal circumstances, press the button to select frame of setting.
In PTZ Control mode, the button will support the pan function.

Up/Backspace Button：

In the normal circumstances, press the button to select frame of setting.
In PTZ Control mode, the button will support the tilt-up function.
In Text Editing mode, the button will become to "Backspace" function.

Down/DEL Button：

In the normal circumstances, press the button to select frame of setting.
In PTZ Control mode, the button will support the tilt-down function.

In Text Editing mode, the button will become to "DEL" function.

◯ **MENU/ESC Button:**

In the MONITOR mode, press the button to change the viewing mode to the "MENU SETTING" mode.   The "SETTING" mode offers 10 kinds of sub-mode. The default selection is "Log In/Out".

In the SETTING mode, the button function will change to ESC function.   If you press the button in the "SETTING" mode, you will go back to the MONITOR mode.   The DVR will record all modification automatically.

◯ **Alarm Reset:**

Press this button to cancel alarm setting, and return system to the condition before the alarm was setting he function always uses on trigger alarm.

◯ **USB Backup:**

Press this button to copy the playback images to the storage device which connected to the USB port.   Press this button again to stop copying.

NOTE：
The BACKUP function means the COPY function in the DVR setting

◯ **X2 X4 / GOTO:**

In the MONITOR or PLAYBACK mode,please select one channel and press this button It will pop yellow square on the monitor.   The zoom-in function is X2/X4 digital zoom.

You can set up the yellow 1/4 square area through "Direction Control" button, and then press the "ENTER" button to 200M the image(X2).   If you press again, the size of image will be 200M again(X4).

In PTZ control mode, press this button to move the camera to the preset position.

The system supports X2/X4 Digital Zoom function.   To use this function, press button in full screen display to enter Digital Zoom mode.

Direction Control
Press these buttons to move the zoom window to select the image you would like to zoom.

ENTER
Press this button to zoom in the zoom window x2 or x4.

X2
Press this button to show/hide the zoom window if the current zoom factor is X2, or zoom out the video window back to zoom factor X1 if the current zoom factor is X4.

MENU/ESC
Press this button to exit from Digital Zoom mode, and return to normal full screen display.   The video window will always return to zoom factor X1.

◯ **MODE:**

In the MONITOR mode, press this button to change live mode or playback mode in main screen display.   In some dialogs, this button is used as a miscellaneous function key.

◯ **SEQ:**

In the MONITOR or PLAYBACK mode, Press the "SEQ" then the monitor will go into full screen with auto switch display the default time is 2 seconds.

◯ **CALL/PTZ:**

In the PLAYBACK mode, press this button to switch to full screen display of the focus camera in main screen display.   In some dialogs, this button is used as a miscellaneous function key.

In MONITOR mode, press this button to enter/exit PTZ Control mode if the focus camera is a PTZ camera.   In the other displays, press this button to escape to the previous level display.

◯ **MUTE/NEXT:**

In MONITOR or PLAYBACK mode, press this button to mute the audio.
In PTZ control mode, press this button for the next miscellaneous control.

◯ **VOL+/ZOOM OUT:**

In MONITOR or PLAYBACK mode, press this button to lift up the volume.

In PTZ control mode, press this buttons to zoom out the camera.

◯ **VOL-/ZOOM IN:**

In MONITOR or PLAYBACK mode, press this button to adjust the volume.

PTZ control mode, press these buttons to zoom in the camera.

◯ **Rec:**

The DVR support Multi-Tasking. You can view, record, playback and remote control at the same time.   The DVR will automaticity record the image.

▷ **SEARCH:**

Press this button to enter the SEARCH SETTING mode in the MONITOR mode.   To search the playback image through different method: Search By Time, Search By Event, Smart Search, Search Archived Files and POS Search.

In some dialogs, this button is used as a miscellaneous function key.

Press the STOP button to stop the recording image, and then press the LIVE DISPLAY to go back to the MONITOR mode.

◁ **Rew:**

In the PLAYBACK mode, press the Rewind button and it will rewind the recording image.   If you need to go back to the Play State, please press the Play/Pause button.

NOTE：
The "Rewind" button sign will display on the lower-middle side of the monitor.   "Rewind button Speed : x2,x4,x8,x16

⫿⫿ **PLAY/Pause:**

In the PLAYBACK mode of "Play State" or "Rewind State", it can play and pause on the recording image directly. If you need to go back to "Play State", please press the Pause Button directly.   If you press the button to the "Fast Rewind State" or "Fast Forward State", the DVR mode will go back to the "Play State" or "Rewind State" to play the recording image.

▢ **STOP:**

In the PLAYBACK mode, you can press the Stop button anytime to stop the playback image. Press the LIVE DISPLAY to back to the "MONITOR" mode.

《⟨ **F.R (Fast Rewind):**

In the PLAYBACK mode, Press the Fast Rewind Button to change the image rewind speed: X2, X4, X8, X16, X32 and X64.

⟩》 **F.F (Fast Forward):**

In the "PLAYBACK" mode, Press the Fast Forward Button to change the image forward speed: X2, X4, X8, X16, X32 and X64.

NOTE：

If you press the **"Fast Rewind Button"** under the fast play speed state, you can adjust the level of the speed.   If you press the **"Fast Forward Button"** under the fast forward speed state, you can adjust reduce the level of speed as well.

🖱 **MOUSE RIGHT KEY:**

You can click the "right-button" of mouse as MENU/ESC key.

①～⑯ **Full Format:**

You can view the channel of full format through 1～9/1～16 button.   And the button also provides the text input function.   The detail illustration as below:

NOTE：

The channel 1 button also support the space input.

The channel 10 button also support the number 0 input.

The channel 11 button also support the * sign input and **mark** definition.

The channel 12 button also support the **#** sign input and **code** definition.

There are certain circumstances that the system requires the user to enter text, such as system login, camera title setup, and so on.   Please follow the steps as below to enter text:

(1) Press **ENTER** button to edit the highlighted option.   The flashing cursor will be shown to indicate the editing point.

(2) Press **Direction Control** button to move the cursor to the left/right.

(3) Press **code** in text editing mode to change text case.   Indicators on the screen show the current setting:

Input method illustration		
Number	**Item**	**Explanation**
1	**123**	Number only
2	**abc**	No capital letters
3	**ABC**	All capital letters
4	**CODE**	Internal code for the selected language, such as Chinese, Japanese, etc.

If the entry can accept number only, pressing **code** will have no effects.

(4) Press a number key (**1-9, 10/0)** repeatedly until the character you want appears.   (**1** for 1 or space, **2** for 2, a/A, b/B, or c/C, the others as shown on the keypad)   If internal **CODE** is selected, a **CODE box** will be shown (after the first code is entered) for each new code to be entered.   Please check the internal code table for the selected language.   For 2-byte code, e.g. Chinese or Japanese, the code accepted is from 0000 - FFFF.

(5) Press **mark** to bring up a list of punctuation marks and special characters.   The highlighted character in the list shows the selected one.   Press **Direction Control** button to change the selection.

(6) If you make a mistake, press Backspace to remove the character to the left of the cursor, or press **DEL** to delete the character at the current cursor position.

(7) In text editing mode, internal code box, and mark list, press **ENTER** to exit and save changes, press **ESC** to exit without making changes.

◯ **QUAD PLAYBACK/-:**

The function only used in the PLAYBACK mode.

NOTE：
The 9 CH / 16CH view mode cannot support the QUAD PLAYBACK function, because the full 9 CH / 16CH view mode don't need to change the channel for next.

In the 4 channel PLAYBACK , press this button will change to other 4 channel display.

◯ **LIVE DISPLAY/+:**

In MONITOR mode, press this button you can change 1/4/7/9/10/13/16 split-window dispay.

NOTE：
The PIP mode of split-window can be use the SEQ function; When you STOP to play the recording image on PLAYBACK Mode, you need to press this button to go back the MONITOR Mode.

2.12 Rear Control Buttons Illustration

2.12.1 Video Input

Connect system cameras to these BNC connectors.   The corresponding 75Ω termination must be made unless the video output terminal is connected.

2.12.2 Video Output

The video output means the camera loop.   If you connect many monitors or DVRs through video loop, it will affect the image quality and stability.   You can extend the video signal control.

2.12.3 75Ω termination

Set each of the DIP switches to ON unless the corresponding video output terminal is connected.

75 Ω: Normal State.

∞: Auto gain state, to extend the camera output signal.

If you connect many DVRs, you need to change the video IN&OUT switch to 75 ohm on the last DVR.   Let the DVR knows the end of connection.

∞ → ∞ → ∞ → ….. →75 ohm

2.12.4 Monitor Output (MONITOR OUT, Y/C)

Connect TV monitors to the mini-din S-video connector or the BNC connector for main monitor display.

2.12.5 Monitor AUX (MONITOR AUX IN/OUT)

MONITOR-AUX OUT has the same output as MONITOR OUT, but can be switched off through RS-232/485 keyboard control.

2.12.6 Call Out (CALL OUT)

Connect TV monitor to this BNC connector for call monitor display.

2.12.7 Call AUX (CALL AUX IN/OUT)

Used to daisy-chain to TV monitor.　CALL-AUX OUT has the same output as CALL OUT, but can be switched off through RS-232/485 keyboard control.

2.12.8 VGA (Optional)

Connect VGA monitor to the VGA connector for main monitor display.　The DVR support many different resolution for user.

2.12.9 NTSC/PAL Switch

Set this unit to NTSC or PAL according to the local TV system.

NOTE：
You must select the DVR system before DVR booting.　If you want to change the DVR system, please power off the DVR first.

2.13 Network

You can view the DVR image through "IE browser" support remote control and remote recording function.　Connect this unit to a 10/100Base-T Ethernet network through this port.

There are three types of network mode: STATIC IP, DHCP and PPPoE.

2.14 Audio Input and Output

Connect audio IN or OUT devices through RCA interface.

2.14.1 Audio Input

These RCA connectors accept line-in audio signals supplied from external devices such as microphone amplifiers.

2.14.2 Audio Output

These connectors supply line-out audio signals to external devices such as speakers. Recorded audio will be supplied from AUDIO OUT during playback.

NOTE：

The Audio function cannot guarantee power issue.   Please notice whether the microphone spec can use or not.

2.14.3 PS/2 Mouse
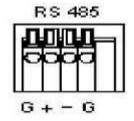
Connect the PS/2 mouse to this connection.

2.14.4 USB Connector (USB)

Connect this port to USB 2.0 compatible storage device, such as USB 2.0 disk drive, DVD+RW, card reader, etc.

2.14.5 About PTZ, GPS and POS:

The extra equipment need to connect the device through RS232 and RS422/485 interface.

RS-232 Connector

Connect this connector to PTZ camera(s), GPS modem, or POS system.

RS-422/485 Connector
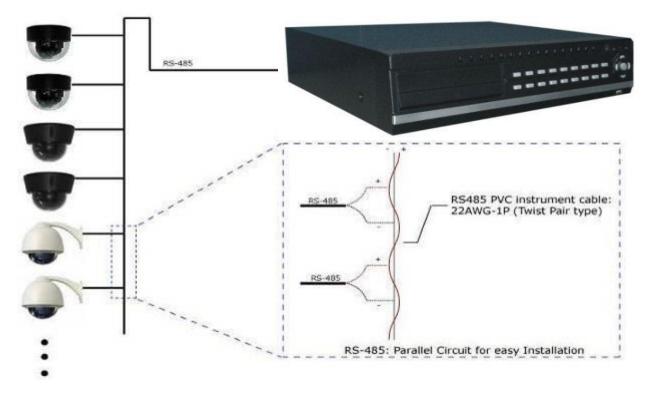
Connect this connector to RS-422/485 compatible PTZ camera(s) or keyboard.   Please set the Selector Switch correctly.   Please refer to the manuals come with the RS-422/485 compatible devices for the correct settings.

NOTE：
the manual will provide the detail diagram on this chapter in the future.
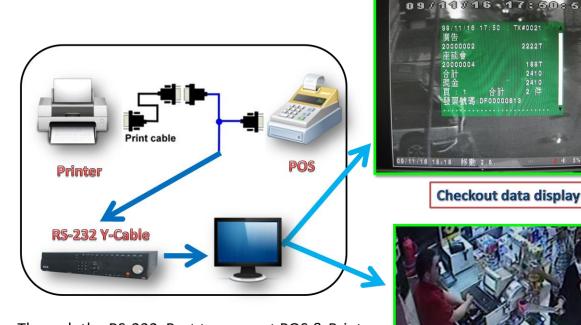
PTZ Application

If must join two pieces PTZ of the above, Need to use the parallel way to join PTZ.

POS Application

Checkout data display

Through the RS-232 Port to connect POS & Printer.
Allows users to search for event's images and
POS checkout data in the same time.
All of information could be uploaded to display on screen

Search POS Images

- Through the RS-232 series to connect with more POS and Printer.
- Use the "RS-232 protocol converter" to reach COM mechanism for multiple POS
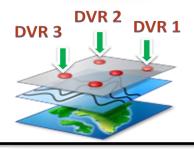
Connect up to 16 POS in the same time

GPS Application

DVR's GPS positioning system to find your destination.

DVR 2
DVR 3   DVR 1

Full management of different DVRs in wide area (Interlocking Google earth)

Automatic Driving Surveillance Recorder with GPS

GPS Application

2.14.7   About Alarm IN and OUT:
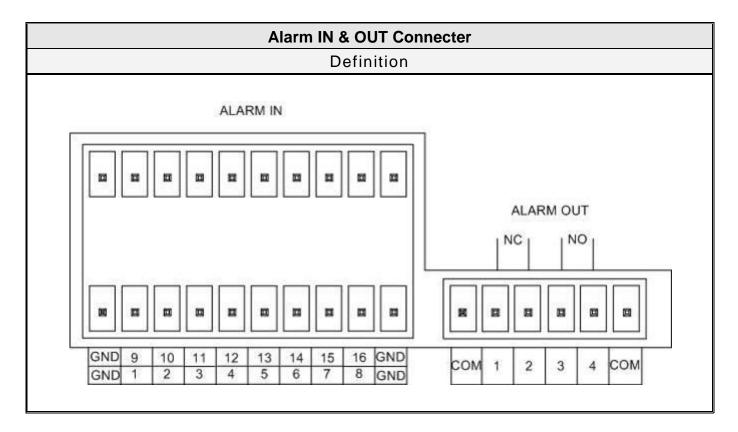
The DVR only receive TTL/COMS alarm signal that the LOW & HIGH of potential or the N.O & N.C state.

ALARM INPUT：

You can extra connect the 16's alarm input.　The extra device connects one for the alarm input, the other for GND.　Connect these connectors to external devices such as sensors or door switches.

ALARM OUTPUT：

You can extra connect the 16/4 alarm output.　Connect these connectors to 4/2 Normally Closed (NC) alarm outputs and 2 Normally Open (NO) alarm outputs…　Because of DVR cannot supply any power for extra device, you can connect the power adapter through COM to provide electric power. When alarm trigger, the alarm output will work.

Alarm IN & OUT Connecter
Definition

GND	9	10	11	12	13	14	15	16	GND
GND	1	2	3	4	5	6	7	8	GND

COM	1	2	3	4	COM
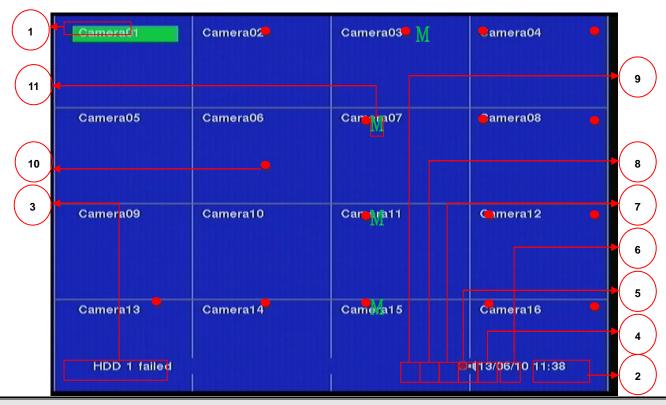
NOTE：

The DVR print the pin definition information on the back panel.

2.15 Monitor Display Illustration
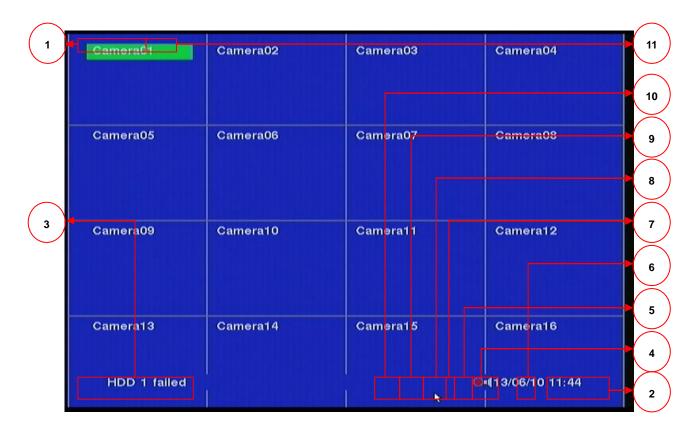
The Chapter will explain the screen display illustration.   Please follow the diagram as below:

2.15.1 MONITOR Mode
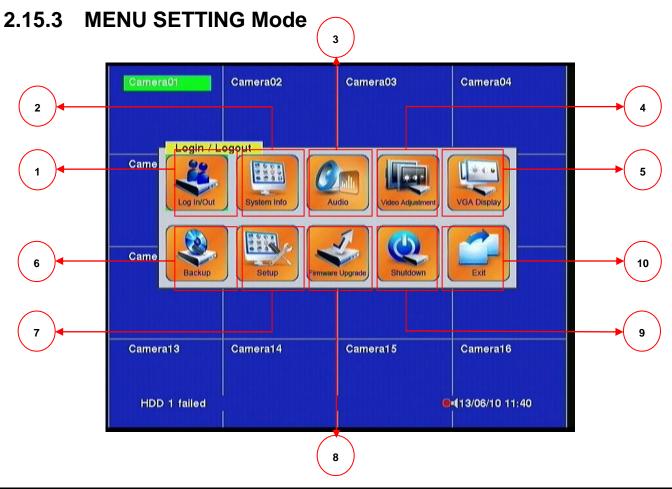
MONITOR Mode Display illustration		
Number	**Item**	**Explanation**
1	Camera name	Camera displaying name.
2	Date / Time	Show the real time date and time information.
3	Banner	It will show the motion, alarm, V.loss, HDD and DVR state.
4	Normal Rec Size	Normal recording percentage
5	Alarm Rec Size	Alarm recording percentage
6	Audio	Enable the audio function
7	Digital Zoom	Enable the digital zoom x2 /x4 function
8	Rec	The force manual recording mode
9	SEQ Sign	Enable SEQ function
10	Record Status	Icon means under recording mode
11	Motion Status	Icon means under motion mode

2.15.2 PLAYBACK Mode
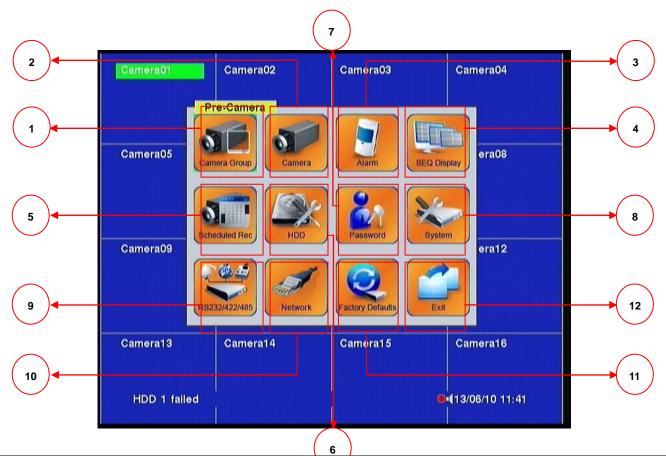
PLACK Mode Display illustration		

Number	Item	Explanation
1	Camera name	Camera displaying name.
2	Date / Time	Show the real time date and time information.
3	Banner	It will show the motion, alarm, V.loss, HDD and DVR state.
4	Normal Rec Size	Normal recording percentage
5	Alarm Rec Size	Alarm recording percentage
6	Audio	Enable the audio function
7	Digital Zoom	Enable the digital zoom x2 / x4
8	Rec	The force manual recording mode
9	Backup State	The backup function mode
10	Playback Sign	Enable all PLAYBACK function
11	Date / Time	Recording date and time information.

2.15.3　MENU SETTING Mode
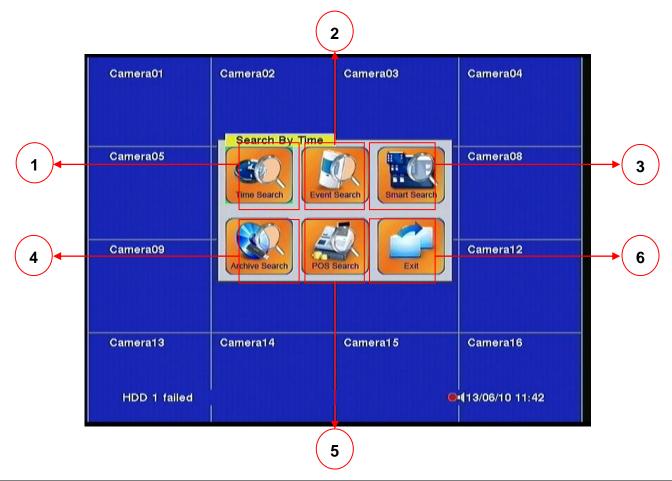
MENU SETTING Mode Display illustration		
Number	**Item**	**Explanation**
1	Log In/Out	Login DVR through the account
2	System info	Show DVR system information
3	Audio	Adjust the audio setting
4	Video Adjustment	Adjust the camera setting
5	VGA Display	Adjust VGA setting
6	Backup	Use backup function
7	Setup	Enter SETUP SETTING Mode
8	Firmware	Upgrade DVR firmware through USB Flash
9	Shutdown	Power off the DVR
10	Exit	Exit the MENU SETTING mode

2.15.4 SETUP SETTING Mode

SETUP SETTING Mode Display illustration		
Number	**Item**	**Explanation**
1	Camera Group	Set up the DVR resolution, PTZ and Watermark
2	Record	Set up the camera info, motion, quality and fps
3	Alarm	Set up the extra alarm function
4	SEQ Display	Set up SEQ setting
5	Schedule Rec	Set up the alarm, motion or always record through schedule
6	HDD	Set up the HDD recording and figure
7	Password	Manage DVR's account
8	System	Set up DVR time and language
9	RS232/422/485	Set up RS232/422/485 figure
10	Network	Set up the IP, DDNS, mail and FTP function
11	Factory Default	Reset DVR default setting
12	Exit	Exit SETUP SETTING mode

2.15.5 SEARCH Mode

<table>
<tr><td colspan="3" align="center">SEARCH Mode Display illustration</td></tr>
<tr><td>Number</td><td>Item</td><td>Explanation</td></tr>
<tr><td>1</td><td>Time Search</td><td>Select the date and time to Playback recording image</td></tr>
<tr><td>2</td><td>Event Search</td><td>Select the event to Playback recording image</td></tr>
<tr><td>3</td><td>Smart Search</td><td>Select the date time and area to playback the Movement of recording image.</td></tr>
<tr><td>4</td><td>Archive Search</td><td>Search the backup device recording image</td></tr>
<tr><td>5</td><td>POS Search</td><td>Combine with the POS to search the recording image</td></tr>
<tr><td>6</td><td>Exit</td><td>Leave the SEARCH mode</td></tr>
</table>

2.16 Mouse Control Illustration
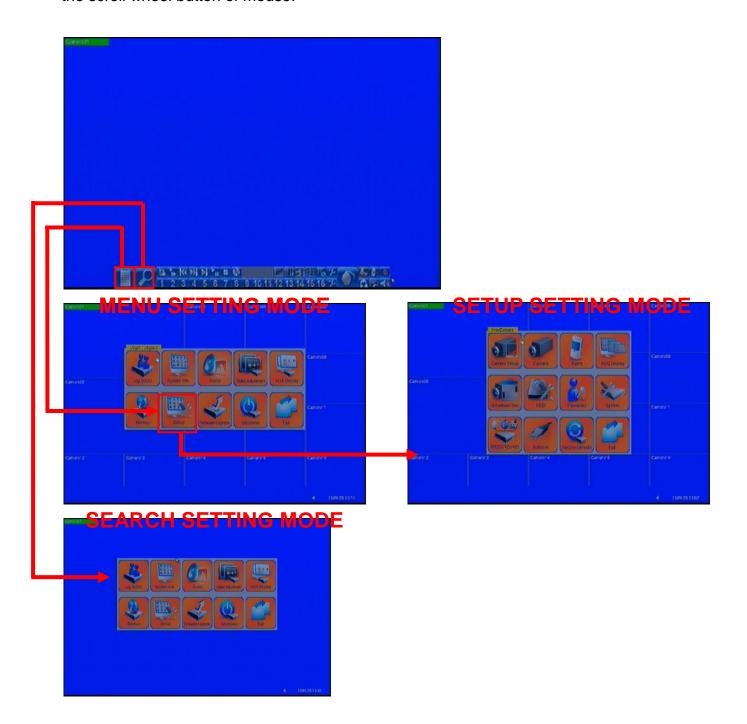
When installing and using the mouse interface, the main menu interface will be needed to operate with mouse.

Mouse Control Illustration			
1	Menu	9	PTZ Setup
2	Search	10	Mode
3	ESC	11	Alarm Reset
4	In The PLAYBACK Control	12	Scheduled Record
5	Backup	13	GPS/POS/ OSD Display
6	Split-Window Display (7 mode)	14	X2
7	SEQ	15	Adjust Volume
8	Switch Bar	16	1-16 Chanel Single Display

3. Function Setting

In the MONITOR mode, press the MENU button to enter the MEUN & SETUP SETTING mode. Press the SEARCH button to enter the SEARCH SETTING mode. When you finish setting , please remember click the MENU button to save the setting. The DVR also provide the mouse function application. The mouse operation is like the PC .Some figure adjustment need to use the scroll wheel button of mouse.

MENU SETTING MODE

SETUP SETTING MODE

SEARCH SETTING MODE

3.1 MENU SETTING MODE
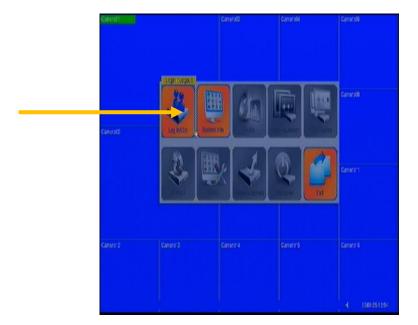
There are 10 kinds of setting functions for user.   Please see the detail illustration as below:

3.1.1 Log In/Out:

There are three password levels in the system, including **Administrator** (highest), **Supervisor**, and **Operator** (lowest).   If the user does not login the system, he/she will be treated as "Guest" and only can view live video display.
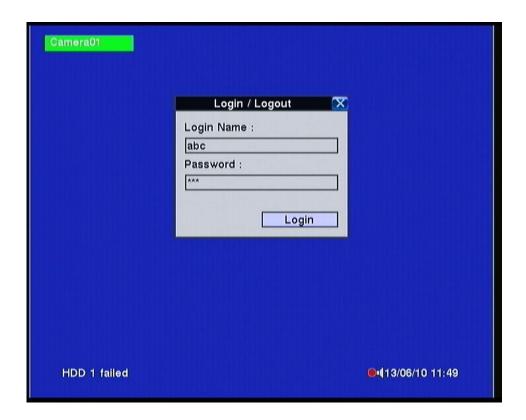
The system allows up to 18 user accounts.   The administrator can set up the login name and password for each user.

To login/logout the system, press **MENU** button in split-window display to call up Menu display, and then press **ENTER** button to highlight option on **Login/Logout**.

In Login/Logout display, press **Direction Control** button to highlight and select **Login** option, and then press **ENTER** to login the system. If the user wants to logout the system, just press **Direction Control** button to highlight and select **Logout** option, and then press **ENTER** button. Press **MENU/ESC** button to exit without making changes.

There is one factory-preset login name/password abc/123 at **Administrator** level. The user can use it to login the system for the first time.

NOTE：

If the user forget all the administrator-level passwords, please contact the local dealer or installer to recover from it.

3.1.2 System info:
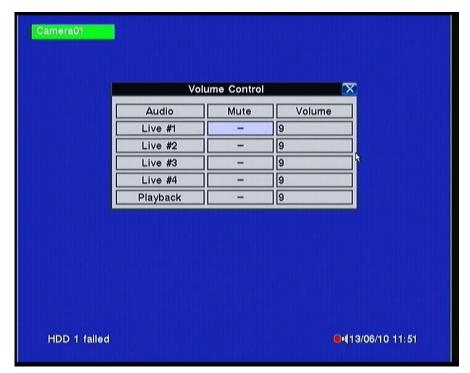
In MENU SETTING Mode, press **Direction Control** button to change the highlighted option to **System info**, and then press **ENTER** button to call up Status display as shown.

System info display includes Alarm Recording Status, Normal Recording Status, Camera Status, Alarm Input Status, Product Serial Number and Product Version Number. Press **MENU/ESC** to EXIT Status display to return to Menu display.

3.1.3 Audio:

In MENU SETTING Mode, press **Direction Control** button to change the highlighted option to Volume Control display as shown.

Direction Control
Press these buttons to select the items.

MENU/ESC
Press this button to exit this screen, and return to Menu display. If the contents have been modified, a Save dialog will be shown to ask the user to save the changes, press **ENTER** to exit and save, **MENU/ESC** to exit without saving.

Following is a brief description for each item and its specific operations:

● **Mute** –
to mute the selected audio channel.   Press **ENTER** or **+/-** to select mute or The default setting is "**-**" - unchecked.
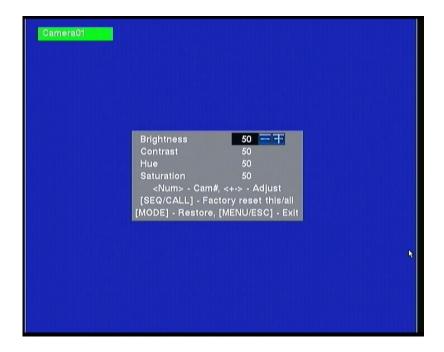
● **Volume** –
the volume of the selected audio channel.   Press **+/-** buttons to adjust value (1-20).

3.1.4   Video Adjustment:

In MENU SETTING Mode, press **Direction Control** button to change the highlighted option to **Video Adjustment**, and then press **ENTER** to call up Video Adjustment display as shown.

There are 4 items which can be adjusted, including Brightness, Contrast, Hue, and Saturation. The operations are as below:

<Num>
Press these buttons to change the camera.

<+/->
Press these buttons to adjust the selected item.

[SEQ/ CALL]
Press this button to reset the settings for this/all camera to factory default values.

[MODE]
Press this button to restore the values.

[ESC]
Press this button to exit from this screen, and return to Menu display.   The settings will be saved for future reference.

3.1.5   VGA Display:

In MENU SETTING Mode, press **Direction Control** button to change the highlighted option to **VGA Display**, and then press **ENTER** to call up VGA Display dialog as shown.

There are 5 items which can be adjusted, including Resolution (1280x1024, 1024x768, 800x600, 640x480), Brightness, Contrast, Hue, and Saturation.   The operations are as below:

Direction

+/-
Press these buttons to adjust the selected item.

[**MODE**]
Press this button to restore **Brightness, Contrast, Hue, and Saturation** to factory default values.
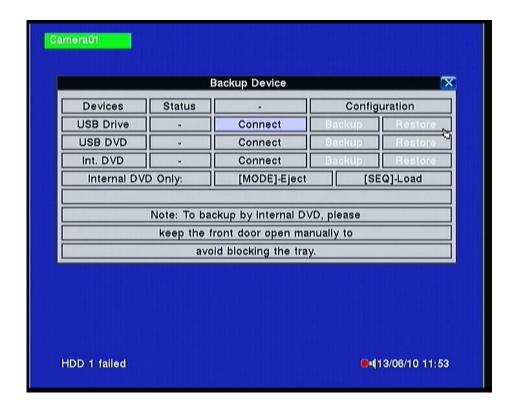
MENU/ESC
Press this button to Exit from this screen, and return to Menu display.   If the contents have been modified, a Save dialog will be shown to ask the user to save the changes, press **ENTER** to exit and save, **MENU/ESC** to exit without saving.

3.1.6   Backup:

In MENU SETTING Mode, press **Direction Control** button to change the highlighted option to **Backup Device**, and then press **ENTER** to call up **Backup Device** display as shown below.

The system supports internal DVD and a variety of USB 2.0 storage devices, including Storage Disk such as USB 2.0 storage disk drives and DVD Disc).   The operations are as below:

> **NOTE**：
> The DVR not support the DVD-RW, CDR and CDRW.   Only support DVD+RW, DVD+R, and DVD-R

MENU/ESC
Press this button to exit this screen, and return to previous display.

MODE
For Internal DVD only, eject the tray and disconnect.

SEQ
For Internal DVD only, load the tray and connect.

NOTE：

Please DO NOT format the DVD disc for better performance and compatibility.

Before using USB pen drive, please format it to FAT32 file system by MS-Windows.

The backup device has to be connected by the system software before it can be used to read/write.　If it failed to connect, please unplug the device, and then plug the device in the USB port again.

Some backup devices may have compatibility problems.　Please contact your local dealer or installer for the supported devices.

For internal DVD, please open the front door in order not to block the tray from ejecting, esp. while it's in backup process.　Blocking the tray from ejecting may damage the DVD writer.

Backup

Press **ENTER** when this item is selected to backup the configurations of this unit to the corresponding USB device.

Restore

Press **ENTER** when this item is selected to restore the configuration files in the corresponding USB device to this unit.

3.1.7   Setup:

In MENU SETTING Mode, press **Direction Control** button to change the highlighted option to **Setup**, and then press **ENTER** to call up Setup Menu display as shown

NOTE：
To enter Setup Menu display of the system, please login as Administrator first.
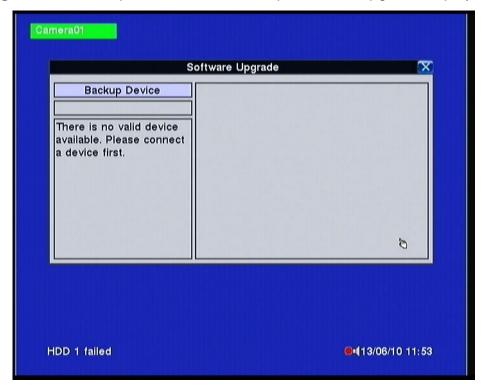
If the user wants to reset all the settings to factory default values, you may press **Direction Control** to change the highlighted option to **Factory Defaults**, and then press **ENTER**.   A confirmation dialog will be shown, press **ENTER** again to make the changes, MENU/ **ESC** to not do it.

NOTE：
Detail Setup function please reference to chapter of "Setup setting mode"

3.1.8 Firmware Upgrade:

In MENU SETTING Mode, press **Direction Control** button to change the highlighted option to **Software Upgrade**, and then press **ENTER** to call up Software Upgrade display as shown.

MENU/ESC

Press this button to exit this screen, and return to MENU SETTING Mode.

Following is a brief description for each item and its specific operations:

● **USB Device** – press **ENTER** to call up USB Device dialog.

● **Disk Storage** – to select the disk storage to upgrade. Press **+/-** buttons to select the available storage.

● **Upgrade File** – press **ENTER** to start the upgrade process when the highlighted file is a correct upgrade file. A confirmation dialog will be shown on the screen, press **ENTER** to confirm to upgrade the system software.

NOTE：

After the software is upgraded, the system will restart immediately. The split window display will be shown after restart, please wait for a moment.

3.1.9   Shutdown:

In MENU SETTING Mode, press **Direction Control** button to change the highlighted option to **Shutdown**, and then press **ENTER** to shutdown the system.   A confirmation dialog will be shown on the screen, press **ENTER** to confirm the shutdown.   The system will save all the files and all the states, and then display a power-off message in the rolling screen message area. The user may power off the system safely when the power-off message is shown.

NOTE：

To enter Setup Menu display of the system, please login as Administrator first.

3.1.10   EXIT:

In MENU SETTING Mode, press the button to exit the MENU SETTING Mode.

3.2   SETUP SETTING MODE

There are 12 types of setting function for user.   Please follow the illustration as below:

The general operations are as below:

Direction Control

Press these buttons to select the items.   The display will scroll up/down if the selected item is not shown on the screen.

ENTER

Press these buttons to select the camera.

MENU/ESC
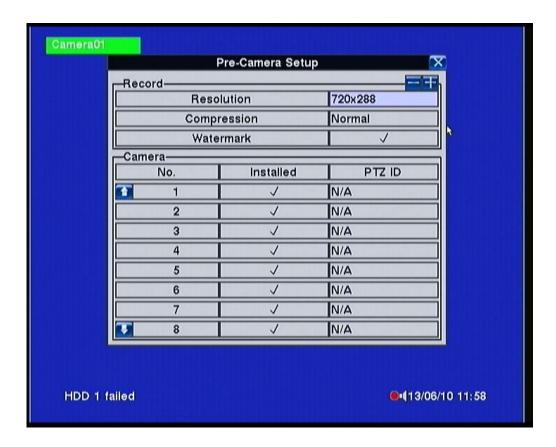
Press this button to escape from this screen, and return to SETUP SETTING Mode.   If the contents have been modified, a Save dialog will be shown to ask the user for saving the changes, press **ENTER** to exit and save, press **MENU/ESC** to exit without saving.

BACKUP (The BACKUP function means the COPY function in the DVR setting)

Press this button to backup (copy) all the settings - excluding detailed Motion settings, Video Loss settings, Title/Audio - of the focus camera to all the following cameras.

3.2.1 Camera Group:

In SETUP SETTING Mode, press **Direction Control** button to change the highlighted option to **Camera Group**, then press **ENTER** to call up Pre-Camera Setup displayed as shown.

There are up to 16 or 9 cameras which can be connected to the system. The Pre-Camera Setup allows the administrator to define some fundamental attributes, which may relate one camera to the others, for all the installed cameras.

- **REC Resolution**

  The record resolution for all the cameras in the system. For NTSC, it can be 720x480, 720x240, or 360x240; for PAL, 720x576, 720x288, or 360x288. Press **+/-** buttons to select the resolution.

- **Watermark**

  To record with digital watermark or not. If yes, all the recorded images for all the cameras will have digital watermark embedded. Press **ENTER** or **+/-** to check/uncheck this item. The default setting is "˅" - checked.

● **Installed**

Whether this camera is installed or not.   If installed, the following items will be selectable. Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is "ˇ" - checked.

● **PTZ ID**

The ID of PTZ camera of this camera if it's a PTZ camera.   The PTZ ID has to be consistent with the setting of this camera.   Please refer to the manual of the camera for the ID setting.   Press **+/-** buttons to change the value (N/A or 0-255).   The default setting is "**N/A**" – Not Available, which means that it's not a PTZ camera.

● **Group**

The group which the camera belongs if its recording resolution is 360x240 or 360x288. It's used to maximize the record capacity of the system.   Please refer to the table below for the maximum number of cameras in a group.   None-selectable groups will be disabled and grayed.   Please press **Direction Control** button to highlight the group, and then press **ENTER** or **+/-** to select the group of the camera.

Resolution						
DVR System	NTSC			PAL		
Image Size	D1	Half-D1	CIF	D1	Half-D1	CIF
	720x480	720x240	320x240	720x480	720x288	320x288
FPS	60	120	240	60	120	240
Group	N/A	N/A	2	N/A	N/A	2

Please note that the cameras in the same group will have the same record attributes such as record quality, record IPS, etc.

3.2.2 Camera:

In SETUP SETTING Mode, press **Direction Control** button to change the highlighted option to **Camera**, and then press **ENTER** to call up Camera Setup display as shown:

The Camera Setup allows the administrator to define the attributes for each camera.   There are up to 16 or 9 cameras which can be connected to the system.

● **Title**
   The title of this camera.   The maximum is 8 letters

● **Video Loss Settings..**
   Used to setup the action settings when video loss is detected for this camera.   Press **ENTER** to call up Video Loss Setup display for the camera.

3.2.2.1 Video Loss Setup:

In Camera Setup, press **ENTER** to call up Video Loss Setup of the selected camera as shown when the highlighted option is **Video Loss Settings** of the camera to setup.   The Video Loss Setup allows the administrator to define how the system responds to the detected video loss for the camera.

- ● **Duration**
  Response duration to define at most how long (in seconds) the Alarm Out relay and the Buzzer will keep being triggered after video loss is detected for this camera.   However, the Alarm Out relay and the Buzzer will be reset immediately once the camera returns to normal.   Press **+/-** buttons to adjust the value.

NOTE：
The figure range is from 3 to 60 seconds

- ● **Camera to go**
  The camera to go to the preset position in next field after video loss is detected for this camera.   "Camera to go" camera must be a PTZ camera.

- ● **Goto Preset**
  To define the preset position to go to for the "Camera to go" Camera in last field if video loss is detected for this camera.

- ● **Pre-record**
  To define how long this channel shall be intensively recorded at Pre-record IPS before video loss is detected.   Press **+/-** buttons to adjust the value.

The figure range is from 0 to 60 seconds

● **Alarm Out**

To define which Alarm Output will be triggered when video loss of this camera is detected. Press **+/-** buttons to select none (N/A) or one of the Alarm Outputs (1-4).

● **Buzzer**

To activate the internal Buzzer or not when video loss of this camera is detected. Press **ENTER** or **+/-** to check/uncheck this item. The default setting is " ˇ " - checked.

● **Log**

To log to event logs or not. Press **ENTER** or **+/-** to check/uncheck this item. The default setting is " ˇ " - checked.

● **Screen Message**

To display the event message on the screen or not. Press **ENTER** or **+/-** to check/uncheck this item. The default setting is " ˇ " - checked.

● **E-mail**

To send the event e-mail to remote station or not. The e-mail will be sent to the predefined receivers at the moment when the event is triggered. Press **ENTER** or **+/-** to check/uncheck this item. The default setting is "**–**" - unchecked.

● **FTP**

To send the recorded event video/audio files to FTP server or not. Press **ENTER** or **+/-** to check/uncheck this item. The default setting is "**–**" - unchecked.

● **Motion Detection**

Whether the motion detection of this camera is enabled or not. Press **ENTER** or **+/-** to check/uncheck this item. The default setting is " ˇ " **-** checked.

NOTE：

This field has no effect for the Smart Search information

● **Motion Settings**

Used to setup the motion settings, used for Motion Detection or Smart Search, for this camera. Press **ENTER** to call up Motion Setup display for the camera.

NOTE：

Please note that if the Motion Detection is disabled, the factory default motion settings should work fine with Smart Search.

● **Covert**

Covert or not. If the camera is covert, the video of this camera can only be seen if the user has logged in as Administrator. Press **ENTER** or **+/-** to check/uncheck this item. The default setting is "**–**" - unchecked.

● **Call By Event**

Whether to switch the call monitor to the video of this camera if certain event occurs for this camera. There are 4 options, including Off, Motion, Alarm and Both (Motion & Alarm). Press **+/-** buttons to select one.

● **Dwell Time**

The dwell time if **Call By Event** is set to Motion, Alarm, or Both. Press **+/-** buttons to adjust the value).

NOTE：

The figure range is from 3 to 60 seconds

● **Audio**

The AUDIO IN corresponding to this camera. The audio data for the selected AUDIO IN will be recorded with the video data for this camera. Press **+/-** buttons to select none (N/A) or AUDIO Inputs (1, 2, 3 and 4). The default setting is "N/A".

● **Record Quality**

The record quality for this camera. Press **+/-** buttons to select the value.

NOTE：

The figure range is from 1 to 9, with 1 the lowest (rough) quality, 9 the highest (fine) quality

- **Event Record IPS**

  The IPS (Images Per Second) for this camera if certain event (Motion, Alarm) occurs for this camera.   This camera will be recorded at this rate for Post-record time since the event occurs.   Press **+/-** buttons to select the value.

- **Pre-record IPS**

  The pre-record IPS for this camera if certain event (Video Loss, Motion, Alarm) occurs for this camera.   This camera is recorded at this rate for Pre-record time before the event occurs.   Press **+/-** buttons to select the value.

- **Normal Record IPS**

  The normal record IPS for this camera.   This camera will be recorded at this rate if no event occurs.   Press **+/-** buttons to select the value.

NOTE：

The figure range is from 0 to 25(PAL)/30(NTSC)

The **Event Record IPS** would influence the **Pre-record IPS** for this camera

The **Pre-record IPS** would influence the **Normal Record IPS** for this camera

---

3.2.2.2   Motion Setup:

In Camera Setup, press **ENTER** to call up Motion Setup as shown when the highlighted option is **Motion Settings..** of the camera to setup.   The Motion setup allows the administrator to define how the system responds to the detected motion for the camera.

- ● **Duration**
  Response duration to define at most how long (in seconds) the Alarm Out relay and the Buzzer will keep being triggered after motion is detected for this camera.   However, the Alarm Out relay and the Buzzer will be reset immediately once the camera returns to normal.   Press **+/-** buttons to adjust the value.

NOTE：
The figure range is from 3 to 60 seconds

- ● **Camera to go**
  To the preset position in next field after motion is detected for this camera.   "Camera to go" camera must be a PTZ camera.

- ● **Goto Preset**
  To define the preset position to go to the "Camera to go" Camera in last field if motion is detected for this camera.

NOTE：
Please refer to **Appendix F: PTZ Control**

● **Pre-record**

To define how long this camera shall be intensively recorded at Pre-record IPS before motion is detected.   Press **+/-** buttons to adjust the value.   Please note that the actual pre-record time may be shorter than the value set if the total size of the pre-record pictures exceeds the pre-record buffer size of the system.

NOTE：

The figure range is from 0 to 60 seconds

● **Post-record**

To define how long this camera shall be intensively recorded at Event Record IPS after motion is detected.   Press **+/-** buttons to adjust the value.

NOTE：

The figure range is from 0 to 50 seconds & 1 to 60 minutes

● **Alarm Out**

To define which Alarm Output will be triggered when motion of this camera is detected. Press **+/-** buttons to select none (N/A) or one of the Alarm Outputs (1-4).

● **Buzzer**

To activate the internal Buzzer or not when motion of this camera is detected.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˇ " - checked.

● **Log**

To log to event logs or not.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˇ " - checked.

● **Screen Message**

To display the event message on the screen or not.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˇ " - checked.

● **E-mail**

To send the event e-mail to remote station or not.   The e-mail will be sent to the predefined receivers when the event is triggered.   Press **ENTER** or **+/-** to check/uncheck

this item.   The default setting is "**–**" - unchecked.

● **FTP**

To send the recorded event video/audio files to FTP server or not.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is "**–**" - unchecked.

● **Detection Settings..**

Used to setup the motion detection settings, including detection area and sensitivity. when motion is detected for this camera.   Press **ENTER** to call up Motion Detection Setup (as shown) for this camera.   In Motion Detection Setup, the video area is divided into many small grids, and the area with transparent grids is the area which will be detected for motion, while gray grids area will not be detected for motion.   Besides, there is a (green) Mask window.

NOTE：

Please note that the detection area and sensitivity are also used for the Smart Search information.   There won't be any Smart Search information stored outside the detection area. So, it's better to enable the whole area if the motion detection for the camera is disabled (and only Smart Search is used).

Following is a brief description for the operations:

Numeric
Press these buttons to select the camera.

Direction Control
Press these buttons to move the Mask window.

+/-
Press these buttons to resize the Mask window.

ENTER
Press this button to set/reset the area under the Mask window.

MODE
Press this button to set/reset the whole video area.

SEQ / CALL
Press this button to decrease/ increase the sensitivity, from 10 – 1, for the motion detection of this camera.

Volume +/-

Press this button to resize the "Number of grid as motion" from 50 – 0,If you adjust the number, the sensitive value will be automatically changed together.

SEARCH

Press this button to test the motion detection of this camera. The detected motion will be shown on the screen.   Press this button again to stop testing.

MENU/ESC
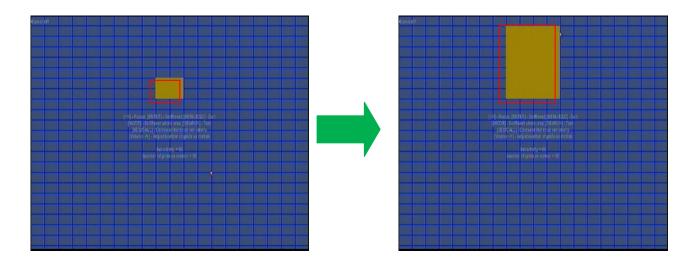
Press this button to escape from Motion Detection Setup, and return to Motion Setup.
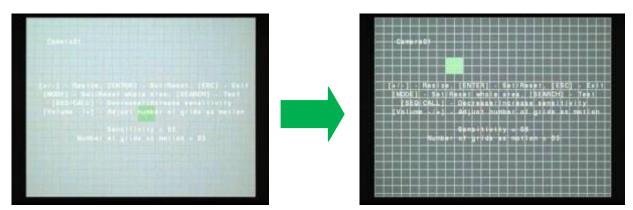
Motion application
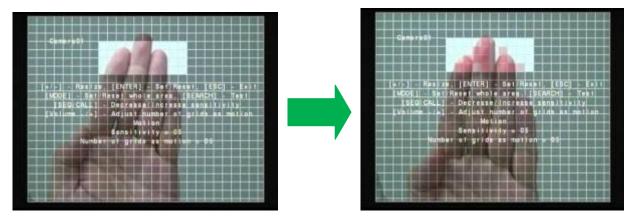
● Select Detection to enter the "Settings"
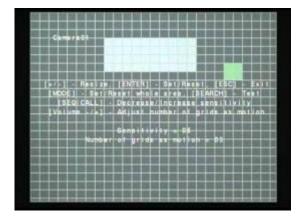
● In the Motion mode, press "＋/－" buttom to enlarge or reduce the area.
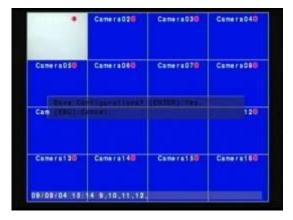
● Press this button to set/reset the whole video area

● Press this button to test the motion detection of this camera

● Choose the area where you want to displace,Press "ESC" to save this config setup

3.2.3 Alarm:

In SETUP SETTING Mode, press **Direction Control** button to change the highlighted option to Alarm, and then press **ENTER** to call up Alarm Setup display as shown. The Alarm Setup allows the administrator to define the attributes for each alarm input, and the actions if it's triggered. There are up to 16 alarm inputs connecting to the system.

Camera01

Alarm Setup

No.	◄ − +	2	3	4 ►
Normal State	Open	Open	Open	Open
Title	AI01	AI02	AI03	AI04
Duration	10 Sec.	10 Sec.	10 Sec.	10 Sec.
Alarm Out	N/A	N/A	N/A	N/A
Buzzer	✓	✓	✓	✓
Focus Camera	1	2	3	4
Pre-record	5 Sec.	5 Sec.	5 Sec.	5 Sec.
Post-record	10 Sec.	10 Sec.	10 Sec.	10 Sec.
Goto Preset	N/A	N/A	N/A	N/A
E-mail	−	−	−	−
FTP	−	−	−	−

HDD 1 failed   ●◀13/06/10 12:02

● **Normal State**
Press **+/-** buttons to select **N/A**, **Close** or **Open**. Please check the signal type, normally close or normally open, connected to the alarm input terminal on the rear panel of the system. If there's no signal connected, please select **N/A** – Not Available, and the following items will not be settable. The default setting is **Open**.

● **Focus Camera**
The camera corresponding to this alarm input.

- **Duration**

  Response duration to define at most how long (in seconds) the Alarm Out relay and the Buzzer will keep being triggered after this alarm input is triggered. However, the Alarm Out relay and the Buzzer will be reset immediately once this alarm input returns to normal. Press **+/-** buttons to adjust the value.

NOTE：

The figure range is from 3 to 60 seconds

- **Goto Preset**

  To define the preset position to go to for the "Camera to go" Camera in last field if motion is detected for this camera.

- **Pre-record**

  To define how long this camera shall be intensively recorded at Pre-record IPS before motion is detected. Press **+/-** buttons to adjust the value. Please note that the actual pre-record time may be shorter than the value set if the total size of the pre-record pictures exceeds the pre-record buffer size of the system.

NOTE：

The figure range is from 0 to 60 seconds

- **Post-record**

  To define how long this channel shall be intensively recorded at Event Record IPS after motion is detected. Press **+/-** buttons to adjust the value.

NOTE：

The figure range is from 0 to 50 seconds & 1 to 60 minutes

- **Alarm Out**

  To define which Alarm Output will be triggered when motion of this camera is detected. Press **+/-** buttons to select none (N/A) or one of the Alarm Outputs (1-4).

- **Buzzer**

  To activate the internal Buzzer or not when this alarm input is triggered.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˇ " - checked.

- **Log**

  To log to event logs or not.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˇ " - checked.

- **Screen Message**

  To display the event message on the screen or not.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˇ " - checked.

- **E-mail**

  To send the event e-mail to remote station or not.   The e-mail will be sent to the predefined receivers when the event is triggered.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is "**–**" - unchecked.

- **FTP**

  To send the recorded event video/audio files to FTP server or not.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is "**–**" - unchecked.

3.2.4   SEQ Display:

In SETUP SETTING Mode, press **Direction Control** button to change the highlighted option to **SEQ Display**, and then press **ENTER** to call up SEQ Display Setup as shown.

The SEQ Display Setup allows the administrator to define the display pages in SEQ Display for main monitor and call monitor.   There are up to 7 display types - 1-Window, 4-Window, 7-Window, 9-Window, 10-Window, 13-Window and 16-Window –for main monitor, and 1 display type for call monitor.

- **Total Pages**
  Total pages for this SEQ Display Type.   The maximum number varies according to the display type.   Press **+/-** buttons to select the desired number from the available list.

- **Dwell Time**
  The dwell time for each page of this display type.   Press **+/-** buttons to change the value.
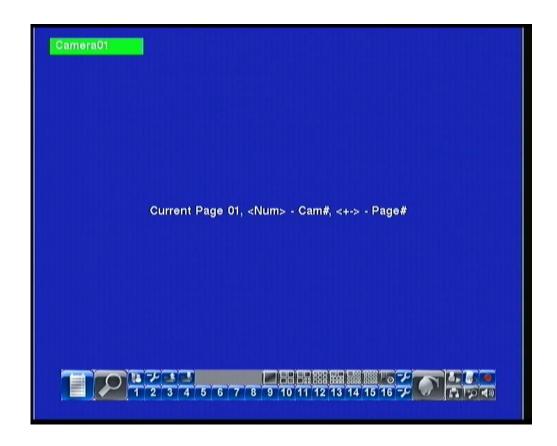
NOTE：
The figure range is from 3 to 60 seconds

● **Page Settings..**
Used to set the camera in each viewing window for each page of this SEQ display Type.
Press **ENTER** to call up Display Page Setup as shown.

In Display Page Setup, the split window display for the current page is shown.   And the title of
the camera for the focus window is highlighted.   Following is a brief description for the
operations:

Direction Control
Press these buttons to move to the focus window.

ENTER
Press Enter button to change the camera of the focused window.

+/-
Press these buttons to change the current page for this SEQ Display Type.

MENU/ESC
Press this button to escape from Display Page Setup, and return to SEQ Display Setup.

3.2.5 Schedule Record:

In SETUP SETTING Mode, press **Direction Control** button to change the highlighted option to Scheduled Record, and then press **ENTER** to call up Scheduled Record Setup as shown.

The Scheduled Record Setup allows the administrator to define when and how to record for the system.   There are up to 16 time segments (T1 – T16) for each weekday.

BACKUP (The BACKUP function means the COPY function in the DVR setting)
Press this button to backup (copy) the settings of the focus weekday to all the following weekdays.

NOTE：

When focusedweekday is TUE, its settings will be copied to those of weekdays WED-SAT

● **Start**
The start time of this time segment, increment at 30 minutes.   (The end time of this time segment is implicitly set as the start time of next time segment, or the start time of the first time segment of the same weekday if it's the last one.)   Press **+/-** buttons to select the desired start time.

Example: If the user sets the start time of T1/MON as 9:00, T2/MON as 18:00, T3-T16/MON as N/A (Not Available), then T1/MON is 9:00-18:00, T2/MON is 0:00-9:00, and 18:00-24:00.

● **Alarm**
Record mode (No, Video, or Audio/Video) when certain alarm input is triggered.　Press **+/-** buttons to change the value.

● **Motion**
Record mode (No, Video, or Audio/Video) when motion is detected for certain camera. Press **+/-** buttons to change the value.
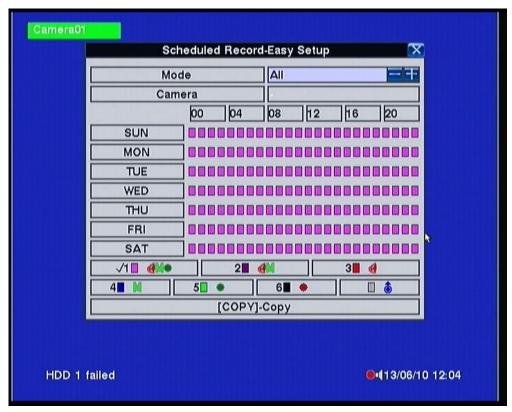
● **Normal**
Normal record mode, including No, V (Video only), or A/V (Audio/Video).　Press **+/-** buttons to change the value.

Scheduled Record – Easy Setup

Easy Setup allows the administrator to use a easier way to setup the scheduled record of the system.

In Easy Setup, there are five Selectable Recording Modes: Alarm+Motion+Normal,

Alarm+Motion, Alarm, Motion, & Normal. Video & Audio are all recorded for the selectable Recording Modes. After the Easy Setup, the time segments for each weekday in Scheduled Record will be updated accordingly.

Direction Control

Press these buttons to select the items. The display will scroll left/right if the selected item is not shown on the screen.

Numeric 1-5

Press these buttons to select the active Recording Mode. The user may also press ENTER when the focus is on the Recording Mode to activate it. The Recording Modes are : "1" – Alarm+Motion+Normal, "2" – Alarm+Motion, "3" – Alarm, "4" – Motion, "5" – Normal, and Others (which is not selectable).

+/-
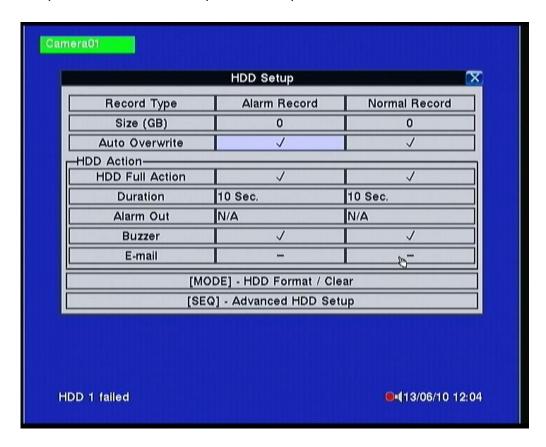
Press these buttons to set the focus interval (one grid for one hour) upwardly/downwardly to the Active Recording Mode. The user may also press ENTER to set the focus interval to the Active Recording Mode.

ESC

Press this button to escape from this screen, and return to Scheduled Record Setup display. The time segments for each weekday in Scheduled Record will be updated accordingly.

3.2.6 HDD:

In SETUP SETTING Mode, press **Direction Control** button to change the highlighted option to **HDD**, and then press **ENTER** to call up HDD Setup as shown.

In the surveillance applications, alarm video/audio is much more important than normal video/audio.   So, this digital video/audio recorder is designed to allow the user to divide each HDD into alarm partition and normal partition.   And, alarm video/audio will be recorded in alarm partition, normal video/audio in normal partition.

The HDD Setup allows the administrator to format/clear each HDD, set Alarm Record size and Normal Record size of each HDD, and define the behaviors of Alarm Record or Normal Record if it reaches the end of the last HDD in the system.

NOTE：

Please keep the order of HDDs when reinstall the HDDs, or the HDD will be error.

The general operations are shown as below:

Direction Control

Press these buttons to select the items.

MODE => Format/Clear

Press this button to format/clear the HDDs as described in **3.2.6.1 HDD Format/Clear.**

SEQ => Advanced HDD Setup

Press this button to enter Advanced HDD Setup as described in **3.2.6.2 Advance HDD**.

MENU/ESC

Press this button to escape from this screen, and return to Setup Menu display.   If the Save dialog is shown, press **ENTER** to exit and save, **MENU/ESC** to exit without saving.

Following is a brief description for each item and its specific operations:

■ **Size (GB)**

The information of total HDD storage in GB (Giga-Byte) for Alarm Record and Normal Record respectively.

■ **Auto Overwrite**

Automatic overwrite of the recorded video/audio from HDD#1 when the Alarm/Normal Record disk drive capacity reaches the end of the last HDD.   If Auto Overwrite is disabled and the Alarm/Normal Record disk drive capacity reaches the end, the system will not overwrite the recorded video/audio, and hence not record Alarm/Normal video/audio, until the user presses the **Alarm Reset** button.   Press **ENTER** or **+/-** to check/uncheck this item.

The default setting is "V" - checked.

■ **HDD Full Action**

Actions when Alarm/Normal Record disk drive capacity reaches the end of the last HDD.

Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˇ " - checked.

■ **Duration**

Response duration to define at most how long (in seconds) the Alarm Out relay and the Buzzer will keep being triggered after the corresponding partition, Alarm Record or Normal Record, is full.   Press **+/-** buttons to adjust the value.

NOTE：
The figure range is from 3 to 60 seconds

■ **Alarm Out**

Define which Alarm Output will be triggered when the corresponding partition, Alarm Record or Normal Record, is full.   Press **+/-** buttons to select none (N/A) or one of the Alarm Outputs (1-4).

■ **Buzzer**

Activate the internal Buzzer or not when the corresponding partition, Alarm Record or Normal Record, is full.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is "   " - checked.
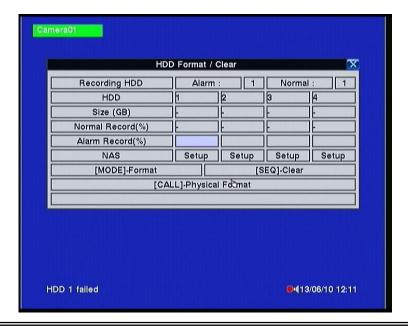
■ **Log**

Log to event logs or not.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˇ " - checked.

■ **E-mail**

To send the event e-mail to remote station or not.   The e-mail will be sent to the predefined receivers when the event is triggered.   Press **ENTER** or **+/-** to check/uncheck this item. The default setting is "**–**" - unchecked.

3.2.6.1   HDD Format/Clear:

In HDD Setup display, press **MODE** to call up HDD Format/Clear screen as shown.

Each of the HDDs must be formatted before it can be used to record video/audio. The HDD Format/Clear screen allows the administrator to format and/or clear each HDD, and set the size for Alarm Record partition and Normal Record partition for each HDD.

NOTE：

the HDD IDs for the internal HDDs in the DVR start from ID 1, lower for IDE and higher for SATA, and the HDDs in the farthest Hard Disk Box have the lowest HDD ID next to internal HDDs**.**

MODE => Format

Press this button to format the selected HDD. A confirmation dialog will be shown on the screen, press **ENTER** to confirm, or **MENU/ESC** to cancel.

NOTE：

it would take about 40 seconds to format a brand new HDD.

If the HDD has not been formatted yet, it will be formatted and partitioned with default record size, 30% for Alarm record and 70% for Normal record. If it has been formatted before, it will be formatted according to the Alarm REC Size (%) and Normal REC Size (%) displayed on the screen, but the previously recorded contents within the new size won't be cleared and will be accessible.

SEQ => Clear

Press this button to clear the selected HDD. A confirmation dialog will be shown on the screen, press **ENTER** to confirm, or **MENU/ESC** to cancel.

NOTE：

If the HDD has not been formatted yet, it will be formatted and partitioned with default record size, 30% for Alarm record and 70% for Normal record. If it has been formatted (and recorded) before, it will be partitioned according to the Alarm Record Size (%) and Normal Record Size (%) displayed on the screen, and the previously recorded contents will all be cleared.

CALL => Physical Format

Press this button to physically format the selected HDD. A confirmation dialog will be shown on the screen, press **ENTER** to confirm, or **ESC** to cancel.

> **NOTE：**
> the recording will be always optimized for performance & lifetime no matter it's for the first time or for the one hundredth time. The formatting would take less than 1 minute. We strongly recommend that the user use this physical format function to format the HDD for the first time.

> **NOTE：**
> The HDD will be physically formatted and partitioned with default record size, 30% for Alarm record and 70% for Normal record. All the previously recorded contents will be cleared.

MENU/ESC

Press this button to escape from this screen, and return to HDD Setup display. If the Save dialog is shown, press **ENTER** to exit and save, **MENU/ESC** to exit without saving.

Following is a brief description for each item and its specific operations:

● **Alarm Recording HDD**

   The current HDD for alarm recording. This item is just for information.

● **Normal Recording HDD**

   The current HDD for normal recording. This item is just for information.

● **Size (GB)**

   The total storage in GB (Giga-Byte) for this HDD if it has been formatted. This item is just for information.

● **Alarm Record (%)**

   Alarm Record Size (in percentage) for this HDD.
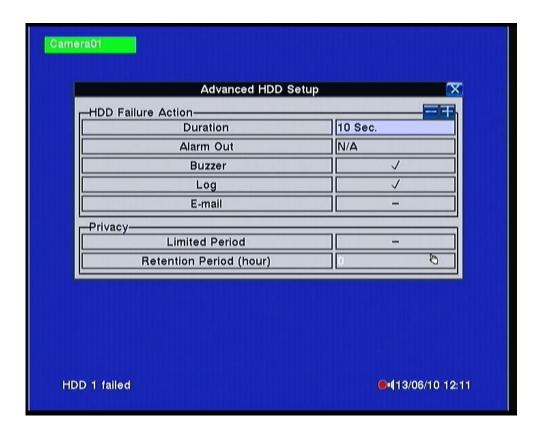
● **Normal Record (%)**

   Normal Record Size (in percentage) for this HDD. It equals to (100% - Alarm Record Size). This item is just for information.

3.2.6.2   Advanced HDD Setup:

In HDD Setup display, press **SEQ** to call up Advanced HDD Setup display as shown.

The HDD Failure Action in Advanced HDD Setup allows the administrator to define how the system responds to the detected HDD failure.

- ● **Duration**

  Response duration to define at most how long (in seconds) the Alarm Out relay and the Buzzer will keep being triggered after HDD failure is detected.   Press **+/-** buttons to adjust the value.

NOTE：

The figure range is from 3 to 60 seconds

- ● **Alarm Out**

  To define which Alarm Output will be triggered when HDD failure is detected.   Press **+/-** buttons to select none (N/A) or one of the Alarm Outputs (1-2).

- **Buzzer**

  To activate the internal Buzzer or not when HDD failure is detected.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˘ " - checked.

- **Log**

  To log to event logs or not.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is " ˘ " - checked.

- **E-mail**

  To send the event e-mail to remote station or not.   The e-mail will be sent to the predefined receivers when the event is triggered.   Press **ENTER** or **+/-** to check/uncheck this item. The default setting is "**–**" - unchecked.

- **Privacy**

  To set retention period of the privacy mask recording data, ticked the limited period and set the retention period hour, then the privacy recording data will be deleted automatically when the time is up.

3.2.7   **Password:**

In SETUP SETTING Mode, press **Direction Control** button to change the highlighted option to Password, and then press **ENTER** to call up Password Setup as shown.

The Password Setup allows the administrator to add new users, delete existing ones, and/or modify the user's name, password, and/or level.

There are three password levels in the system, including **Administrator** (highest), **Supervisor**, and **Operator** (lowest).   The Operator can operate live video display, the Supervisor can operate live video display, image playback and archive, and the Administrator can operate everything.   The system allows up to 18 user accounts.

There is one factory-preset login name/password aa/11 at **Administrator** level.   The user can use it to login the system for the first time.

The general operations are shown as below:

MODE   => Select/Deselect as default
Press this button to select this user as the default one at login, or deselect if this user is the

default login user.   An asterisk (*) will be shown preceding the number for the default login user. And this login name/password will be the default one each time the login dialog is shown, so the user doesn't bother to enter the text to login the system.

● **Guest Level**
The access level (**Administrator**, **Supervisor**, **Operator**, or -) without login the system. Press **+/-** buttons to change the level.

● **Login Name**
Input your account

● **Password**
This item accepts numbers only.

● **Level**
The password level (**Administrator**, **Supervisor**, or **Operator**) for this user.   Press **+/-** buttons to change the level.

The Advanced User Setup allows the administrator to setup each user's detailed access right of the system.

ESC
Press this button to escape from this screen, and return to Password Setup display.   The Password Setup contents will be updated accordingly.

Following is a brief description for each item and its specific operations:

Monitor Channel 1-16

the user can only monitor those channels "checked".　Press ENTER or +/- to check/uncheck this item.

X2

To enable the user to do X2 operation for live/playback video if "checked".　Press ENTER or +/- to check/uncheck this item.

PTZ

To enable the user to do PTZ operation if "checked".　Press ENTER or +/- to check/uncheck this item.

GPS/POS/OSD Display

To enable the user to change GPS/POS/OSD Display if "checked".　Press ENTER or +/- to check/uncheck this item.

Volume

To enable the user to change volume if "checked".　Press ENTER or +/- to check/uncheck this item.

Video Adjustment

To enable the user to do video adjustment operation if "checked".　Press ENTER or +/- to check/uncheck this item.

VGA Display

To enable the user to change VGA settings if "checked".　Press ENTER or +/- to check/uncheck this item.

Playback

To enable the user to playback video/audio if "checked".　Press ENTER or +/- to check/uncheck this item.

Backup

To enable the user to backup video/audio if "checked".　Press ENTER or +/- to check/uncheck this item.

Configuration Backup/Restore

To enable the user to backup/restore configurations if "checked". Press ENTER or +/- to check/uncheck this item.

Setup Camera

To enable the user to do Camera Setup if "checked". Press ENTER or +/- to check/uncheck this item.

Setup Alarm

To enable the user to do Alarm Setup if "checked". Press ENTER or +/- to check/uncheck this item.

Setup SEQ Display

To enable the user to do SEQ Display Setup if "checked". Press ENTER or +/- to check/uncheck this item.

Setup Scheduled Record

To enable the user to do Scheduled Record Setup if "checked". Press ENTER or +/- to check/uncheck this item.

Setup HDD

To enable the user to do HDD Setup if "checked". Press ENTER or +/- to check/uncheck this item.

Setup Password

To enable the user to do Password Setup if "checked". Press ENTER or +/- to check/uncheck this item.

Setup System

To enable the user to do System Setup if "checked". Press ENTER or +/- to check/uncheck this item.

Setup RS-232/422/485

To enable the user to do RS-232/422/485 Setup if "checked". Press ENTER or +/- to check/uncheck this item.

Setup Network

To enable the user to do Network Setup if "checked".   Press ENTER or +/-   to check/uncheck this item.

Setup Factory Defaults

To enable the user to restore factory defaults to all setup related configurations if "checked". Press ENTER or +/- to check/uncheck this item.

Software Upgrade
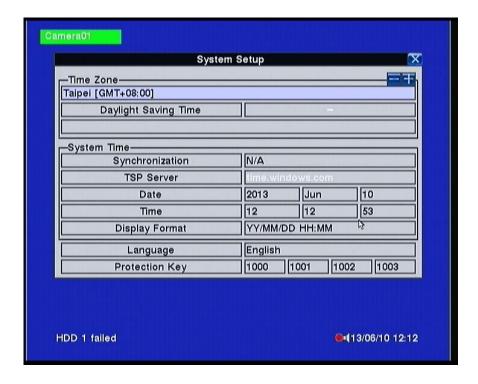
To enable the user to upgrade DVR software if "checked".   Press ENTER or +/- to check/uncheck this item.

Shutdown

To enable the user to shutdown the DVR if "checked".   Press ENTER or +/-   to check/uncheck this item.

3.2.8 System:

In SETUP SETTING Mode, press **Direction Control** button to change the highlighted option to **System**, and then press **ENTER** to call up System Setup as shown.

The System Setup allows the administrator to set the system time, time zone, time synchronization, language, etc.

NOTE：

If the selected language is changed, the user will be asked to reboot the system for the newly selected language to take effect.

● **Time Zone**

Press **+/-** buttons to select the time zone for the system.

NOTE：

Please make reference to the chapter of **Appendix E: Time Zone List** for the time zone table.

● **Daylight Saving Time**

Press **ENTER** or **+/-** to check/uncheck this item.　The default value is set by selecting a different time zone, but the user may check/uncheck this item if the default setting is checked.

● **System Time**

 ◆ **Synchronization** – time synchronized with TSP Server or not.   Press **ENTER** or **+/-** to check/uncheck this item.   The default setting is "**–**" - unchecked.

  ◆ **TSP Server** – TSP (Time Synchronization Protocol) server name if Time Synchronization is enabled.   The system will try to do time synchronization with the specified TSP server at the system preset interval.

 ◆ **Date** – system date.   Press **+/-** buttons to modify each of these items.

 ◆ **Time** – system time.   Press **+/-** buttons to modify each of these items.

 ◆ **Display Format** – format used for the system time displayed on the lower-left corner of the main screen.   Press **+/-** buttons to select the desired format.

● **Language**
Press **+/-** buttons to select the 13 languages for the system.   The languages supported include: **English**, **Russian**, **Simplified Chinese**, **Spanish**, **Traditional Chinese, French, Turkish, Portuguese, Polish, Greek, Japanese, Korean and Italian.**

● **Protection Key**
The protection key for the remote access of the system.

NOTE：

This protection key will be used for authentication when any remote station wants to connect to the system from Ethernet interface both LAN or internet.   So, the same protection key must be entered to install the remote software if it is used to access the system.

3.2.9 RS232/422/485:

In SETUP SETTING Mode, press **Direction Control** buttons to change the highlighted option to **RS-232/422/485**, and then press **ENTER** to call up RS-232/422/485 Setup as shown.

The RS-232/422/485 Setup allows the administrator to setup RS-232 control port, and RS422 or RS-485 control port.   Please refer to the manuals for the connected devices - PTZ cameras or keyboard controllers – to set these items in RS-232/422/485 Setup.

● **Device Type**
   PTZ, **Keyboard**, **GPS**, **POS**, **PTZ**+**Keyboard** or **N/A** (Not Available).   Press **+/-** buttons to change the type.

NOTE：

PTZ can only be selected for either RS-232 or RS-422/485, but not both

---

● **Model**

PTZ model **(for PTZ and PTZ+Keyboard)**, Keyboard model, GPS protocol, or POS printer type of the connected devices. The PTZ models supported include **Pelco D protocol Dome**, **SamSung SCC-641P**, **Kalatel Cyber Dome**, **PIH-series**, **Bosch AutoDome**, **Video Trek**, etc. The Keyboard models supported include **Terminal** (EX. VT-100) and **Control Protocol**. For Terminal type, please use the corresponding ASCII characters for **code** as described in <u>Appendix-D</u>. The GPS protocol supported is **NMEA0183**. The POS printer types supported include **Epson General** (EX. **Epson-TM200**, **Epson-TMU300**, **Epson-TMU675**, **Epson-TMT882**, **Epson-RPU420**, and **Epson-MD332S**) and **Epson-TMU295**. Press **+/-** buttons to change the supported model (or protocol).

NOTE：

If PTZ+Keyboard is selected for Device Type, the Keyboard model is always Control Protocol, and the other settings (Baud Rate, Data Bit, Stop Bit, and Parity) are the same as the PTZ Model selected. Please also note that the installer must be sure that the Keyboard Control Protocol and the PTZ Protocol won't conflict with each other.

- **Baud Rate**
  Press **+/-** buttons to change the value.

- **Data Bit**
  Press **+/-** buttons to change the value.

- **Stop Bit**
  Press **+/-** buttons to change the value.

- **Parity** – (**Odd**, **Even**, or **None**).
  Press **+/-** buttons to change the value.

- **DVR/Camera ID**
  For **PTZ/Keyboard** => the device ID for this digital video/audio recorder, and it must not conflict with the other devices connected in the same control port.; for **GPS/POS** => the Camera ID to receive the GPS/POS data, "Multiple" for POS means multiple POS connected and camera 1 for POS ID 1, camera 2 for POS ID 2, etc. Please note that Multiple POS is added for RS-232 port only. Press **+/-** buttons to change the ID.

3.2.10 PTZ Control

The digital video/audio recorder supports a variety of PTZ cameras. The user can easily

control the PTZ cameras through the operations described in this Chapter if those PTZ cameras have been connected and setup correctly.   Please refer to **2.10 Image Input and Output** for the connections.   Please refer to **3.2.1 Camera Group:** to set the PTZ ID of each PTZ camera, and **3.2.8 RS485:** to setup the control port.

If a camera is also a PTZ camera, there will be an asterisk (*) preceding its title in its video window in split-window display.   Please press **PTZ** button to enter PTZ control mode if the focus camera is a PTZ camera.   The asterisk (*) will be changed to inverse color to indicate that the camera is now in PTZ control mode.

In PTZ control mode, the user's operations can be divided into general operations and miscellaneous function specific operations, and are described as the followings:

General operations:

PTZ
Press this button to exit PTZ control mode.   The asterisk (*) will be changed back to normal color.

Direction Control
Press these buttons to tilt the camera up/down.
Press these buttons to pan the camera left/right.

ZOOM IN/OUT
Press these buttons to zoom in/out the camera.

GOTO
Press this button to move the camera to the preset position.   Press numeric buttons **0-9** to enter the number of the preset position to move the camera.

NOTE：
The range of the preset positions is 00-99.

NEXT
Press this button for the next miscellaneous function.   The miscellaneous functions include Focus, Iris, Auto PAN, SEQ, Preset, and Pan Speed.   And the active one will be shown on the lower right corner of the screen.   The miscellaneous function specific operations are described

in the following table.

Miscellaneous function specific operations:

Active function	Operations	Descriptions
Focus	**+/-** **ENTER**	focus far/near auto focus
Iris	**+/-**	Iris increase/decrease
Auto Pan (3)	 **+/-** **ENTER** * #	Auto pan speed is shown in parenthesis increase/decrease speed start/stop Auto Pan set start position set end position
SEQ (5 sec.)	 **+/-, NUMBER** **ENTER**	SEQ dwell time is shown in parenthesis. If SEQ mode is on, the camera will goto preset position 0-9 (or 1-10) sequentially. change dwell time start/stop SEQ mode, an asterisk (*) will be shown if SEQ mode is on
Preset (1)	**+/-, NUMBER** **ENTER**	Preset location is shown in parenthesis change Preset location set Preset location
Pan Speed (3)	**+/-**	Manual pan speed is shown in parenthesis increase/decrease speed

3.2.11   Network:

In SETUP SETTING Mode, press **Direction Control** button to change the highlighted option to

Network, and then press **ENTER** to call up Network Setup as shown.

The Network Setup allows the administrator to setup all Ethernet network related parameters. Please check with your network administrator to set these parameters correctly.

3G Dongle

In the network setting screen, after selecting 3G, press the ENTER key to see the 3G modem setting. The system displays the screen as shown below:

3G modem settings allow the administrator to set the modem parameters of 3G USB dongle

The following is a brief description of each item and its operation:

- **User name** - ISP requires the user name.

- **User Password** - ISP requires the user password.

- **Dial string** - 3G modem's dial string.

- **APN** - (optional)　APN information.

- **PIN** - use the PIN number of the SIM card

NOTE：

If DDNS Type is Free DNS, the URL must be appended with ",hash", where hash is extracted from the grab URL batch file that is downloaded from freedns.afraid.org

---

- **E-mail** – press **ENTER** to call up E-mail Setup.

- **FTP** – press **ENTER** to call up FTP Setup.

- **Adv.** – press **ENTER** to call up Advanced Network Setup.

3.2.11.1   E-Mail Setup:

In Network Setup, press **ENTER** to call up E-mail Setup when the highlighted option is **E-mail**.

The E-mail Setup allows the administrator to set e-mail related parameters.   When an event occurs and E-mail is enabled for the corresponding action, an e-mail will be sent based on the parameters set here.

● **SMTP Server**

SMTP mail server name.

● **SMTP Port**

The SMTP port   for e-mail transmission.   The default value is 25.

● **Authentication**

Whether the SMTP mail server requires autentication.   Press **ENTER** or **+/-** to check/uncheck this item.

- **Username**
  Username if the SMTP mail server requires authentication.

- **Password**
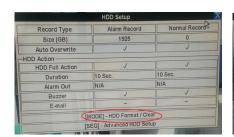 Password if the SMTP mail server requires authentication.

- **Mail From**
  The e-mail address of this DVR unit, i.e. the sender of the e-mails originated from the triggered events.
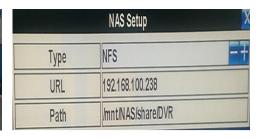
- **Mail To #1-5**
  The receivers' e-mail addresses.   The system can send the e-mails originated from the triggered events to up to 5 different receivers.

NAS :

This setting is used to set the machine to connect with the NAS device parameters. Please select the NAS setup and press ENTER (mouse: left button) to set the NAS which as shown below.(HDD Setup -> HDD Format/Clear -> NAS Setup)

Type - (NFS, no) – Press + / - keys to change settings.

Web site – NAS website. Ex: xxx.xxx.xxx.xxx.

Path – Input the path to the NAS directory where the data files can be stored. Please note the English major, lower case, as different paths. In addition remember to add the path symbol '/'.

3.2.11.2 FTP Setup:

In Network Setup, press **ENTER** to call up FTP Setup as shown when the highlighted option is **FTP**.

The FTP Setup allows the administrator to set FTP related parameters.   When an event occurs and FTP is enabled for the action, the recorded video/audio for that event will be sent to the FTP server based on the parameters set here.

● **FTP Server**
   FTP server web/IP address.

● **FTP Port**
   The FTP port.   The default value is 21.

● **Username**
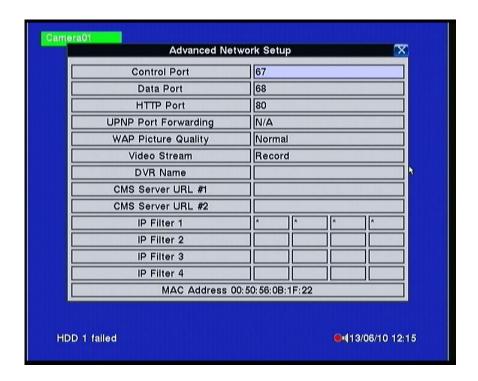   Username for this DVR unit in the FTP server.

● **Password**
   Password for this DVR unit in the FTP server.

● **Prefix Of Filename**
   The prefix of the filenames for the files sent to the FTP server.   If it's empty, the filenames will be "cam..."; if not, the filenames will be "Prefix-cam...".   For example, if the prefix is "DVR01", then the filenames will be "DVR01-cam...".

3.2.11.3 Advanced Network Setup:

In Network Setup, press **ENTER** to call up Advanced Network Setup as shown when the highlighted option is Advancing function.

The Advanced Network Setup allows the administrator to set advanced network parameters. If the user is not familiar with network administration, please DO NOT modify the items in this dialog.

■ **Control Port** – the control port for remote access.   The default value is **67**.

■ **Data Port** – the data port for remote access.   The default value is **68**.

■ **HTTP Port** – the HTTP (web page) port for remote access.   The default value is **80**.

■ **WAP Picture Quality** – the WAP picture quality if WAP access is supported for the DVR. Press **+/-** buttons to change the value.

NOTE：

If the Control Port or Data Port is not available or not accessible during remote access, the system will reset the ports to their default values, i.e. 67/68.

3.2.12 Factory Default:

The DVR can repeat to get the factory default figures through this function. Press the "Direction Control" button to reset the DVR to factory default figure. You also can use the mouse to do it.

NOTE：

When you want to reset the default setting, the DVR will pop-up the confirmation window to check again with customer.

3.2.13 EXIT:

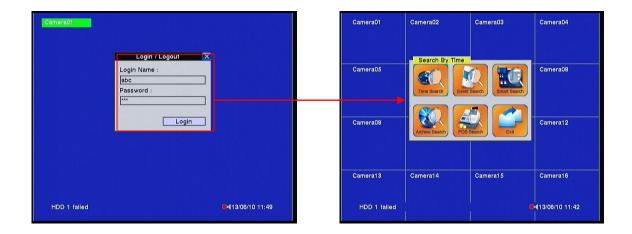In SETUP SETTING Mode, press the button to go back the MENU SETTING Mode.

3.3 SEARCH SETTING MODE

There are 6 kinds of setting functions for user.   Please see the detail illustration as below:

3.3.1 Log In /Out:

There are three password levels in the system, including **Administrator** (highest), **Supervisor**, and **Operator** (lowest).   If the user does not login the system, he/she will be treated as "Guest" and can only view live video display.

Totally five types of playback search of recorded video/audio: Search by time, by event, Smart search, Search archived files   and POS search.

In split-window display, press **SEARCH** button to call up Search Menu display as shown.

3.3.2 Search By Time:

The screen for Search By Time is shown on the right side:

The Status area will show the 'Recorded from' time based on the selected Video/Audio before searching - alarm partition if any of Alarm, Motion, or Video Loss, is checked, and normal partition if Normal is checked.

SEARCH / MODE

Press this button to start searching the recorded video/audio with the selected time search and video/audio type **for playback**.   The search result will be shown on the bottom of this dialog if it failed.   If there's no camera in playback mode, up to 4 cameras in the current split window will be set to playback mode.

Play/Pause

Press this button to start playing the recorded video/audio with the selected time search and video/audio type.   If there's no camera in playback mode, up to 4 cameras in the current split window will be set to playback mode.

BACKUP (The BACKUP function means the COPY function in the DVR setting)

Press this button to backup (copy) the selected type of recorded video/audio starting from the **Search Time** (described below) in the HDD to the connected backup device.

Following is a brief description for each item and its specific operations:

- **Search Time** – (**Year**, **Month**, **Date**, **Hour**, **Minute**)

  For the recorded video/audio.   The playback (or backup) will start from the time entered here when the user press the playback buttons (or BACKUP button) later.   Press **+/-** buttons to modify each item.

- **Video/Audio** – (**Alarm**, **Motion**, **Video Loss**, **Normal**).

  Check the types of the recorded video/audio you want to search for playback.   Press **ENTER** or **+/-** to check/uncheck each item.

3.3.3 Search By Event (Log Display):

The screen for Search By Event - Log display, is shown below:

There are four types of event logs including Alarm, Motion, Video Loss and System.   And up to 3000 most recent event logs can be stored in the system.

MODE   => Refresh
Press this button to refresh the log display.   If there are new event logs after the screen is last updated, the log list shown will be updated accordingly.

SEQ   => Page Up
CALL   => Page Down
Press **SEQ/CALL** to Page Up/Down the Log display.

ENTER
Press these buttons to select the display page of the event logs, the log list will also be updated.

● **Event Type**

The type of the events (**Record**, **Alarm**, **Motion**, **Video Loss**, **System**) to be shown in the log list. The Event Type "System" includes all system related events, such as power on/off, and will not trigger recording. Press **ENTER** or **+/-** to check/uncheck the event type for the log list.

● **Source ID**

The source which triggered the event. For Alarm, it's the alarm input number; for Motion and Video Loss, it's the camera number. It's used to filter the events to be shown in the log list. Press **ENTER** or **+/-** to check/uncheck each item.

● **Log List**

The event logs according to the Event Type and Source ID selected.
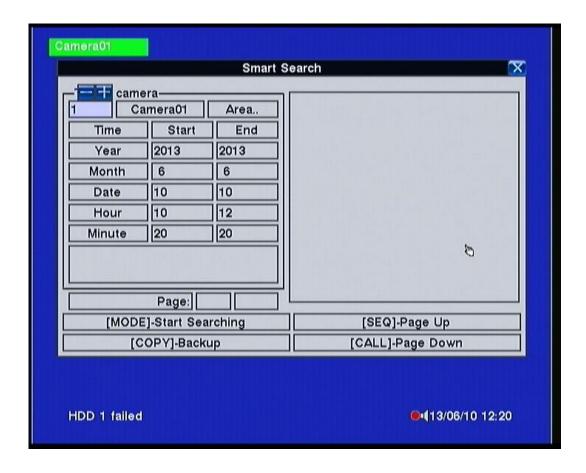
(1)Press **ENTER** to enter Event Playback display of the selected event log in this list,

(2)Press **Play/Pause Button** to playback directly.

(3)Press **BACKUP Button** to backup (copy) the selected recorded video/audio to the connected backup device.

NOTE：

This kind of backup is performed in the background, and the user can still do almost all the operations.

3.3.4 Smart Search:

The screen for Smart Search is shown below:

The Status area will show the 'Recorded from' time in the HDDs before searching or the search result after searching.

SEARCH / MODE
Press this button to start searching the recorded video/audio with the selected search time, camera and motion masks.   The search result will be shown on the right half of this dialog.

SEQ => Page Up
CALL => Page Down
Press **SEQ/CALL** to Page Up/Down the Matched file display.

● **Camera ID**
The camera to be searched for matched files.   Its title is shown on its right side.   Press **+/-** buttons to change the camera ID.

● **Start/End Time** – (**Year**, **Month**, **Date**, **Hour**, **Minute**)
For the recorded video/audio. The files will be searched from the start time to the end time entered here when the user press the **SEARCH/MODE** button later for the matched files. Press **+/-** buttons to modify each item.

● **Matched file List**
The matched files according to the selected search time camera and motion masks. The files are shown from the oldest to the newest, and its page number is shown on the lower-left corner.

(1)Press **ENTER** button to enter Smart Search Playback display of the selected matched file in this list
(2)Press **Play/Pause** Button to playback it directly
(3)Press **BACKUP** Button to backup (copy) the selected recorded video/audio to the connected backup device without playback. The Backup display (described in **3.3.7 Playback From Search By Time**) will be shown.
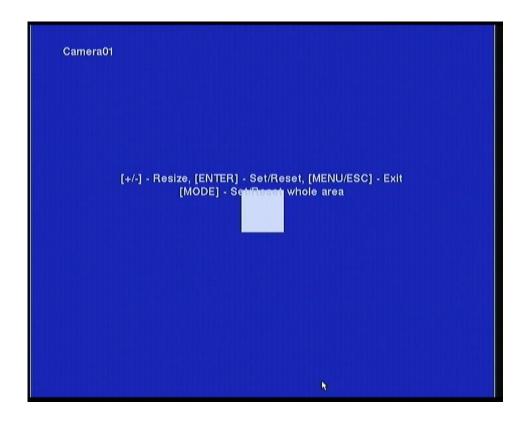

NOTE：

This kind of backup without playback is performed in the background, and the user can still do almost all the operations. Please also note that the playback (or backup) can walk across all the matched files.

● **Area..**

Press **ENTER** in **Area..** to call up Motion Area Setting screen as shown below.   In Motion Area Setting screen, the video area is divided into many small grids, the gray area means the search setting area,   there is a (yellow) Mask window.   Please note that

> **NOTE：**
> Based on the search algorithm, there will be more matched files for smaller areas.

+/-
Press these buttons to resize the Mask window.

ENTER
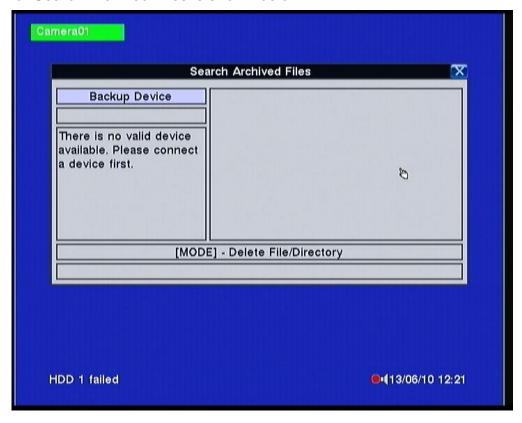Press this button to set/reset the area under the Mask window.

MODE
Press this button to set/reset the whole video area.

MENU/ESC
Press this button to escape from Motion Area Setting screen, and return to Smart Search screen.

3.3.5   Archived Search:

The screen for Search Archived Files is shown below:

- **USB Device**
  Press **ENTER** to call up USB Device dialog (if there's no USB device connected).

- **Disk Storage**
  To select the disk storage to search the archived files.   Press **+/-** buttons to select the available storage.

- **Archived File List**
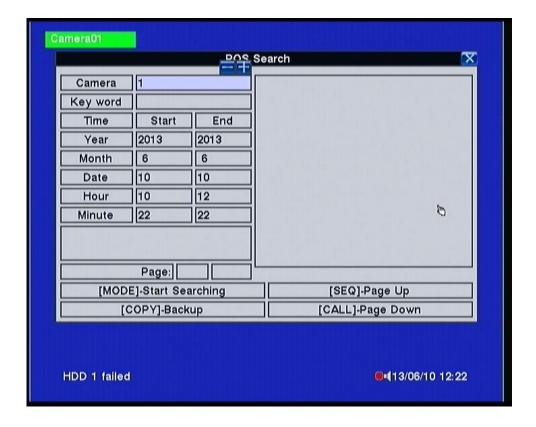 The archived files in the selected Disk Storage.   Please select the file, and then press **ENTER** to enter Archived File Playback display of the selected file in this list, or press **Play/Pause** button to playback it directly.

NOTE：

The format of the filename is camNN-YYYYMMDD-hhmmss.h264, where NN stands for camera number, YYYY year, MM month, DD date, hh hour, mm minute, and ss second.

3.3.6 POS Search:

The screen for POS Search is shown below:

The Status field will show the 'Recorded from' time in the HDDs before searching or the search result after searching.

SEARCH / MODE

Press this button to start searching the recorded video/audio with the selected search time, camera, and key word.   The search result will be shown on the right half of this dialog.   To prevent the system from overloading by POS Search, up to 500 matched files or 100 GB of HDD storage for each record partition, from the start time will be searched.

SEQ => Page Up
CALL => Page Down
Press **SEQ/CALL** to Page Up/Down the Matched file display.

● **Camera ID**
The camera to be searched for matched files.   Press **+/-** buttons to change the camera ID.

● **Key word**
The key word for the POS data of the camera to be searched for matched files.   The POS data containing the key word will be selected as matched.   If key word is empty, all POS data will be selected.

● **Start/End Time** – (**Year**, **Month**, **Date**, **Hour**, **Minute**)
For the POS data for the recorded video/audio.   The files will be searched from the start time to the end time entered here when the user press the **SEARCH/MODE** button later for the matched files.   Press **+/-** buttons to modify each item.

● **Matched file List**
The matched files (HDD ID & time are shown) according to the selected search time, camera, and key word.   The files are shown from the oldest to the newest, and its page number is shown on the lower-left corner.

(1)Press **ENTER** to enter POS Search Playback display of the selected matched file in this list,
(2)Press **Play/Pause button** to playback it directly,
(3)Press **BACKUP** button to backup (copy) the selected recorded video/audio to the connected backup device.

NOTE：
This kind of backup without playback is performed in the background, and the user can still do almost all the operations.

3.3.7   Playback From Search By Time:

In the MONITOR Mode, press **MODE** or **QUAD PLAYBACK** button to change circularly the live/playback mode for the focus window to form a rectangle on the screen.   The video windows in playback mode are grayed while those in live mode display.

Please refer to **Playback Control Illustration** for how to change the camera(s) in the playback windows(s).   After the playback windows and cameras are all set as you want, you may use the following buttons to control the playback:

Play/Pause
Press this button to play the recorded video/audio searched at forward speed 1X, or pause the playback.   If the playback is paused, press this button again to resume playing.   Note that audio can only be played at forward speed 1X.

Stop
Press this button to stop playing the recorded video/audio.   If the user press the button later, the playback will start from the beginning.

Fast Forward
Press this button for fast forward playback.   Each time this button is pressed, the forward playback speed will become faster, from 2X, 4X, 8X, up to 16X, and then back to 2X.

Fast Backward
Press this button for fast backward playback.   Each time this button is pressed, the backward playback speed will become faster, from 2X, 4X, 8X, up to 16X, and then back to 2X.

Filed to Filed Select (Jog shutter switch)
Press the jog shutter switch button to play the recorded images frame by frame.

ENTER
Press this button to display the GPS/POS data if there's GPS/POS data accompanied with the playback camera.   Please select the Type (GPS or POS), Position, Background, Rows, and number of Characters on the screen, and then press **ENTER** to display the GPS/POS data, or **MENU/ESC** to cancel.   Press **ENTER** again to not display it.

BACKUP (The BACKUP function means the COPY function in the DVR setting)

Press this button to start backup (copy) or apply the revised settings if it's copying, and return to the previous display.　There will be a **Copy** icon on the lower-right corner indicating that the selected video/audio is being archived to the storage device.　For DVD disc, the files won't be written to the disc until the storage size reaches 1 GB or the user stop copying.　Writing to the disc may take more than 1 minute for every 100 MB (depending on the disc type).

NOTE：

For internal DVD, please open the front door in order not to block the tray from ejecting, while it's in backup process.　Blocking the tray from ejecting may damage the DVD writer.

Stop

Press this button to stop copying and return to the previous display.　The **Copy** icon will be disappeared.

MENU/ESC

Press this button to cancel, and return to the previous display.

● **Backup Device**

The backup device connected to the system. Press **ENTER** on the left button to call up **Backup Device dialog** if there's no backup device connected. Press **+/-** buttons on the right selection to select the connected device.

● **Backup Speed**
1-9, with 1 the lowest speed, 9 the highest speed. Press **+/-** buttons to select the value.

● **Directory**
The directory in the backup device to store the archived files.

● **Cameras**
The video/audio of the cameras to be archived. Press **ENTER** or **+/-** to select/deselect each of the selectable cameras. If the camera with GPS data is selected, the GPS data will be saved with the camera video in the same file. The user may save GPS data only (without saving camera video) by selecting GPS.

● **GPS File Format**
For the backup of GPS data only. The supported formats are **TXT** and **KML**. Press **+/-** buttons to select the value.

● **End Time** – (**Year**, **Month**, **Date**, **Hour**, **Minute**)
For the recorded video/audio for the backup without playback of Search By Time. The files will be backup from the start time to the end time entered here when the user press the **BACKUP** button to start copying. Press **+/-** buttons to modify each item.

Except the playback buttons, the user can still do all the other operations in split-window display as if there is no playback.

NOTE：
The format of the GPS filename is YYYYMMDD-hhmmss.txt (or .kml), where YYYY stands for year, MM month, DD date, hh hour, mm minute, and ss second. GPS file can be displayed in the archived file list, but cannot be played. Please use GPS applications such as Google Earth, PaPaGO, etc. to read/convert its contents.

3.3.8 Playback From Search By Event:

In Log display, press **ENTER** to enter Event Playback display of the selected event log, or press **Play/Pause** button to playback it directly.
The operations are as below:

Playback Buttons

These buttons are all the same as in **3.3.7 Playback From Search By Time**.

The Other Buttons

All the other buttons are the same as in **2.8 Playback Control Illustration.**

3.3.9 Playback From Smart Search:

In Smart Search display, press **ENTER** to enter Smart Search Playback display of the selected matched file, or press **Play/Pause** button to playback it directly.

The operations are as below:

● **Playback Buttons**
These buttons are all the same as in **3.3.7 Playback From Search By Time**.

● **CALL**
   At playing the video, press this button to call up or hide the Motion Areas set by the user.

● **The Other Buttons**
   All the other buttons are the same as in **2.8 Playback Control Illustration.**

3.3.10 Playback From Archived Search:

In Search Archived Files display, press **ENTER** to enter Archived File Playback display of the selected file, or press **Play/Pause** buttons to playback it directly.   This display is the same as full screen display of the main display, and the playback buttons are effective.

Playback Buttons
These buttons are all the same as in **3.3.7 Playback From Search By Time.**
Please note that **BACKUP** button is not effective in this display.

The Other Buttons
All the other buttons are the same as in **2.8 Playback Control Illustration.**

3.3.11 Playback From POS Search:

In POS Search display, press **ENTER** to enter POS Search Playback display of the selected matched file, or press **Play/Pause** button to playback it directly.

The operations are as below:

Playback Buttons
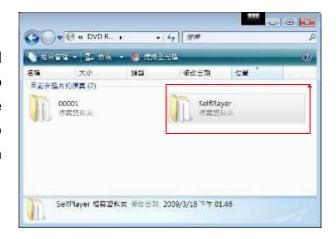These buttons are all the same as in **3.3.7 Playback From Search By Time.**

The Other Buttons
All the other buttons are the same as in **2.8 Playback Control Illustration.**
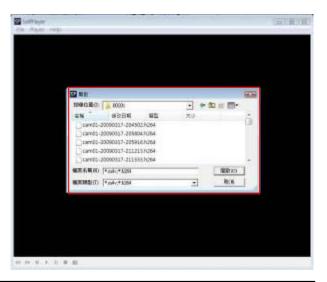
4. PLAYBACK

4.1 USB/DVD Playback

After backup the video, the USB flash/DVD will include the "Self Player" software and backup recording image file. You can direct to view the backup image through PC/Laptop. You need to plug the USB flash/DVD into PC, and then open the disk of USB flash/DVD.
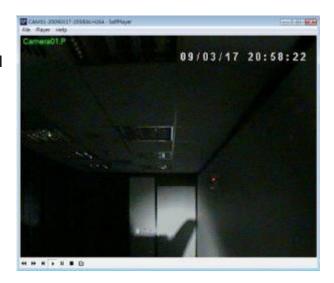
Click "SelfPlayer.exe" to execute the DVR software

Click the "File" area then click the "Open" button to select the backup recording file. Open the USB/DVD disk located driver letter. (Example F:). The Backup file default name is the "0001".

After select the backup recording file, the DVR will automatically play the image.

5. Network Function

5.1 Illustration

You can remote view the image of DVR through internet on the world. Just input the IP address or domain name on "I.E Browser". The remote function would support viewing image, playback image and recording image.

System Requirements of Remote PC

It is recommended to access the digital video/audio recorder using a PC that meets the following system requirements. If you use a PC that does not meet the following system requirements, it may cause problems such as slow imaging or the browser unable to operate.

- **PC**

  IBM PC/AT compatible with Intel$^®$ Pentium$^®$ 4, 1.7 GHz or above CPU.

- **OS**

  MicroSoft$^®$ Windows$^®$ XP, Windows$^®$ 2000 with SP4, or Windows$^®$ Vista.

- **Monitor**

  1024 x 768 or above.

- **Memory (DRAM)**

  512MB, or 1024MB for Windows$^®$ Vista.

- **Web Browser**

  MicroSoft$^®$ Internet Explorer$^®$ 6.0 or above.

- **DirectX**

  MicroSoft$^®$ DirectX$^®$ 9.0 or above.

- **Others**

  Windows XP KB319740 Package if Windows XP SP2 is installed.

5.2 Remote View

First, you need to check some software detail format in your PC/Laptop.

DirectX® End-User Runtime 9.0

It has been installed in your PC successfully. If not, please logon to web page to get the free download of it.

NOTE：

Web Page:

http://www.microsoft.com

Windows XP KB319740 Package

It has been installed in your PC successfully if the PC is running **Windows XP SP2**. If not, please logon to web page to get the free download of it, or install it from the corresponding directory in the CD. (This package is a bug fix for Windows XP SP2.)
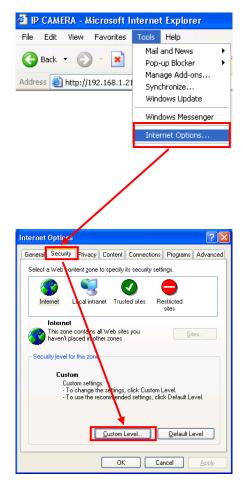

NOTE：

Web Page:

http://www.microsoft.com/downloads/details.aspx?FamilyId=9B5EDFC8-A4BB-4080-9063-6518166E2DAB&amp;displaylang=en

---

The VGA Setting from PC/Laptop

Please go to Start->Setup->Control, select Display->Settings, and set the Screen Resolution to at least 1024x768 and Color to 32-bit.

You need to change the security setting of I.E Browser.　Please follow the step by step illustration as below:

Open the I.E Browser → select the "Tools" → "Internet Options".

Select the "Security" bookmarker → Custom Level→ Security Settings→

NOTE：

The domain name or IP address of the digital video/audio recorder has been set as trusted web site in your PC, and the (https:) server verification for trusted web site is unchecked.　If not, please go to Tools->Options->Security in your I.E. to do the settings.　For I.E. 7, please set the Security level for this zone to Low.

Enabled or Prompt the selection of <u>Download unsigned ActiveX controls</u>, and then click the "OK" button to leave setting.

Open the I.E Browser and input the IP address or domain name of DVR.   Press the "connect" button.

The I.E Browser will pop-up the window, please click the "Install" button to set up the software of ActiveX.   After install finish, the Internet Explorer pop-up the window again. Please input the user name and password to enter the network viewing mode.

NOTE：
The default username is "aa". However, the default password is "11".   The account is the same the DVR account

5.3 <u>Interface</u>

After the above-mentioned items have been done correctly, restart your web browser and enter the domain name or IP address (EX. http://192.168.1.100 if HTTP port is 80, or http://192.168.1.100:800 if HTTP port is 800) of the digital video/audio recorder in the Location/Address field of the web browser.   The plug-in software in the system will be downloaded and run automatically in the web browser.

NOTE：
Please note that up to 8 users can logon this DVR simultaneously.

The video images can be displayed in several types of split-window screens, including 1/4/9/16-Window for single DVR and 25/36/49/64 for multiple DVRs.   And the focus window is surrounded by a frame border.   In addition to the video windows, there are different icons on the lower corner and the right corner of the screen for status display and control.

NOTE：
The ".L" following the camera title stands for Live display, ".P" for Playback, and the camera title with white background has detected motion.

5.4 Function

The DVR provide the all application function for user.   Please see the illustration as below:

Click on these icons for 1/4/9/16/25/36/49/64-Window display.

Click on this icon to switch to or return from SEQ display mode.

Click on this icon to toggle between live mode and playback mode for all the video windows.

Click on this icon to freeze/unfreeze the video images for all the video windows.

Click on this icon to enable/mute the audio input from the PC, button down for enable, button up for mute.   If enabled, the audio input from the PC will be sent to the DVR.   The default setting is 'mute'.

Click on this icon to enable/mute the audio output from the camera for the focus window, button down for enable, button up for mute.   The default setting is 'mute'.

Click on this icon to show/hide the GPS data for (1) the selected DVR, or (2) the DVR for the focus camera, button down to show, button up to hide.

(1) The selected DVR.
(2) The DVR for the focus camera, button down to show, button up to hide.

Click on this icon to show/hide the POS data for
(1) The selected DVR.
(2) The DVR for the focus camera, button down to show, button up to hide.
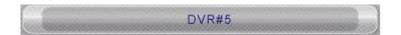
Click on this icon for snapshot of the focus camera.

Click on this icon for audio broadcasting to all connected DVRs.

Click on these icons to switch to the selected DVR, button down for selected. The 1/4/9/16 split-window video display, the camera status, and the alarm input/output will all switch to correspond to the selected DVR.

NOTE：
The ActiveX will save the DVR connection into the PC/Laptop. When you remote connect the DVR next time, the ActiveX will remote detect the DVRs state.

Playback panel for playback buttons, including Fast Backward, Fast Forward, Single Step, Play, Pause, Stop, and BACKUP (from left to right).

The copy function support to recording the current screen image to pc directly.

PTZ control panel.   If the camera in the focus window is a PTZ camera, these buttons in the PTZ control panel can be used for PTZ control.   The operations include Tilt Up/Down, Pan Left/Right, Zoom In/Out, Focus Near, Focus Far, Iris – (darker), Iris + (brighter).

Camera

Status indicators for cameras 1-16 (White for normal, RED for motion) for the selected DVR. Click on any of these icons to select the corresponding camera of the selected DVR to be displayed in the focus window.

Alarm In

Status indicators for alarm inputs 1-16 (White for normal, RED for alarm) for the selected DVR.

Alarm Out

Alarm outputs 1-4 (White for normal state, RED for triggered state) for the selected DVR. For Administrator, click on any of these icons to control the corresponding alarm output from normal to triggered, or from triggered back to normal.

Click on this icon to call up Search-by-time dialog. Please select the time (Year, Month, Date, Hour, and Minute) and recorded video/audio type (Alarm, Motion, Video Loss, and Normal) to search for playback. Click on Search button to start the search of the recorded video/audio. (If it failed, the result will be shown on the title of the dialog.) Now, you may use the playback buttons to play the recorded video/audio.

NOTE ：
There must be some cameras in playback mode for the search to succeed.

Click on this icon to call up Search-by-event dialog. The event logs will be shown on the screen. Please select the DVR device, event type, and source ID to search for the event logs. Click on Refresh, Up, or Down to update the event logs. Click on the desired event log to highlight and select it. Click on the OK button to search the recorded video/audio for the highlighted event log. Now, you may use the playback buttons to play the recorded video/audio, Click backup button will be export the event log and save to your computer.

Click on this icon to call up search-PC-video dialog. Please select the file, and then click on Open. Now, you may use the playback buttons to play the recorded video/audio in the file.

Click on this icon to call up POS-Search dialog. Please select the DVR, camera, key word, and start/end time, and click on "Search", then the matched POS data will be shown. Please select the desired POS data, and click on "Backup" or "Play" to backup or play the recorded video/audio corresponding to the POS data.

Click on this icon to show/hide full PTZ control panel. The user can click on the PTZ Panel (but outside of any object in it) (to call up the **Context menu**) to move it.

Click on this icon to call up Setup dialog. Up to 4 DVRs can be added to the device list. Following is a brief description for each item:

- **Device Name** – any meaningful name for the (DVR) device.

- **Address** – IP address or URL domain name for the (DVR) device. It should be the same as the IP address (for Static IP) or URL (for PPPoE) in Network Setup for the (DVR) device.

- **Control Port** – the control port for the (DVR) device. The default value is 67.

- **Data Port** – the data port for the (DVR) device. The default value is 68.

- **User Name** – the login user name for the (DVR) device. It must be in the list in Password Setup for the (DVR) device. Please note that **different levels of users have different available operations.**

- **Password** – the corresponding password for the login user name for the (DVR) device.

- **Auto Connection** – whether the user wants to connect automatically to this (DVR) device.

- **Connected** – whether this PC is connected with the (DVR) device now. If a DVR is connected, the user may select it, and click on "Reboot" to reboot it.

The other properties in the dialog are similar to those described in **SETUP SETTING Mode**. Please refer to **SETUP SETTING Mode** for the detailed descriptions. Besides, the user can download/upload the configurations from/to the connected DVR, or **open**/**save** the configurations from/to the designated directory.

Click on this icon to call up remote Software Upgrade dialog.   The current software version of the DVR(s) will be shown in the "status" field.   Please select the DVR device and upgrade file in the PC, and then click on Start button to start the software upgrade process.   The Upgrade status will be updated according to the progress.   When the upgrade file is uploading, the user may click on Stop/Close button to stop the upgrade process.

NOTE：
After the software in the DVR is upgraded, the DVR will restart immediately and the PC will be disconnected from the DVR.

Click on this icon to call up GPS Configuration dialog.   Please select the DVR device.   Then select **Display attributes** and **Output attributes** for **Live** & **Playback** respectively.   If **Data Exchange File** is enabled, the corresponding GPS data will be output to the file specified. Please note that **Tag** and **Icon** are to be used by GPS software such as Google Earth for display purpose.   If **COM Port** is enabled, the corresponding GPS data will be output through the specified COM port of the PC.   The output data can be used as input by GPS application software such as Google Earth.   Please refer to **Appendix GPS Function with Google Earth** for using Google Earth in more details.

Click on this icon to call up POS Configuration dialog.   Please select the DVR device.   Then select Video Window or Pop-up Window to show the POS data.   All the other attributes are similar to those for the DVR.

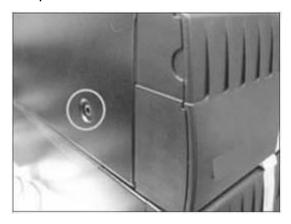# Appendix A: IR Remote Controller (Professional 9/16-CH)

ITEM	
REC	Force Record
Reset	Disable Alarm state
MENU/ESC	Enter the SETTING Mode Save and Leave the Mode
MUTE/NEXT	Enable the MUTE/PTZ Used
DVR1~8	Change the DVR ID
LIVE/+	Change the view mode of Live Adjust the DVR figure
PB/-	Change the view mode of PB Adjust the DVR figure
SEQ	Channel auto switch
MODE	Change the LIVE & PB mode
X2/GOTO	Digital amplification/PTZ Used
VOL/ZOOM+	Adjust the volume/PTZ Used
VOL/ZOOM-	Adjust the volume/PTZ Used
BACKUP	Back up the recording image
ENTER	Enter function
SEARCH	Enter the SEARCH Mode
↑	Move upward or increase
→	Move right or increase
↓	Move downward or increase
←	Move left or increase
◀◀	Fast backward
◀	Play video backward
■	Stop the playback
▶/Ⅱ	Play video forward ; Pause
▶▶	Fast forward
01～16	CH01～16/Text Input

About The DVR ID Selection (DVR1~8)

Press these buttons to select the DVR to be controlled by the remote controller. The remote controller can control up to 8 sets of DVRs. Please make sure that the DVR ID Switch for each of the DVRs is set correctly.

How to adjust switch of IR remote as below:

1. Open case of the DVR.

2. The switch on the behind of front panel.

3. Default was one of DVR1 ,DVR1=1 ,DVR2=2…,

About Other Buttons

Each of these buttons corresponds to one of those buttons on the front panel. Please refer to the descriptions in **2.6 Image Display Mode**

Appendix B: Support Hardware List

There are many HDD spec.   Please suggest the list to buy the applicable hardware that combine with the DVR.   The DVR can support the HDD size until 2TB.

Compatible HDD List		
3.5"	2.5"	SSD
Seagate ST32000542AS 2TB	Toshiba MJA2500BH 500G	Intel SSDSA2M080G2GC
Seagate ST31500341AS 1.5TB	Fujitsu MHZ2160BH 160G	Intel SSDSA2CW120G3
Seagate ST31000528AS 1TB	WD WD3200BEVT 320GB	Intel SSD 320 Series 80GB
Seagate ST31000340NS 1TB	WD WD5000BEVT 500GB	Intel SSD 320 Series 120GB
Seagate ST31000322CS 1TB		Intel SSD 320 Series 300GB
Seagate ST37500528AS 750GB		
Seagate ST37500330AS 750GB		
Seagate ST3500410SV 500GB		
Seagate ST3500418AS 500GB		
Seagate ST3500320SV 500GB		
Seagate ST3500320AS 500GB		
Seagate ST3500312CS 500GB		
Seagate ST3320620SV 320GB		
Seagate ST3160815AS 160GB		
Seagate Barracuda XT 3TB		
WD WD20EADS 2TB		
WD WD20EVDS 2TB		
WD WD15EADS 1.5TB		
WD WD10EVVS 1TB		
WD WD10EADS 1TB		
WD WD10EACS 1TB		
WD WD10EVDS 1TB		
WD WD1002FBYS 1TB		
WD WD640AVVS 640GB		
WD WD5002ABYS 500GB		
WD WD5000AAKS 500GB		
WD WD2500AAKS 250GB		
WD WD2500AVJS 250GB		
WD WD2500AVVS 250GB		
WD WD1600AVJS 160GB		
WD WD1600AAJS 160GB		
Hitachi HCT721010SLA360 1TB		
Hitachi HDS721075KLA330 750GB		
Hitachi HCP725050GLA380 500GB		
Hitachi HDS721050CLA362 500GB		

NOTE：

The DVR almost support all HDD on the market.   The list is the reference data for user.

Appendix C: Support USB Flash and DVD List

There are many USB Flash and DVD spec. Please suggest the list to buy the applicable hardware that combine with the DVR.

Type	Format
USB-Storage Enclosures 5.25"	Macpower's Alumni Prefect USB 2.0 **-** PF-U2MS**.**
USB-Disk Storage	Transcend's JetFlash 150/V60 Series,
	Apacer's Handy Steno AH220,
	Pretec's i-Disk Wave 512M-Black
	Kingston's DataTraveler USB Flash Driver(DTI/512FE)
	SanDisk's Cruzer micro USB Flash Driver
	Sony's MICRO VAULT Classic Series
DVD Writer	Asus DRW-1608P Series
	Pioneer DVR-A11, DVR-X152 Series
	BenQ EW200G Series
	LITEON LightScribe DVD Writer SHM-165H6S, 20X DVD Writer DX-20A4P
	Sony DVD/CD Rewritable Drive Model DRX-810UL Series
	NEC DVD/CD Rewritable Drive Model ND-4550A Series
	HP dvd9404e External 18X Super Multi DVD Writer Series
	Infomedia DVD+R 16X
	Mitsubishi DVD+RW 1-4X
	Philips DVD+RW 1-4X
	Ritek DVD-R 8X
	Ritek DVD+RW 1-4X
	Verbatim DVD+RW 1-4X

NOTE：

1. Suggest first manual format by FAT32 after reuse USB Flash.

2.The DVR almost support all USB Flash and DVD on the market.   The list is the reference data for user.

Appendix D: Time Zone List

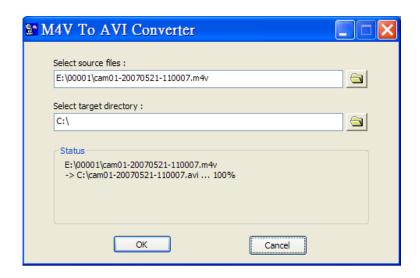According to your country in the world, check you time zone.

Time Zone	Offset	DST	Start	End
Samoa	GMT – 11:00			
Hawaii	GMT – 10:00			
Alaska	GMT – 09:00	ˇ	Mar, 2nd Sun, 2:00	Nov, 1st Sun, 2:00
Pacific Time (US & Canada)	GMT – 08:00	ˇ	Mar, 2nd Sun, 2:00	Nov, 1st Sun, 2:00
Arizona, US Mountain	GMT – 07:00			
Chihuahua, La Paz, Mazatlan	GMT – 07:00	ˇ	May, 1st Sun, 2:00	Sep, last Sun, 2:00
Mountain Time (US & Canada)	GMT – 07:00	ˇ	Mar, 2nd Sun, 2:00	Nov, 1st Sun, 2:00
Central America, Saskatchewan	GMT – 06:00			
Central Time (US & Canada)	GMT – 06:00	ˇ	Mar, 2nd Sun, 2:00	Nov, 1st Sun, 2:00
Guadalajara, Mexico City, Monterrey	GMT – 06:00	ˇ	May, 1st Sun, 2:00	Sep, last Sun, 2:00
Bogota, Lima, Quito, Indiana (East)	GMT – 05:00			
Eastern Time (US & Canada)	GMT – 05:00	ˇ	Mar, 2nd Sun, 2:00	Nov, 1st Sun, 2:00
Atlantic Time (Canada)	GMT – 04:00	ˇ	Mar, 2nd Sun, 2:00	Nov, 1st Sun, 2:00
Caracas, La Paz	GMT – 04:00			
Santiago	GMT – 04:00	ˇ	Oct, 2nd Sun, 0:00	Mar, 2nd Sun, 0:00
Newfoundland	GMT – 03:30	ˇ	Apr, 1st Sun, 2:00	Oct, last Sun, 2:00
Brasilia	GMT – 03:00	ˇ	Oct, 3rd Sun, 2:00	Feb, 3rd Sun, 2:00
Buenos Aires, Georgetown	GMT – 03:00	ˇ	Oct, 3rd Sun, 2:00	Feb, 2nd Sun, 2:00
Greenland	GMT – 03:00	ˇ	Mar, last Sun, 1:00	Oct, last Sun, 1:00
Mid-Atlantic	GMT – 02:00	ˇ	Mar, last Sun, 2:00	Sep, last Sun, 2:00
Azores	GMT – 01:00	ˇ	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Cape Verde	GMT – 01:00			
Casablanca, Monrovia	GMT + 00:00			
Dublin, London	GMT + 00:00	ˇ	Mar, last Sun, 1:00	Oct, last Sun, 2:00
Western Europe, Central Europe	GMT + 01:00	ˇ	Mar, last Sun, 2:00	Oct, last Sun, 3:00
West Central Africa	GMT + 01:00			
Eastern Europe	GMT + 02:00	ˇ	Mar, last Sun, 0:00	Oct, last Sun, 1:00
Cairo	GMT + 02:00	ˇ	Apr, last Fri, 2:00	Sep, last Fri, 2:00
Harare, Pretoria	GMT + 02:00			
Helsinki, Kyiv, Riga, Sofia, Tallinn	GMT + 02:00	ˇ	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Jerusalem	GMT + 02:00	ˇ	Apr 1, 2:00	Oct, 2nd Sun, 2:00

Baghdad	GMT + 03:00	˘	Apr 1, 3:00	Oct 1, 4:00
Kuwait, Riyadh, Nairobi	GMT + 03:00			
Moscow, St. Petersburg, Volgograd	GMT + 03:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Tehran	GMT + 03:30	˘	Mar, 4th Tue, 2:00	Sep, 4th Thu, 2:00
Abu Dhabi, Muscat	GMT + 04:00			
Baku, Tbilisi, Yerevan	GMT + 04:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Kabul	GMT + 04:30			
Ekaterinburg	GMT + 05:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Islamabad, Karachi, Tashkent	GMT + 05:00			
Chennai, Mumbai, New Delhi	GMT + 05:30			
Kathmandu	GMT + 05:45			
Almaty, Novosibirsk	GMT + 06:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Astana, Dhaka, Sri Lanka	GMT + 06:00			
Rangoon	GMT + 06:30			
Bangkok, Hanoi, Jakarta	GMT + 07:00			
Krasnoyarsk	GMT + 07:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Irkutsk, Ulaan Bataar	GMT + 08:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Beijing, Chingqing, H. K., Urumqi	GMT + 08:00			
Kuala Lumpur, Perth, Singapore	GMT + 08:00			
Taipei	GMT + 08:00			
Osaka, Seoul, Tokyo	GMT + 09:00			
Yakutsk	GMT + 09:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Adelaide	GMT + 09:30	˘	Oct, last Sun, 2:00	Mar, last Sun, 3:00
Darwin	GMT + 09:30			
Brisbane, Guam, Port Moresby	GMT + 10:00			
Canberra, Melbourne, Sydney	GMT + 10:00	˘	Oct, last Sun, 2:00	Mar, last Sun, 3:00
Hobart	GMT + 10:00	˘	Oct, 1st Sun, 2:00	Mar, last Sun, 3:00
Vladivostok	GMT + 10:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Magadan, Solomon Is.	GMT + 11:00			
Auckland, Wellington	GMT + 12:00	˘	Oct, 1st Sun, 2:00	Mar, 3rd Sun, 2:00
Fiji	GMT + 12:00			
Kamchatka	GMT + 12:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Anadyr	GMT + 13:00	˘	Mar, last Sun, 2:00	Oct, last Sun, 3:00
Nuku'alofa	GMT + 13:00			

Appendix E: DVR Software

M4V/H.264 to AVI Conversion Utility

To run the M4V/H.264 to AVI Conversion Utility under MS-Windows, please select Start->Programs->Hyper Electronics Mappers->M4V2AVI or double-click on the file AVI_Converter.EXE, and the screen will be shown as below.

Please select the source files – .M4V/.H264 files archived from DVR, remote I.E., HEM, and FTP file transfer – to be converted from, and select the target directory to save the converted files, and then click on OK to do the conversion.

Appendix F: Support GPS List

There are many GPS spec. Please suggest the list to buy the applicable hardware that combine with the DVR.

Type	Format
GPS Devices	HOLUX GR-213 G-Mouse GPS Receiver
	Garmin GPS 18 OEM
	GlobalSat BR-355 Cable GPS

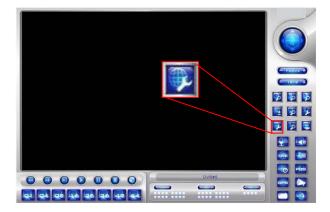| NOTE： |
| --- |
| The DVR almost support all GPS on the market.   The list is the reference data for user. |

Appendix G: GPS Function with Google Earth

The GPS output for the DVR and its remote software can be used by GPS software such as Google Earth. The user may use the following paragraphs as an example.
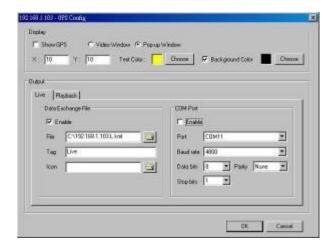
Open the IE Browser, and log on to the DVR or open and playback the archived file with GPS information.
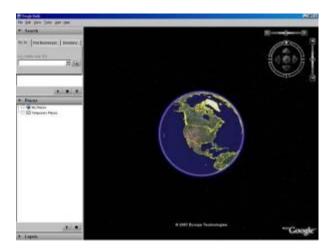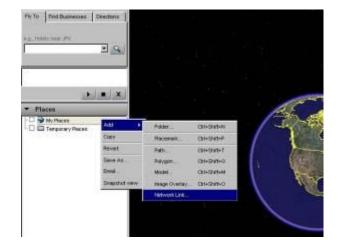

Click GPS Configuration button.

Enable Output with Data Exchange File, and set the related items (File, Tag, & Icon).

Open Google Earth.

Add Network Link.

Select the Data Exchange File in the remote software as Link. **Please note that the directory & filename MUST be in English for old version of Google Earth to work correctly.**

Set Time-Based Refresh.

Click on OK button to save the settings.
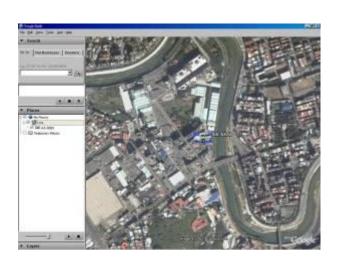
Now, the GPS data will be fed from the DVR remote software to Google Earth, and the GPS position will be continuously updated in Google Earth.

Appendix H: PDA/Mobile Phone Remote Access

The digital video/audio recorder can also be remotely accessed by using a web browser installed on a PDA or mobile phone.

(1) Supports **xHTML** and **MJPEG file format**
(2) The screen resolution will at **240x320** or above.
(3) Support   i-phone / Firefox / Symbian 6.0 / Apple / Linux / Windows Mobile

Please enter the domain name or IP address of the digital video/audio recorder in the
Location/Address field of the web browser, and the remote login display will be shown.
For most of the mobile devices, the mobile will automatically redirect to the correct web page,
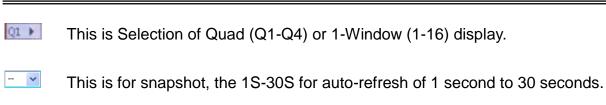EX. http://192.168.1.89/wap.htm for IP address http://192.168.1.89.
If not, please enter the full address with /wap.htm. The use may need to enter
http://192.168.1.89:800/wap.htm if HTTP port has been changed to 800.)
Please enter the correct login name and password for the digital video/audio recorder to login
the system, and the screen will be shown as below.

Following is a brief description for each item and its specific operations:
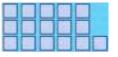
OK   Click on this button to submit the content to the digital video/audio recorder.
The new settings will take effect, and the screen will refresh.

 This is Selection of Quad (Q1-Q4) or 1-Window (1-16) display.

 This is for snapshot, the 1S-30S for auto-refresh of 1 second to 30 seconds.

 Alarm outputs 1-4 (unchecked for normal, checked for triggered).
Administrator can check to trigger the alarm output, uncheck for back to normal.

 Status indicators for alarm inputs 1-5 (top row), 6-10, and 11-16 (unchecked for normal, checked for alarm).

Appendix I: DDNS Application

The DDNS service will provide the function. The domain name corresponds with IP address. But you need to apply for account from DynDns.org website. The DynDns.org website provides the free service to the world's user. This chapter will teach the step by step method, please follows the function illustration as below:
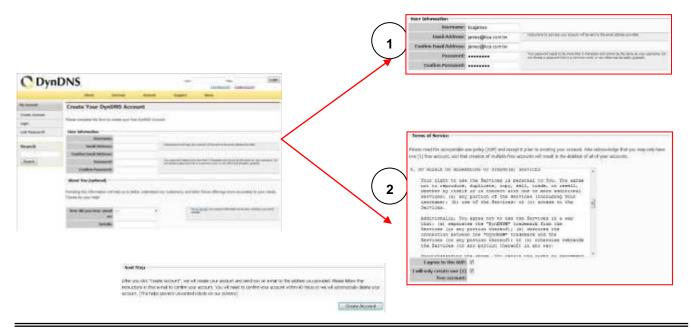
1. Please input the "DynDns.org" website (http://www.dyndns.com/) on Internet Explorer then click the "Connect" button.

2. If you have the account in the DynDns.org, you can skip the illustration to no.9. However, if you don't have the account, please click the "Create Account" button through the left-mouse.

3. You will see the table of account, and then input the needful information such as: **"User Information"** and **"Terms of Service"**. You can input other information by yourself.

4. After input finish, please click the "Create Account" button.   If the data is right, the website will display the "Account Created" information

5. You will receive the check mail from DynDns.org. Please check your mail. If you receive the mail, please visit the confirmation address to complete the account creation process.
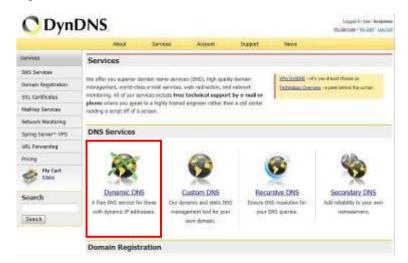

6. Click the red square to finish the creative account.
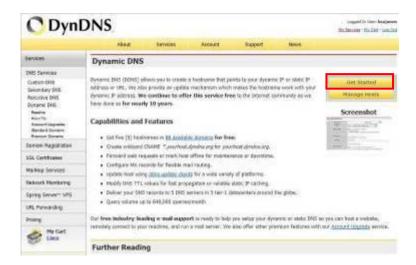
7. You can login to DynDns.org, please input the username and password on main webpage.   And click the "Service" button to set up the DDNS function.
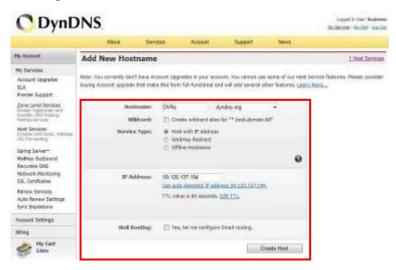
8. lease select the **"Dynamic DNS"** button.

9. Click the "Get Started" button to add the new Hostname.

10. Set up the "Hostname" and "IP Address" by yourself. You can enter your favor domain name to "Hostname", and input correct "IP address" to IP Address. Finally, click the "Add Host" to finish the setting.

11. The DDNS information will display on the webpage in the end.
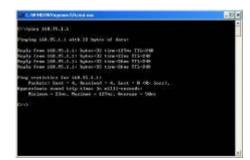
12. Please try to connect to the DVR through domain name.
13. If you can not connect the DVR through domain name, you can test the DDNS service on your PC.
14. Please open the "command mode" from **"Start Menu"**.
15. Input the command: c:\>ping xxxxx.dyndns.org   [**ENTER**].

NOTE：
The "xxxxx" is your domain name.

---

16. If the command mode display the figure information. Your DDNS is correct.

17. If the command mode display the **"timed out"** information. Your DDNS is wrong.

Appendix J: How to set up the DVR through Router

If you have the router, you need to set up the setting of Router. There are many routers in the market, but not all routers can support this function. Please check first.
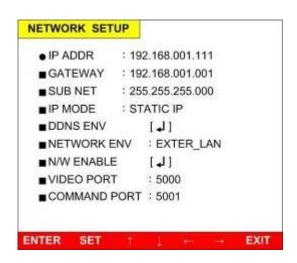
You will find the setting in the "Advancement Setting" of router. The setting call "Virtual Server", but different routers have other name. Some routers call "Port Forwarding", "Port Manage". You can search about IP and Port setting by your router manual.

For example: Use the D-Link 604 Router to set up the function.

You need to connect the PC and DVR to the router through RJ45 cable.

According to your router default class C IP. Set up your DVR IP, Submask and Gateway through OSD interface.

NOTE：
Please avoid to use the same IP form the router.

Turn on the PC then open the IE Browser. Input the gateway IP of router. According to the manual of router to input the user name and password then click "OK" to enter router setting.

Any router have different setting web page, but you can only search the "Advancement Setting" of web page. Because of the most of virtual server setting is in the "Advancement Setting". Please find and click the "Advancement Setting" selection.

You will find the "Virtual Server" selection on the left of webpage. Please click the selection then set up the function.

If you want to remote connect the DVR, you need to set up the three virtual servers in the router. Input the all setting value then click the "Apply" button.

NOTE：
Please refer the detail setting on next page.
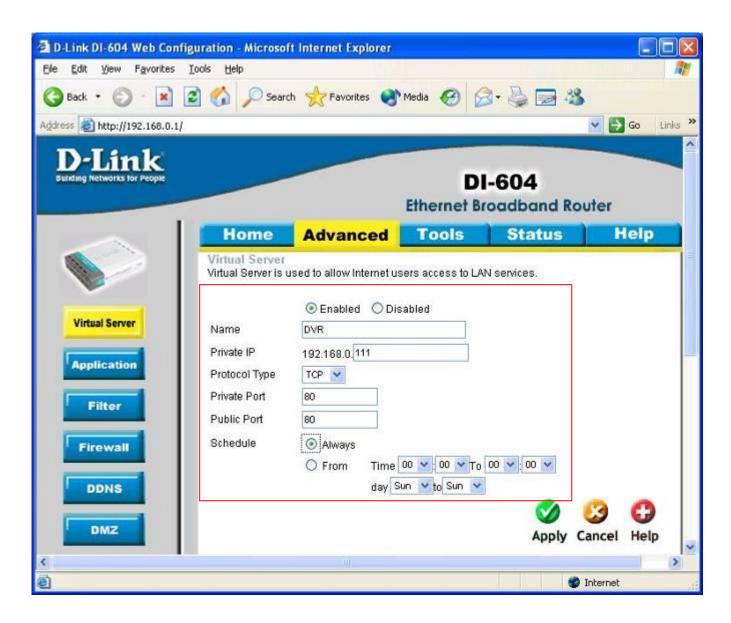
In the normal state, the router will restart the system. You only wait a minute and click "continue" button to finish the setting. The webpage will connect to the main webpage of router.

Because of the router have many different type on the market in the world. You only need to note the main setting in this manual. And then refer the other router manual, you can set up the virtual server function in other router.

The DVR need to add three setting in the router, but all setting is the same. You can consult the setting and illustration as below:

Select the "Enabled" to start the "Virtual Server" function
In the "Name" section, please input any appellation by yourself.
In the "Private IP" section, please input the DVR IP address.
In the "Protocol Type" section, please select the "TCP" type.
In the "Private Port" section, please input the 80 of number.
In the Private Port section, please input the 80 of number.
In the "Schedule" section, please select "Always".
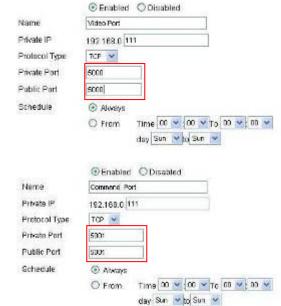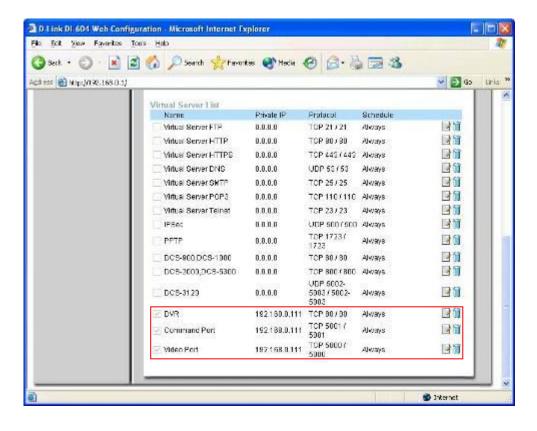
Please add the same setting 3 times. So you finish the one setting. You only change the "Private Port", "Private Port" and "Name" value. The some router can not discriminate "Private Port" and "Private Port". In this situation, you only set up the "Port" selection.

In the second time, the "Private Port" and "Private Port" need to input 67 / 67.

In the third time, the "Private Port" and "Private Port" need to input 68 / 68.

Finish the all setting of virtual server; you can check the setting is working in the "Virtual Server".

Appendix K : Recording Table

NTSC Recording Time (in Hour) - For Reference Only									
System Storage (GB): 200									
Resolution	Quality	Average		Recording Rate (IPS)					
		Picture Size (KB)*		120	60	30	15	10	5
720x480	9	32.2				58	115	173	345
(Full D1)	8	27.7				67	134	201	401
	7	21.0				88	176	265	529
	6	18.4				101	201	302	604
	5	14.0				132	265	397	794
	4	11.3				164	328	492	983
	3	7.7				241	481	722	1443
	2	5.6				331	661	992	1984
	1	3.6				514	1029	1543	3086
720x240	9	16.1			58	115	230	345	690
(Half D1)	8	13.9			67	133	266	400	799
	7	10.5			88	176	353	529	1058
	6	9.2			101	201	403	604	1208
	5	7.0			132	265	529	794	1587
	4	5.7			162	325	650	975	1949
	3	3.9			237	475	950	1425	2849
	2	2.8			331	661	1323	1984	3968
	1	1.8			514	1029	2058	3086	6173
360x240	9	8.0		58	115	230	463	694	1389
(CIF)	8	7.0		67	133	266	529	794	1587
	7	5.2		88	176	353	712	1068	2137
	6	4.6		101	201	403	805	1208	2415
	5	3.5		132	265	529	1058	1587	3175
	4	2.9		162	325	650	1277	1916	3831
	3	2.0		237	475	950	1852	2778	5556
	2	1.4		331	661	1323	2646	3968	7937
	1	0.9		514	1029	2058	4115	6173	12346

* Average Picture Size is estimated based on typical camera scene, and averaged by H.264 I/P/P frames.

PAL Recording Time (in Hour) - For Reference Only									
System Storage (GB): 200									
Resolution	Quality	Average Picture Size (KB)*	Recording Rate (IPS)						
			100	50	25	12.5	8	4	
720x576	9	42.0			53	106	165	331	
(Full D1)	8	36.0			62	123	193	386	
	7	27.3			81	163	254	509	
	6	21.3			104	209	326	652	
	5	18.3			121	243	379	759	
	4	14.7			151	302	472	945	
	3	10.0			222	444	694	1389	
	2	7.3			304	609	951	1903	
	1	4.7			473	946	1478	2955	
720x288	9	21.0		53	106	212	331	661	
(Half D1)	8	18.0		62	123	247	386	772	
	7	13.6		82	163	327	511	1021	
	6	10.7		104	208	415	649	1298	
	5	9.2		121	242	483	755	1510	
	4	7.4		150	300	601	938	1877	
	3	5.0		222	444	889	1389	2778	
	2	3.7		300	601	1201	1877	3754	
	1	2.4		463	926	1852	2894	5787	
360x288	9	10.5	53	106	212	423	661	1323	
(CIF)	8	8.5	62	123	247	494	772	1543	
	7	7.2	82	163	327	654	1021	2042	
	6	5.7	103	206	412	823	1286	2572	
	5	5.0	121	242	483	966	1510	3019	
	4	4.0	150	300	601	1201	1877	3754	
	3	2.8	222	444	889	1778	2778	5556	
	2	2.2	292	585	1170	2339	3655	7310	
	1	1.4	463	926	1852	3704	5787	11574	

Appendix L : Keyboard Control Protocol

Data Format	5 Bytes – Byte 1 : Synchronization Byte (0xFF) Byte 2 : Address, i.e. Device ID (0 – 0xFF) Byte 3 : Code (see below) Byte 4 : Reserved (0x00) Byte 5 : Checksum (sum of Bytes 2 – 4)
Code	**Value (MSB set for key press, MSB reset for release)**
0 – 9	0x30 – 0x39 (ASCII characters '0' – '9')
*/mark	0x2d (ASCII character '–' – Minus sign)
#/code	0x3d (ASCII character '=' – Equal sign)
Alarm Reset	0x71 (ASCII character 'q')
MODE	0x77 (ASCII character 'w')
SEQ	0x65 (ASCII character 'e')
CALL	0x72 (ASCII character 'r')
SEARCH	0x74 (ASCII character 't')
REC	0x79 (ASCII character 'y')
Fast Backward	0x61 (ASCII character 'a')
Fast Forward	0x73 (ASCII character 's')
Single Step	0x64 (ASCII character 'd')
Play/Pause	0x66 (ASCII character 'f')
Stop	0x67 (ASCII character 'g')
Copy	0x68 (ASCII character 'h')
MENU	0x75 (ASCII character 'u')
ESC/PTZ	0x6f (ASCII character 'o')
MUTE/NEXT	0x6e (ASCII character 'n')
X2/GOTO	0x2c (ASCII character ',' – Comma)
▲/BS	0x69 (ASCII character 'i')
▼/DEL	0x6d (ASCII character 'm')
◄	0x6a (ASCII character 'j')
►	0x6c (ASCII character 'l' – small L)
ENTER	0x6b (ASCII character 'k')

Vol –	0x7a (ASCII character 'z')
Vol +	0x78 (ASCII character 'x')
–	0x63 (ASCII character 'c')
+	0x76 (ASCII character 'v')
MAIN-AUX ON	0x62 (ASCII character 'b')
MAIN-AUX OFF	0x70 (ASCII character 'p')
CALL-AUX ON	0x5b (ASCII character '[')
CALL-AUX OFF	0x5d (ASCII character ']')
UP-LEFT	0x7b (ASCII character '{')
DOWN-LEFT	0x7c (ASCII character '|')
UP-RIGHT	0x7d (ASCII character '}')
DOWN-RIGHT	0x7e (ASCII character '~')

Appendix M: GuardCMS Installation guide for iPhone

Step 1: On your iPad or iPhone, find the APP Store icon and open icon function.

Step 2: a) On the APP store page, click on the "Search" function icon at the bottom

right field marked.
b) On the top blank search option marked 2 (b), type "guardcms" and search for
   our application.
c) After searching, the page will show our application.
d) Click on FREE > to proceed.

Step 3:   After clicking on free, the next page shows you the information about our
           software application.

           Tap on the FREE icon again [FREE]   and the icon changes to   [INSTALL]   .
           Tapping on this [INSTALL]   icon will install our application to your iPhone or iPad.

Step 4:   After installation, our GuardCMS icon [icon]   will appear on your iPhone or

           iPad screen.

GuardCMS User manual

1. To start GuardCMS application, find our GuardCMS icon on your iPhone or iPad and open function.

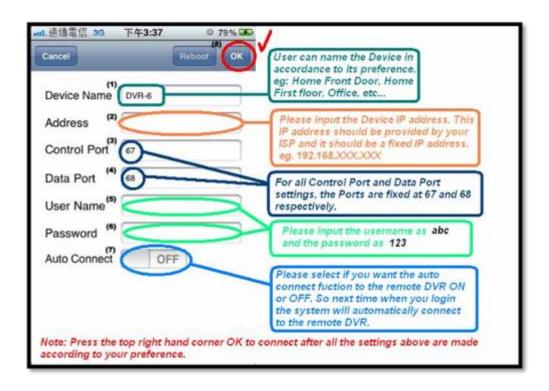2. The main page shows the features of our GuardCMS application.

3. In order to add the DVR device which you want to view remotely into the GuardCMS application, Please select the "Add" icon on the top left hand corner.

4. When you press "Add", the application will need you to set the Name, Address, Control Port, Data Port, User Name, Password and Auto connection requirement. Please follow the

instructions on the Diagram 4.0 shown below and then press "OK" to save and exit the settings.

5. After successful setting, Diagram 5.0 will show up on your iPhone or iPad.

6. The Function Buttons illustration:

(1)	Audio-In Function.		(4)	Time Search Function.
(2)	Audio-In Function.		(5)	Event Search Function.
(3)	Snap Shot Function.		(6)	Alarm In / Out.

7. Channel Display Selection:

(i) User Can Select from 1 – 16 channels

(a) Full Screen Mode

(b) Quad Screen x 4 channels

(c) 9 Grid Display

(d) 16 Grid Display

8. Multi DVR selection:

When you select this area (1), the various DVR which you have successfully set will be shown (2). Please select the DVR which you want to view by tapping on it and it will connect to the selected DVR.

9. Time Search Function illustration:

Time Search Function.
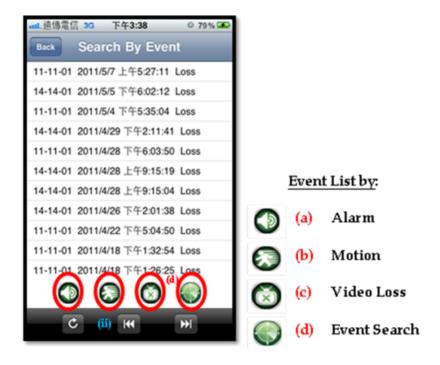
10.   Event Search Function illustration:

Bottom icon Functions:
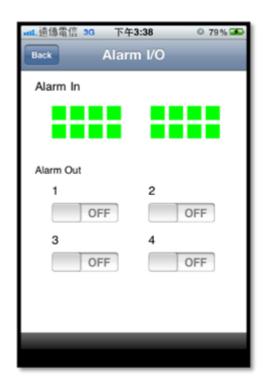
(i)   **Refresh**

(ii)   **Previous Page**

(iii) **Next Page**

Event List by:

 (a)   Alarm

 (b)   Motion

 (c)   Video Loss

 (d)   Event Search

11.   Alarm Input and Output Status:

If the Alarms are connected, then the display shows the number of alarms connected. You can select to switch On or switch Off the Alarm out.

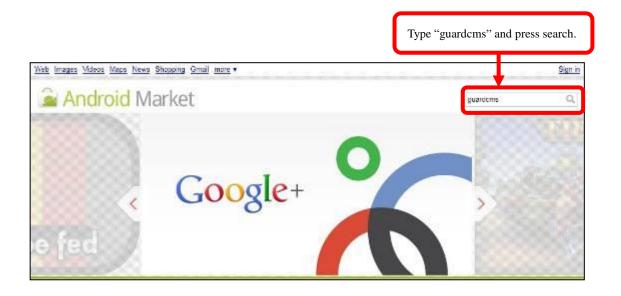**GuardCMS: Using PC (web based) internet download illustration.**

Step 1: In the web browser address, type the following link:
https://market.android.com

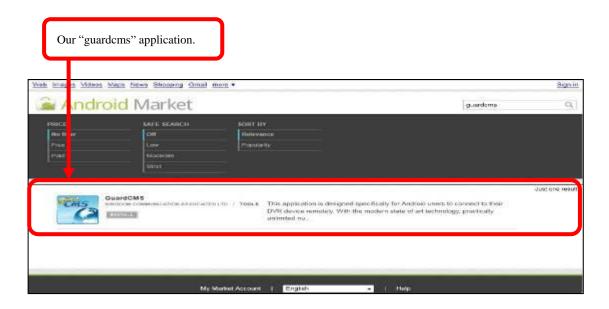The "Android Market" page will be shown as below.

Step 2: In the top right hand search area, type "guardcms" and press search icon 🔍 to find our application.
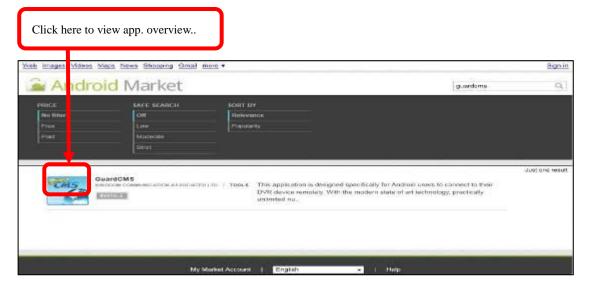

Type "guardcms" and press search.

Step 3: The search result will show our "GuardCMS" application.

Note: To install the application, please check that your mobile device is connected to the computer.

Our "guardcms" application.

Step 4: (i) Click on the "GuardCMS" photo to view the application overview.
(ii) After reading the overview, user's can press "Install" to start the installation process.

Click here to view app. overview..

GuardCMS Application Overview:

Step 5: Users will need to sign in to their google account in order to install this application.

Click here to install app. to your mobile device...

Please follow the steps and after successful installation, this app. will be shown on your mobile device.