

H.264 WD1 DVR

User Manual

V1.0.2

For Models: DFH6004W. 6008W. 6016W. 6016WS

1. HDD Installation

Notice!

Recommend to install security-used SATA HDD.
Make sure power is off before installation.

Tool Required : Screwdriver

Installation Steps :

1. Unscrew to remove the cover housing.



2. Use the screw to fasten the HDD from the bottom of DVR.



3. Connect SATA cable to HDD and motherboard.



4. Connect power cable to HDD and motherboard.

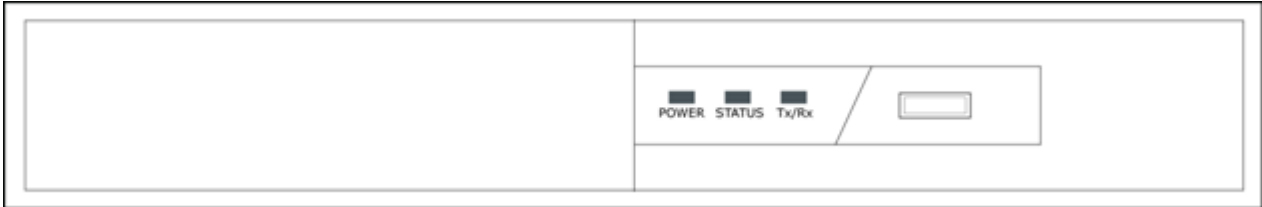


5. Put the cover housing back, and fasten all the screws.

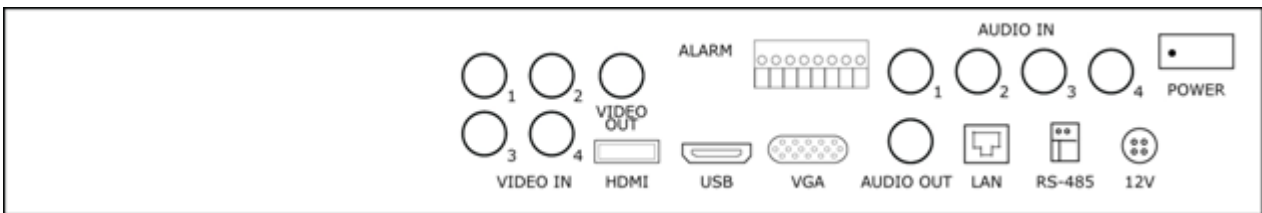


2. Hardware Connection

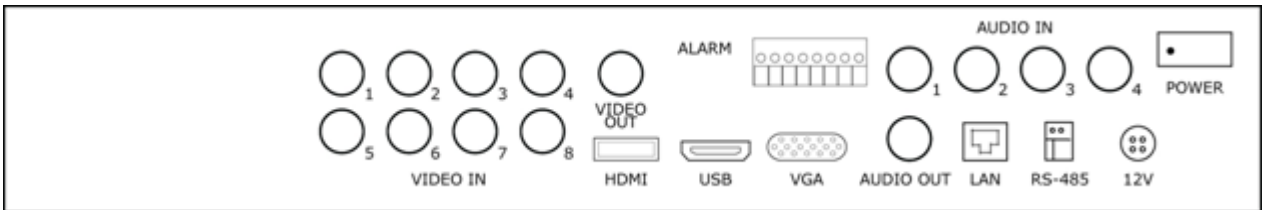
4 / 8 / 16CH WD1 DVR Front Panel (DFH6004W. 6008W. 6016W)



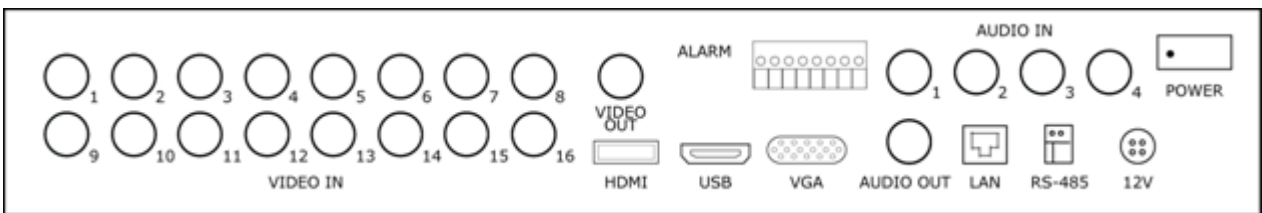
4CH WD1 DVR Back Panel (DFH6004W)



8CH WD1 DVR Back Panel (DFH6008W)



16CH WD1 DVR Back Panel (DFH6016W)

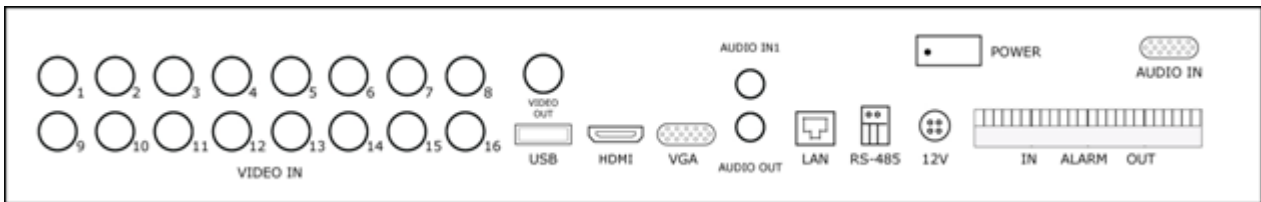


Video IN	Analog Video Input	LAN	Internet Connection
VIDEO OUT	Analog Video Output	RS-485	PTZ Port
AUDIO IN	Audio Input	12V	Power Input
AUDIO OUT	Audio Output	POWER	Power Switch
VGA	VGA Video Output	USB	USB Devices
HDMI	HDMI Video Output	ALARM	Alarm Input & Output

16CH WD1 Real-time DVR Front Panel (DFH6016WS)



16CH WD1 Real-time DVR Back Panel (DFH6016WS)



Video IN	Analog Video Input	LAN	Internet Connection
VIDEO OUT	Analog Video Output	RS-485	PTZ Port
AUDIO IN	Audio Input	12V	Power Input
AUDIO OUT	Audio Output	POWER	Power Switch
VGA	VGA Video Output	USB	USB Devices
HDMI	HDMI Video Output	ALARM	Alarm Input & Output

3. Specifications

Model Name	DFH6004W	DFH6008W	DFH6016W
Video Compression	H.264		
Video Input	BNC x 4	BNC x 8	BNC x 16
Video Output	BNC / VGA (1080P) / HDMI (1080P)		
Audio Input / Output	IN x 4 / OUT x 1		
2-way Audio	YES		
Audio Backup	YES		
Video Quality	Highest / Higher / High / Normal / Low / Lower		
Recording Mode	Continuous / Manual / Motion / Alarm / Schedule		
Recording Setup	Resolution and FPS can be adjusted by each single channel		
Playback Mode	1/4 /9/16 CH		
Playback Resolution	WD1 (960 x 480) D1 (720 x 480) Half-D1 (720 x 240) CIF (360 x 240)		
Playback	120fps @ WD1 120fps @ D1 120fps @ Half-D1 120fps @ CIF	160fps @ WD1 120fps @ D1 240fps @ Half-D1 240fps @ CIF	120fps @ WD1 120fps @ D1 240fps @ Half-D1 480fps @ CIF
Playback Speed	Play / RW (1/8 ~ 32X) / FW (1/8 ~ 32X) / Pause		
Search Mode	Camera / Date / Time / Motion / Alarm / Intelligent		
Water-mark	YES		
HDD Capacity	SATAII HDD x 1 (Max. 4T)		
Backup Mode	USB x 2 / Network / External USB DVD-RW		
Mouse Control	YES (Standard)		
PTZ Control	RS485 x 1		
Ethernet	RJ45, 10/100/1000 Base-T		
Mobile Surveillance	YES (3G/GPRS) – Symbian, Windows Mobile, JAVA, iPhone, Android		
Network Surveillance	IE / Safari / Firefox / Google Chrome / CMS Software		
Alarm Input / Output	Input x 4 / Output x 1		
Pre-alarm	5 ~ 60 sec		
Post-alarm	5 sec ~ 10 Minute		
Power	DC 12V / 2A		
Working Temperature	-10°C ~ 55°C (14°F ~ 131°F)		
Working Humidity	10% ~ 90%		
Dimension	315 x 230 x 45 (mm)		
Weight	2.0 kg (N.W.)		
Certificate	CE / FCC / RoHS / WEEE		

Model Name	DFH6016WS
Video Compression	H.264
Video Input	BNC x 16
Video Output	BNC / VGA (1080P) / HDMI (1080P)
Audio Input / Output	IN x 16 / OUT x 1
2-way Audio	YES
Audio Backup	YES
Video Quality	Highest / Higher / High / Normal / Low / Lower
Recording Mode	Continuous / Manual / Motion / Alarm / Schedule
Recording Setup	Resolution and FPS can be adjusted by each single channel
Playback Mode	1/4 /9/16 CH
Playback Resolution	WD1 (960 x 480) D1 (720 x 480) Half-D1 (720 x 240) CIF (360 x 240)
Playback	480fps @ WD1 480fps @ D1 480fps @ Half-D1 480fps @ CIF
Playback Speed	Play / RW (1/8 ~ 32X) / FW (1/8 ~ 32X) / Pause
Search Mode	Camera / Date / Time / Motion / Alarm / Intelligent
Water-mark	YES
HDD Capacity	SATAII HDD x 2 (Max. 8T)
Backup Mode	USB x 2 / Network / External USB DVD-RW
Mouse Control	YES (Standard)
PTZ Control	RS485 x 1
Ethernet	RJ45, 10/100/1000 Base-T
Mobile Surveillance	YES (3G/GPRS) – Symbian, Windows Mobile, JAVA, iPhone, Android
Network Surveillance	IE / Safari / Firefox / Google Chrome / CMS Software
Alarm Input / Output	Input x 16 / Output x 4
Pre-alarm	5 ~ 60 sec
Post-alarm	5 sec ~ 10 Minute
Power	DC 12V / 5A
Working Temperature	-10°C ~ 55°C (14°F ~ 131°F)
Working Humidity	10% ~ 90%
Dimension	442 x 290 x 48 (mm)
Weight	4.0 kg (N.W.)
Certificate	CE / FCC / RoHS / WEEE

4. Wizard

Wizard is enabled by default setting. Wizard will show you step by step to complete the basic setup of DVR. Suggest you to use wizard function at the first time.

1. You can select language first.



2. You can skip wizard function from next-time by disable this function.



3. Login page wil require you to key-in password. If you don't want to set up new password at the moment. Please key in default password. Default password for [Admin] account is [888888].



4. Setup date and time.



5. For internet, you can enable [DHCP] function, which means you allow router to assign port number for DVR. Or you can assign IP address by key-in IPv4 address for DVR directly.



6. Installed HDD will be shown on this page. The information will indicate HDD quantities and capacities to you. Please be noted that newly-installed hard disk must be formatted; otherwise, video can't be recorded successfully into hard disk. Select the hard disk, then click [Init.] button to format hard disk.



- Click [Start Recording] button to record camera to DVR's hard disk. For each camera, you can record by different recording mode. [Continuous] means to record continuously. [Event] means DVR will record only when there is a motion-triggered event. Please setup motion detecton zone first for accurate motion detection recording.



- You can use [copy] fuctnion to copy the current setting to other cameras. Click [OK] to save the change.






5. Live

Change Screen Mode

Under [Multi-screen] , you can double click the left button of mouse to change screen to [Single-screen], and vice versa.

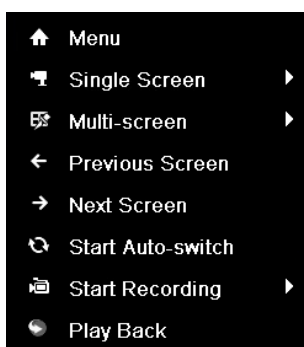
Icon Indication

Under Live, the following icons will indicate the recording status, alarm status of each camera.

Icon	Indication
	Recording is ON (Manual / Schedule / Motion)
	Exception Trigger (Video Loss / Tampering / Motion / Power ON)
	Exception Triggered & Recording is ON

快速功能表說明

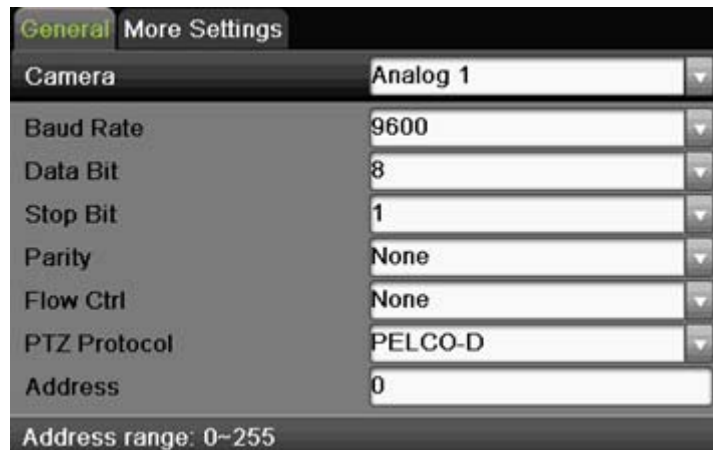
Under live, you can right click mouse to call out [Quick Menu] , which can do the following manipulations.




Function	Description
Menu	Enter Menu
Single Screen	Choose single camera for full-screen
Multi-screen	Change to 4/8/16 display mode
Previous	Previous Screen / Channel
Next	Next Screen / Channel
Switch	Start Auto Switch
Start Recording	Enable [Continuous] / [Motion] Recording
Playback	Quickly playback 24HR Video on that day

6. P.T.Z. Control




















Before controlling PTZ camera, please check if camera is well connected to DVR via RS485 interface. Please go to [Menu] – [Camera] – [PTZ] to enter the parameters which are offered by the vendor of PTZ camera. If the data you enter in DVR is different from PTZ camera itself, DVR can't control PTZ successfully. After editing parameters, please click [Apply] button to save the new parameters to DVR.



PTZ Tool Bar


Under live view, select PTZ camera then click  button to get PTZ toll bar as picture illustrated below. Under [Camera], you can select PTZ camera to control it. Under [Preset], PTZ camera will move to the preset point you call.



Icon	Description
	Direction Button Auto Cycle
	zoom in / zoom out
	Focus + / Focus -
	Iris + / Iris -
	PTZ Moving Speed
	Light On / Light Off
	Wiper On / Wiper Off
	Digital Zoom
	Image Centralization
	Preset Points
	Patrol
	Pattern
	PTZ Menu
	Previous Item
	Next Item
	Start Pattern / Patrol
	Stop Pattern / Patrol
	Minimize Windows
	Exit

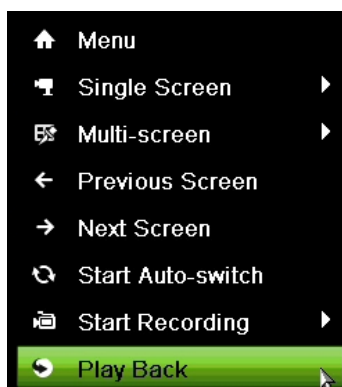
7. Playback

Instant Playback

Under live view, select single camera you want to see instant playback first. Then click  button to playback video from 5 minutes ago. Other channels will remain live view under quad mode. In the meantime, other camera video will stay live for you.

All-Day Playback

Under live view, right click your mouse to get Quick Menu. Then click [All-day playback], DVR will playback the video of the day from 00:00 directly under multi-channel display mode. You can use mouse cursor to draw time bar below to change the video time. Please be noted that time bar ratio can be adjusted. So you can find the video time accurately by increase time bar ratio.



Normal Playback

Enter [Menu] – [Playback], you can have formal playback function here.

1. Select the [camera] you want to playback.
2. Choose the [date] from calender.
[Dark gray] color indicates today.
[Blue] color means the date with recording video.
[Gray] color means there is no recording video on that date.
3. Click [Playback] button to start playback.
4. Click [Multi-channel] button to change to multi-channel display mode.




Under multi-channel display mode, you can control playback as below.

1. Move your mouse cursor to the right side of screen. Then you can see a pop-up menu for you to choose the cameras for display. Besides, you can also change the date from here.
2. Ratio button is for you to change the ratio of time bar. When you magnify the ratio, you can control the time bar more accurately.
3. You can also speed up or slow down the speed of playback by control button bar.



Smart Search

Enter [Menu] – [Playback] – to get video by [Smart Search].

1. Select Camera first.
2. Choose a date on calendar.
3. Use Mouse cursor to draw red area on video screen. The red area means you want to search all the motion triggered in that area.
4. Click  [Smart Search] button to get the video.
5. All the matchable video will be shown on the time bar with green color.




8. Backup

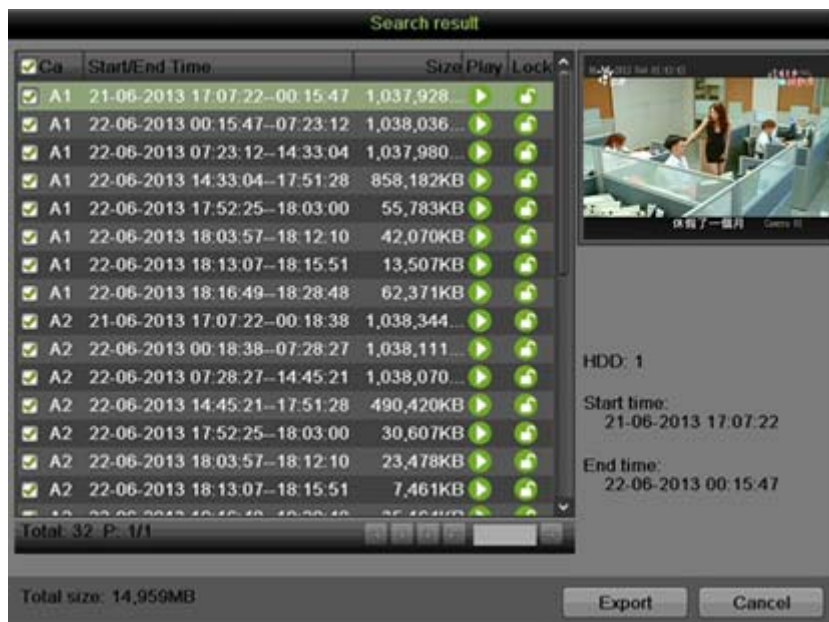
The recorded files saved in DVR can be backed up to external USB devices such as USB drive, USB HDD and CD/DVD burner.

Enter [Menu] – [File Management] – [Normal], you can enter the following parameters to search the files you want to back up. Then click [Search] button to get the list of recorded files which can match your searching parameters.



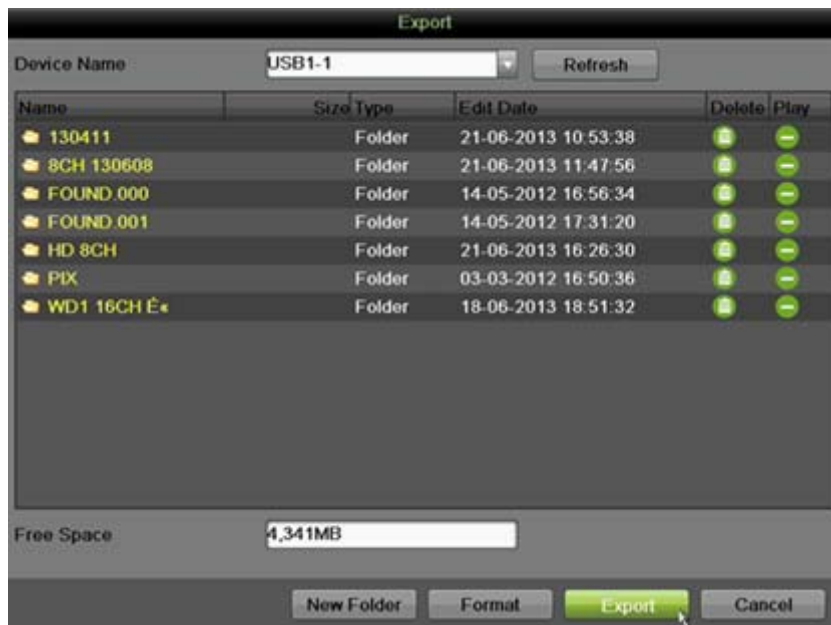
You can review the searching list first to see if the files are what you want. By click  button to see the videl of each file on display screen.

After selecting files, then you can click [Export] button.



On the top of interface, DVR will show you all the external backup devices it can find. So if the device is not detected by DVR yet, you can click [Refresh] button to detect again. Besides, DVR will tell you the [Free Space] of your external backup device. So you will know if the files can be backup to external device successfully or not.

After reviewing, you can click [Export] button to start backup.



9. IE Remote Surveillance

Open an IE browser, input the IP address of the device (ex. 172.9.1.76) and then press the Enter Button. The system will require you to install the [plug-in control] at the first time. Please download and save the [plug-in control] to your desktop first. Then close the IE browser to complete the installation of the [plug-in control].

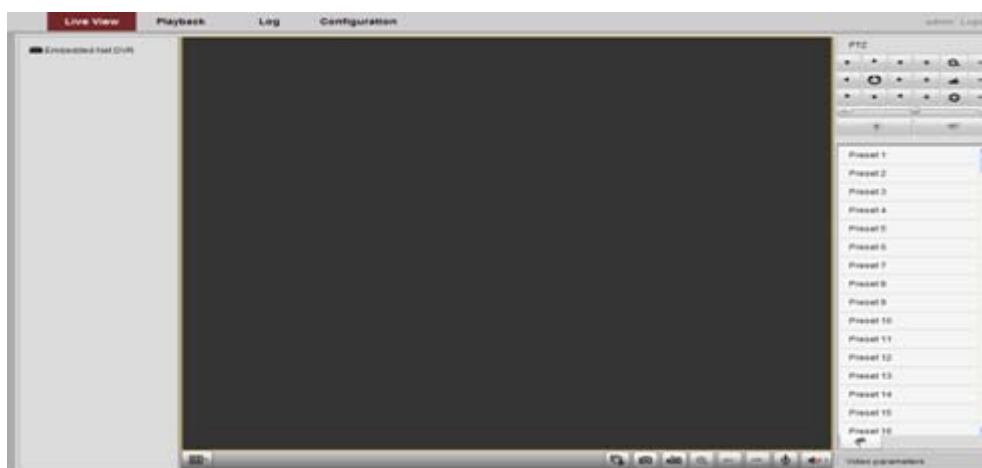
The system then will display the login interface as shown below.



You can choose the language you prefer from the sub-menu of language. The device will automatically detect the language used on your computer as default language.

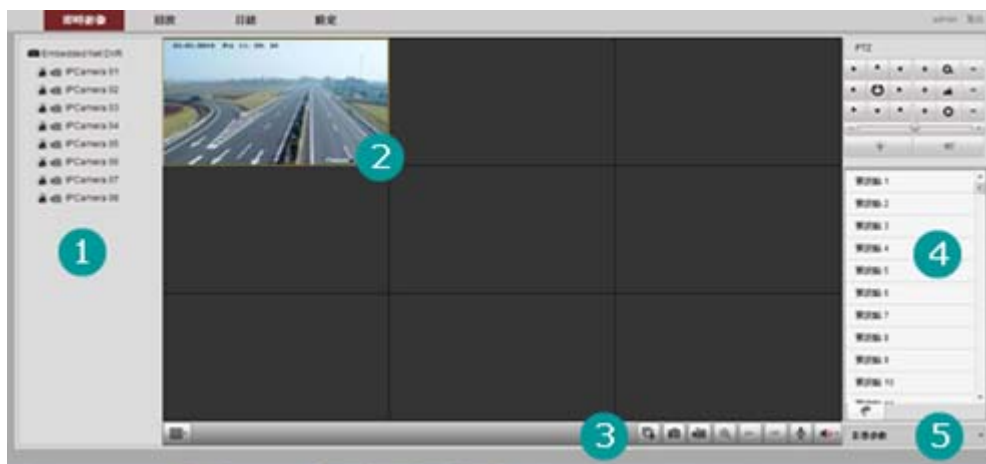
Please key-in [User Name] & [Password] to log in system. The default user name is [admin], and password is [888888].

After login, you will see [Live view] page first.





Live View

The live view interface is show as below.





Area	Description
1	Camera Channel List
2	Live View
3	Play Control Buttons
4	PTZ Control Buttons
5	Video Parameters Configuration

Multi-channel Display

Under live view, clicking  button on play control area to get different multi-channel display modes like 1/4/9/16  display modes. The live view will continue when changing display mode.

Live View by Channel

Form the camera channel list, select the channel click  button to get the live view of that channel. Click  button to stop the live view of that channel.

P.T.Z. Control

Make sure PTZ camera is successfully connected to the device already before controlling it.

1. Please go to [Configuration] → [Remote Configuration] → [Serial Port Settings] → [485 Serial Port] page.
2. Please select the channel of PTZ from drop-down menu list.
3. Key-in accurate parameters for your PTZ camera.
4. Press [Save] button to save the information.

RS-485 Settings

Channel No.

Baud Rate

Data Bit

Stop Bit

Parity

Flow Ctrl

PTZ Protocol

PTZ Address

[Copy to Camera](#)




Select All



D2 D6 D14

P.T.Z. Control Panel

Button	Description
	Direction Control Auto Pan
	zoom in / zoom out
	Focus +/-
	Iris +/-
	Light ON/OFF
	Wiper ON/OFF
	Speed of PTZ Movement

Manual Recording

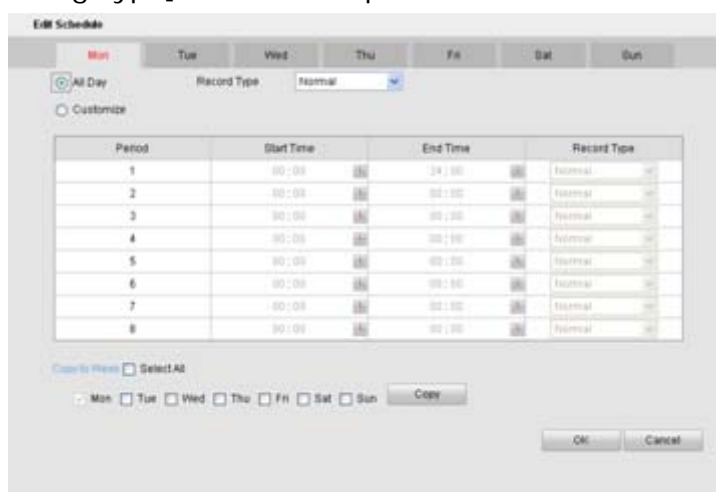
Click  icon to start the recording of this channel. If the icon does not change to , it will pop up a message of "Recording failed". When the recording is on, click  to stop recording.

When live view is under multi-channel display mode, you can click  to start the recording for all the channels, or click  to stop the recording of all the channels.

Schedule Recording

Please go to [Configuration] → [Remote Configuration] → [Camera Settings] → [Schedule Settings].

1. Please make sure the [Schedule Recording] function is enabled.
2. Click [Edit] button to enter setup page.
3. Select the [Recording Type] from the drop-down menu.



There are 5 different recording types supported.

[Normal] means device will record continuously during the assigned period of time.

[Motion Detection] means device will record only when there is a motion trigger during the assigned period of time.

[Alarm] means device will record only when there is an alarm trigger during the assigned period of time.

[Motion Detection & Alarm] means device will record only when there are both motion and alarm trigger during the assigned period of time.

[Motion Detection / Alarm] means device will record only when there a motion or alarm trigger during the assigned period of time.

Notice: To have schedule recording for motion detection type, you must enable the motion detection function and set up detection areas first.

Notice: When setting schedule recording, don't make different time periods get overlapped.

Advanced Setting

Click the [Advanced] button to set advanced parameters. You may configure parameters of Pre-record time, Post-record time, Recordings Duration, Redundant Recording, Record Audio and Expired Time.



Setting	Value
Pre-record	5s
Post-record	5s
Redundant Record	No
Overwrite	Yes
Record Audio	Yes
Expired Time	0 Day

[Pre-record] means how long you want the device record before the event get triggered.

[Post-record] means how long you want the device record after the event is over.

[Overwrite] mean if you want the device continue recording by deleting some old data when hard disk is full.

Playback

DVR can support multi-channel playback on IE browser.



Area	Description
1	Camera Channel List
2	Live View
3	Playback Control
4	Time Bar
5	Playback Status
6	Calendar

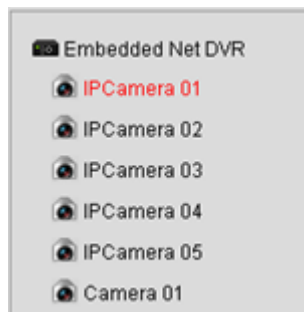
Playback control buttons description



Button	Description	Button	Description
	Play		Stop
	Slow Down		Speed UP
	Play by Single Frame		Snapshot
	Stop All Playback		Download
	Video Clip		Audio ON/OFF
	Rewind		

Playback Manipulation

1. Select a channel form the channel list.



2. Select a date from the calendar.
3. Click [Search] button to find all the matched recorded video.



4. You can also key-in specific time to find the recorded video directly. Key-in the specific time to column : : , then click button.
5. You can also use mouse to drag the time bar to find the recorded files you want to see.



10. iPhone Surveillance

Introduction

Before installing Guarding Expert to you mobile, please make sure your IOS version is 4.3 or above. Through network, you can easily manipulate [Live view], [Playback], [PTZ Control] and [DVR Setting] functions with guarding expert mobile application.

Features




- All New GUI
- Device Management
- Live View
- My Favorite
- Full Screen Manipulation
- Video Quality Setup
- Alarm Setup
- PTZ Control
- Remote Playback
- Password Protection

Device Management

Search "Guarding Expert" on APP store. After Guarding Expert being installed successfully to your iPhone, you can log in the application. For the first-time log-in, device list will be empty. Please add the device first; otherwise, you can't manipulate other functions. All the devices added to list can be edited in the future.




Add New Device

1. Click  to enter main menu and choose , you will go to [New Management].
2. First-time log in, the list will be empty. Click  add a new device.





3. Enter Device Name, which can be easy for you to distinguish in the future.
4. Choose Register Mode
 - HiDDNS :This is a free DDNS server. You can go to www.hik-online.com to register your device for free DDNS IP address. You can have a DDNS IP address like www.hik-online.com/digifocus and get user name and password for this DDNS IP address.
 - IP/Domain : Key-in your static IP address offered by your local ISP.
 - IP Server : Key-in Server IP address to connect the device



6. Click  to save device information.

7. Click  to go back to [Device Management] page, and the newly-added device will shown on the list.

Editing Device Information

1. On [Device Management] page, select the device to get information page.
2. Click  to edit the information of selected device.
3. Click  to save the revised device information.





Alias	7300
Register Mode	IP/Domain
Address	172.6.23.105
Port	8000
User Name	admin
Password	*****
Camera No.	16

Start live view




Alias	7300	✕
Register Mode	IP/Domain	>
Address	172.6.23.105	✕
Port	8000	✕
User Name	admin	✕
Password	*****	✕
Camera No.	16	

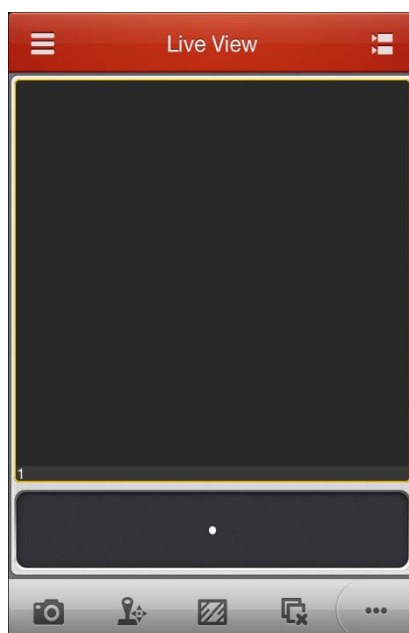
Removing Device

1. On [Device Management] page, slide the device to get  button.
2. Click  button to remove the device from the list









Live View






You can manipulate live view function of the successfully added device. If the device is connected with PTZ camera, you can also use guarding expert to control PTZ camera.

Click  to enter main menu, then click  button to enter live view.




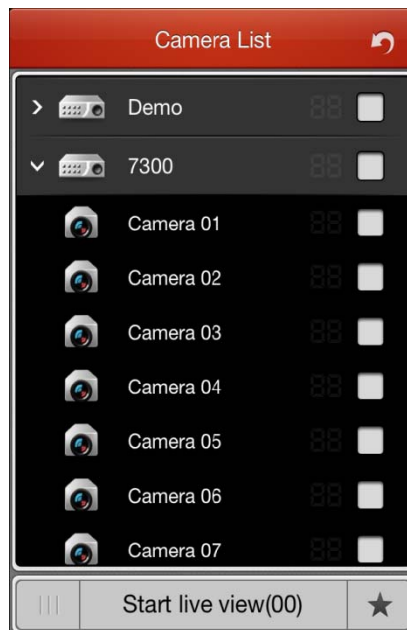
Icon Identification :

Button	Identification	Button	Identification
	Open/Close Menu		Enter Camera List Back to Live View
	Manual Snapshot		ON/OFF PTZ Control
	Video Quality		Stop Live View
	ON/OFF 2-way Audio		ON/OFF Alarm Output

Button	Identification	Button	Identification
	Open/Close Sub-menu		Live View
	Remote Playback		Device Information
	Configuration		

Start Live View

Click  to get camera list. Click device node to get camera list under the device. All the camera names are obtained from the device.






Stop Live View

- Stop live view function of all cameras.

Click  button to stop the live view function of all cameras.



- Stop live view function of single camera.

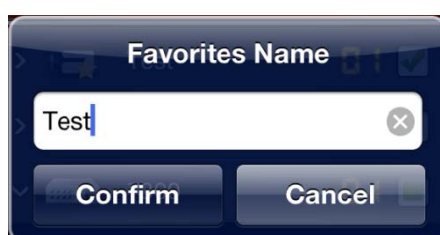
Drag the camera window towards the top of screen, and you can see  icon will appear. Release the camera window When  change color to  , the guarding expert will stop the live view of that camera.



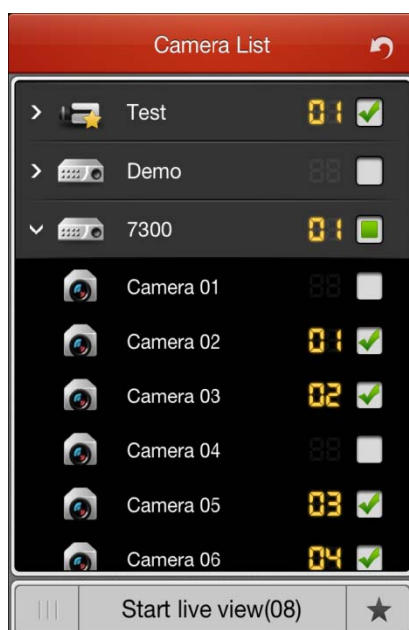
Add Favorite

User can add the frequently-used device to the favorite list. Users can easily get the live view of favorite devices in the future.

Click  to get camera list. Select the cameras you want to add to favorite list, then click  to get window as below. Then key-in a name (ex. Test) to represent the group of selected cameras. Click [Confirm] to save the setup.

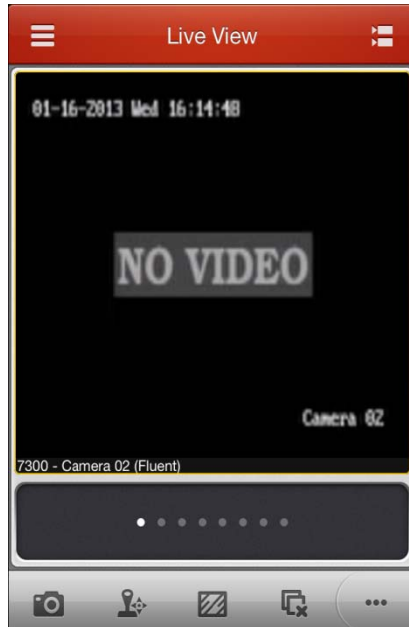


Favorite will also be shown on the camera list. You can click [Test] to get the live view of all the cameras you select for [Test] group. Certainly, you can set up several favorite groups with different group names, so you can have many quick accesses to get the live view of cameras you want to check.

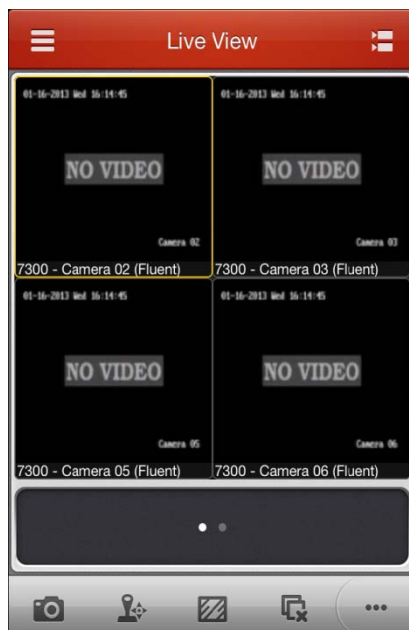


Single screen & Multi-screen Display

Under live view, you can double click channel to enter single-screen of the channel you click.



Double click the live view to change single-screen back to multi-screen mode.



Full-screen Mode

Under live view, you can rotate iPhone to get full-screen mode. If the device is connected over 4 cameras, then you can slide the screen for next 4 cameras for live view.



Video Quality Setup

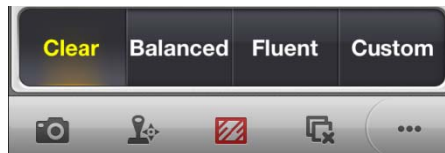
User can adjust video quality under differ network environments.

Choose camera first, then click .

Pop-up for 4 quality modes : [Clear], [Balanced], [Fluent] and [customized].

Choosing suitable mode, app will adjust the bit rate of video streaming for you.

Powerful user can also use [customized] mode to have advanced settings.



Alarm Output Management

Click  to access the hidden icons. Click  to enter [Alarm output Management].




Choose  to enable alarm output function. Choose  to disable alarm output

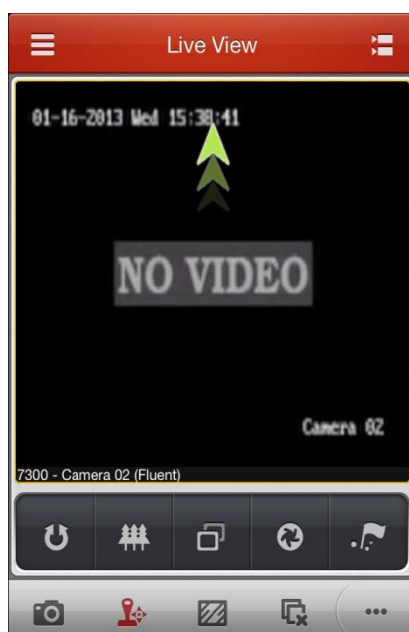
function. Click  to exit from [Alarm output Management].













PTZ Control

If PTZ camera is connected to device successfully, user can use guarding expert to control PTZ cameras directly.

Click  to activate PTZ control panel. When  change to  , control panel is activated and display mode will change to single-screen mode.



PTZ Control Panel Description :

Button	Description	Button	Description
	Start Auto Scan		Stop Auto Scan
	Zoom +		Zoom -
	Focus +		Focus -
	Iris +		Iris -
	Start to Call Preset		Stop Calling Preset



Notice




You can slide on the live view window to do the pan left/right and tilt up/down movements.

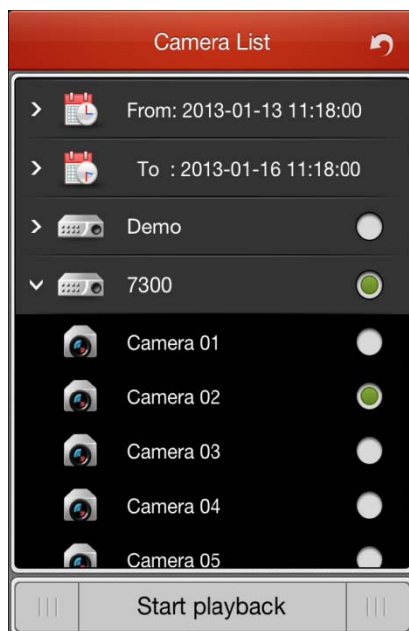
You can also pinch two fingers together to zoom out or spread them apart to zoom in the live view.

Remote Playback

Guarding expert can allow users to search and playback the recorded video saved on device hard disk.

Start Playback

Click  and select  to enter [Remote Playback] page. Click  to display the list of added devices. Identify the searching condition by key-in [start time] and [end time].






Select the device or camera you want to see playback, the click [Start playback] button to start playback.



Notice

The max period of [start time] and [end time] is 3 days. If you key-in over 3 days, guarding expert will automatically playback the video 3-day before the [end time] you set up.

Stop Remote Playback

Click  to stop remote playback. Or you can draw the camera window towards the top of screen. Release the camera window when  change to , then playback will stop.




Full-screen Playback

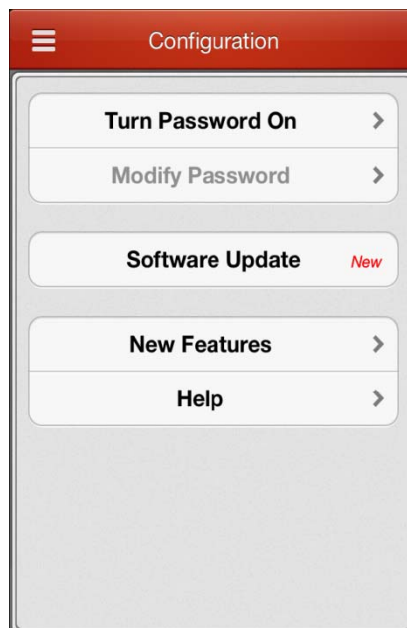
Rotate your iPhone to change display to full-screen mode.



Password Protection

- When [Password Protection] is enabled, then only the user with password can access app.

Click  to enter [Password Protection] page. Click [Turn Password On] to enable the function. Then key-in 4 digits as password for future use.



- **Modify Password**
Click **Modify Password** and enter corresponding information to modify the password.
- **Disable [Password Protection]**
Click **Turn Password Off** to disable the password protection.

**Notice**

When [Password Protection] is disabled, users can log in live view directly.