

User Manual

MODEL QC40198
MODEL QC40196



H.264 NETWORK DVR

Variable CIF and D1 Recording Options



Thank You for Choosing a Q-See Product!

All of our products are backed by a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software and is available at www.Q-See.com.

Be certain to make the most of your warranty by completing the registration form online. In addition to warranty and technical support benefits, you'll receive notifications of product updates along with free downloadable firmware updates for your DVR. Register today at www.Q-See.com!

Please see the back of this manual for exclusions.



© 2011 Q-See. Reproduction in whole or in part without written permission is prohibited. All rights reserved. This manual and software and hardware described herein, in whole or in part, may not be reproduced, translated, or reduced to any machine-readable form without prior written approval.

Trademarks: All brand names and products are trademarks or registered trademarks of their respective owners.

Q-See is a registered trademark of DPS, Inc.

Disclaimer: The information in this document is subject to change without notice. The manufacturer makes no representations or warranties, either express or implied, of any kind with respect to completeness of its contents.

Manufacturer shall not be liable for any damages whatsoever from misuse of this product.

About this Manual

This manual is written for the QC40198 and QC40196 DVRs and was accurate at the time it was completed. However, because of our ongoing effort to constantly improve our products, and the different capabilities of the two models additional features and functions may have been added since that time and on-screen displays may change. We encourage you to visit our website at www.Q-see.com to check for the latest firmware updates and product announcements.

This manual covers the setup and local operation of the DVR. Instructions for configuring the DVR for remote access, along with instructions for monitoring the DVR using a computer or mobile device, are contained within the **Remote Monitoring Guide** which is included on the CD that accompanied your DVR and which can also be found on www.Q-See.com.

Throughout the manual we have highlighted warnings and other important information that will assist you in operating your new system in a safe and trouble-free manner. Please take the time to read and follow all instructions and pay attention to alerts as shown below:



IMPORTANT! Red boxes with this icon indicate warnings. To prevent possible injury or damage to the product, read all warnings before use.



NOTE! Text in blue boxes with the Information icon offer additional guidance and explanations about how to make the most out of your system.

TABLE OF CONTENTS

1. INTRODUCTION	7
2. INSTALLATION AND CONNECTION	10
2.1 DVR Installation	10
2.2 Connections	11
3. CONTROLS	14
3.1 Mouse Control	14
Virtual Keyboard	15
3.2 Remote Control	16
3.3 Front and Side Panel Buttons	18
4. BASIC OPERATION	19
4.1 Operation	19
4.2 Live View	19
4.3 Login, Logout and Main Menu	20
Login	20
Main Menu	21
Shortcut Menu	21
Logout	22
Auto Resume	22
4.4 Recording	22
Manual Recording	22
4.5 Search and Playback	23
Search	24
Playback	25
4.6 Schedule	28
4.7 Motion, Video Loss and Camera Masking Detection	29
Motion Detection	29
Video Loss	30
Camera Masking	30
Event Response	30
4.8 Backup	32

5. MENUS	34
5.1 Main Menu	35
5.2 Info Menu	35
HDD Information	35
BPS	36
Log	36
Version	37
Online Users	37
5.3 Setting Menu	38
General	38
Encode	40
Snapshot	42
Schedule	43
RS232	43
Network	43
Default	45
5.4 Advanced	46
HDD Manage	46
Abnormality	47
Record	48
Account	48
Auto Maintain	48
TV Adjust	49
5.5 Backup	49
5.6 Shutdown	49
6. PAN/TILT/ZOOM CAMERAS	50
6.1 Connecting a PTZ Camera	50
6.2 PTZ Control and Setup	51
Setup	51
Control	52
Setting Preset/Patrol/Pattern/Scan	52
Running PTZ Functions	54
7. ALARMS	55
7.1 Alarm Input	55
7.2 Alarm Output	57
7.3 Alarm Setup and Activation	58

8. HARD DISK DRIVE

8.1 Installation/Removal

8.2 Calculating the Recording Capacity of a Hard Disk Drive

APPENDIX

A.1 Troubleshooting

A.2 Minimum Computer Configuration

Q-SEE PRODUCT WARRANTY

Questions or Comments? Contact Us

60

60

63

64

64

67

68

69

INTRODUCTION

CHAPTER 1

To prevent damage to your Q-See product or injury to yourself or to others, read and understand the following safety precautions in their entirety before installing or using this equipment. Keep these safety instructions where all those who use the product will read them.



WARNING! ELECTRIC SHOCK RISK!



- Check the unit and any accessories included in the package immediately after opening. If items are missing or damaged, repackage and return to the point of purchase.
- Use the proper power source. Only use the power adapter supplied with your system. Do not use this product with a power source that applies more than the specified voltage (100-240V AC).
- Never insert anything metallic into the DVR. Inserting anything into the DVR or its case can be a source of dangerous electric shock.
- Do not operate in dusty areas. Avoid placing the DVR in places that are dusty.
- Do not expose this product to rain or use near water. If this product accidentally gets wet, unplug it and contact an authorized dealer immediately.
- Keep product surfaces clean and dry. To clean the outside case of the DVR, gently wipe using a lightly dampened cloth (only use water, do not use solvents).
- Do not operate this DVR without the cover securely in place. Do not attempt to do any repairs to the DVR yourself. If there are unusual sounds or smells coming from the DVR, unplug it immediately and contact Q-See technical support. Under no circumstances should the cover be removed while the device is connected to a power source. You should only remove the cover to install/replace the hard disk drive (**See Chapter 8**) or replace the standard 3v lithium cell battery on the motherboard. These are the only user serviceable parts. You may need to replace the battery if the internal clock resets itself after a power outage.
- Handle DVR box carefully. If you accidentally drop your DVR on any hard surface, it may cause a malfunction. If the DVR doesn't work properly due to physical damage, contact an authorized dealer for repair or exchange.
- Make sure there is proper air circulation around the unit. This DVR system uses a hard drive for video storage which generates heat during operation. Do not block air holes located on the bottom, top, sides and back of the DVR as they are designed to keep the system cool while running. Install or place this product in an area where there is ample air circulation.
- Provide proper ventilation. This DVR has a built-in fan that properly ventilates the system. Do not cover or impede this fan.

FEATURES AND SPECIFICATIONS

This combo DVR integrates a DVR (Digital Video Recorder) and LCD screen together. It is an excellent digital monitor with a sleek appearance and innovative capabilities which are functional and reliable.

It uses an embedded Linux OS to maintain stable operation and a popular H.264 compression algorithm to produce high quality low bit stream footage that is easy to manage and efficient to transfer over the internet. It can use various functions such as record, playback, and monitoring at the same time and produces audio and video synchronization. This product has advanced technology and strong network data transmission functions.

This combo DVR utilizes a high quality LCD capable of producing rich and vivid images. It's convenient 19-inch screen enables maximized viewing capabilities. This is an ideal system that can be used in an in-home environment and a variety of business environments that require enhanced monitoring capabilities such as: super markets, convenience stores, transportation, etc.

This product offers the following features:

Smartphone Compatible

Access live footage directly from your iPhone, or other Smartphone. Your DVR can also be set to e-mail your hand held-device whenever specific activity occurs, such as motion detection.

View Your Video Feed Online with No Service Fees

View your DVR's live or recorded video footage on any Internet accessible computer with Internet Explorer, Mozilla Firefox and Google Chrome (using IE plug-in).

Stay Notified with Customizable Email Alerts

Set your system up to notify you when an event has occurred at the location you are monitoring. Notification alerts can easily be adjusted to your specifications.

Advanced Motion Detection Activated Recording

Advanced motion detection settings ensure that false alarms are not triggered. The easy to use motion detect set up screen allows you to mask out certain areas which experience heavy movement in order to avoid false alarms and avoid unnecessary record triggering.

Multiple Backup Options

A built-in USB port gives you the option of backing up and transferring your video footage using a flash drive or external USB hard drive. You can also connect to an external CD/DVD writer to burn your file footage right onto a compact disc or DVD disc. Files can also be accessed from your DVR system to a remote computer location by logging on remotely.

Connect to a TV or PC Monitor Easily

This system comes with a HDMI and BNC out port to allow you to connect to a TV or computer monitor for viewing purposes. You can utilize both outputs simultaneously.

User-Friendly LCD Control Functions

Front panel button control allows instant booting up and system shut down at the press of a button. LCD monitor can be set to go into energy efficient stand-by mode.

Included Mouse and Remote Control

In addition to front panel button controls, system can also be booted up and shut down using the included remote control or mouse. Mouse operation function supports intelligent operation by enabling copy and paste functions.

Storage Function

Encrypted file format to ensure data security and avoid vicious data modification.

Compression Format

Supports multiple-channel audio and video. Independent hardware decodes the audio and video signal from each channel to maintain video and audio synchronization.

24/7 Scheduled Recording

Choose which days of the week and hours of the day you want to set your DVR to record or not record.

Multiple Playback Options and Advanced Search Functions

Supports real-time recording on each channel independently. Search through recorded files while you are playing live footage, monitoring through a remote location using a supported internet browsing application and backing up system files. A variety of playback modes include: slow play, fast play, backward play and frame by frame play.

Network Monitoring

Supports network remote real-time monitoring (available bandwidth permitting), remote record search and remote PTZ control.

Alarm Activation Function

Several relay alarm outputs enable you to pair your system with an on-site alarm system.

Communication Ports

- ♦ RS485 port can be used for PTZ camera control.
- ♦ RS232 port can connect to a keyboard for central control, and can also connect to PC COM to upgrade system and maintain system settings.
- ♦ Standard Ethernet port allows you to access the DVR from a network or the Internet.

PTZ camera control

- ♦ Supports PTZ decoder via RS485.
- ♦ Supports a variety of protocols to allow the DVR to control the PTZ speed dome: AD1641M, Admatrix, Banknote, DH-CC440, DH-Matrix, DH-SDI, Dh-SD2, Eptz, General, Haiyu, Hy, Lilin, Mercer-1, Panasonic, PE5051K, Pelco-9750, PelcoASCII, PelcoD, Pelcod-DON, PelcoD-S, Pelco-SI, Pelco-T, PelcoD1, PelcoD1-T, PelcoP, PelcoP-HK, PelcoP1, PelcoP5, Philips, Pih-717, QT-2XXD, Rm110a, Sae, Samsung, Sanli, Santachi, Sharp, Sony, WV-CS850I, WV-CS850II, WV-CS950, Yaan



NOTE! Depending on your point of purchase, your DVR may have the hard disk drive already installed. If your drive was packaged separately, or if you wish to upgrade your installed drive up to a 2TB drive, please see Chapter 8 at the back of this manual which covers installing the drive.

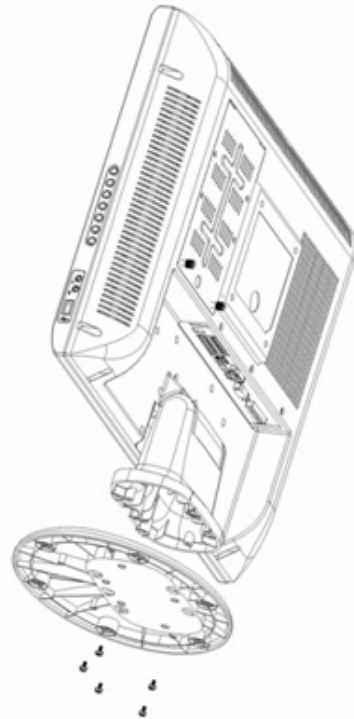
INSTALLATION AND CONNECTION

Please note that it is important to keep in mind common safety guidelines when installing your DVR or connecting additional devices – including turning off and unplugging your DVR before installing internal components.

2.1 DVR INSTALLATION

This DVR can be mounted on the included stand or it can be wall-mounted using a separately available mounting kit.

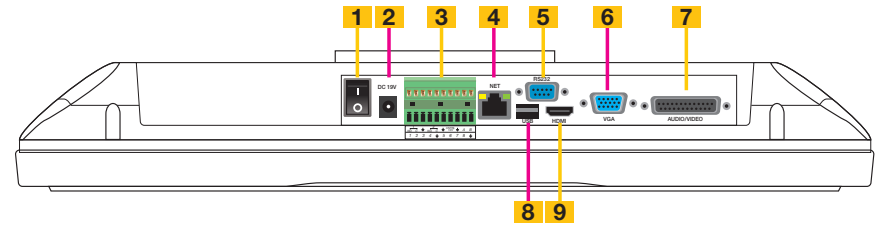
To attach the circular base to the DVR, use the five included screws.



PICTURE 2-1

2.2 CONNECTIONS

As part of its compact design, the connection ports on this DVR are concentrated on a panel on the back of the device located above the stand. These ports allow you to connect the mouse, cameras and network cable along with additional input and output components such as alarms, pan-tilt-zoom (PTZ) cameras, additional monitors and so on.



PICTURE 2-2

Number	Function
1	Power button
2	Power input port
3	Alarm input/alarm output/RS485 port
4	Network port
5	RS232 port
6	VGA input port
7	Video and audio input, video and audio output
8	USB Port
9	HDMI Video Port

The connection, configuration and operation of PTZ cameras will be covered in **Chapter 6 PTZ Cameras** while the connection and configuration of alarms – both incoming and outgoing – will be covered in **Chapter 7**.

Power

The DVR's power supply plugs into the socket marked DC 19V next to power switch (**Item number 2 in Picture 2-2**). It is absolutely essential that you only use the power supply that came with the DVR to ensure proper operation and to avoid damage.

We also recommend that you use an uninterrupted power supply (UPS) so that the system will continue to operate in the event of a power loss. In addition, you should connect the DVR into a UL-1449 rated surge protector. It should have a joule rating of at least 400, a response time of 10 nanoseconds or less and a clamping voltage of no more than 330 volts.

Mouse

The included USB mouse will only operate if connected to the DVR through the USB port on the rear of the DVR (**Item number 8 in Picture 2-2**). The USB port on the side of the DVR's screen is only for external USB storage devices.

Cameras

Conventional CCD or CMOS cameras are connected to the DVR through the Audio/Video port (**Item number 7 in Picture 2-2**) via the A/V dongle included with the system. The dongle shown in **Picture 2-3** has eight Video In plugs (black) for cameras and four audio input plugs (yellow). The extra black and yellow plugs are Video Out and Audio Out respectively. The dongle that comes with your DVR may differ in the number of plugs depending on your DVR's features.



PICTURE 2-3

The cameras and the dongle use BNC connectors.

Each lead is identified with its channel number.

The cameras will also need to be connected to a power supply – whether the power supply included with the cameras or a power distribution panel. For best results, both the DVR and the camera power supply(ies) should share the same electrical grounding.

For cable runs longer than 200 feet, cable runs within walls, or in areas where there is electromagnetic interference, you should use high-quality shielded RG59 cable. RG6 cable should be used for runs exceeding 800 feet and fiber optic cable should be used when distances exceed 1,800 feet. In circumstances requiring cameras to be positioned over 200 feet from the DVR, the camera's power supply should be located closer to the camera.

Video Output

This DVR supports video output to two external monitors simultaneously through the HDMI port (**Item number 9 in Picture 2-2**) along with the Video Out cable on the dongle. Use of the HDMI output requires an HDMI cable (not included) along with a monitor or television capable of processing 720i high-definition signals. The BNC Video Out lead on the dongle is labeled as such. For output through the dongle, you will need to use a signal converter box to connect to a VGA monitor or a television with VGA inputs.

Audio Input, Output and Bidirectional

Audio input and output is also handled through the BNC dongle. Each channel, including the output channel, is labeled on the lead itself. To receive audio signals, you must have a camera with built-in microphone or a separate microphone located near the camera.

Normal output through the BNC audio out channel is usually over 200mv 1K Ω . It can directly connect to an active sound box or amplified speaker. There is also an earphone jack on the right side of the unit above the USB port which allows you to listen to any audio feeds without additional equipment.



PICTURE 2-4

The audio out lead can alternately be used to allow you to communicate with someone near one of your cameras. This will require placing a powered speaker in the same location as that camera. There also needs to be a microphone co-located with that camera if not built into the camera itself. You will also need to connect a microphone to the microphone port on the side of the DVR and use the headphone/speaker port to hear the audio feed.

Using the DVR as a Computer Monitor

The DVR's LCD screen can be used as a computer monitor by plugging in a VGA monitor cable from a computer into the VGA In port (**Item number 6 in Picture 2-2**) on the back of the system as you would with any regular computer monitor. This can be useful in the short term when setting up network access of the DVR, or it can be a long-term solution such as saving space or to hide the purpose of the DVR. You will not be able to use the screen to view input from the computer and the cameras at the same time. External video input from a computer will override the DVR's video. You will need to install a monitor switch box between the computer and the DVR to manually "turn off" the computer's video feed, allowing the system to display normally.

This DVR can be controlled through the USB mouse, the remote control or by using the buttons on the right side of the device. We have found that the majority of our customers prefer to operate their DVRs using the USB mouse because of its ease of use and flexibility and our manual is set up with this in mind. The remote control allows you to perform most of the day-to-day functions from a convenient distance. It functions as a typical remote control with additional buttons allowing you to navigate through menus and control functions. We recommend that you configure your DVR using the mouse controls, reserving the remote control for operations such as live viewing, file search and playback.

3.1 MOUSE CONTROL

The mouse operates in a manner similar to how it is used on a conventional computer; point-and-click, right-click, double click and so on. How these functions are used is based on the context of where they are used. Some examples are:

LEFT CLICK:

- Selecting an item
- Opening a menu
- Checking a box or motion detection status
- Selecting letters, numbers or symbols on the virtual keyboard.

DOUBLE CLICK:

- Selecting an event for playback
- Selecting a screen to zoom into from multi-screen mode

RIGHT CLICK

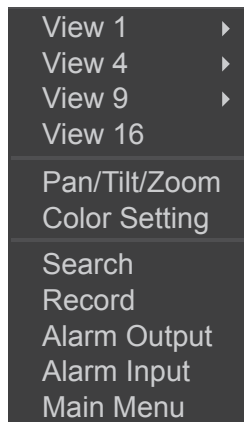
- Exits any window. Exits any menu or reopens previous menu.
- Opens **Pop-Up Shortcut** Menu

MOUSE WHEEL

- Page up or page down
- Switch items in check box
- Increase or decrease numerical value in numerical input box

CLICK-AND-DRAG

- Select motion detection zone
- Select privacy mask zone

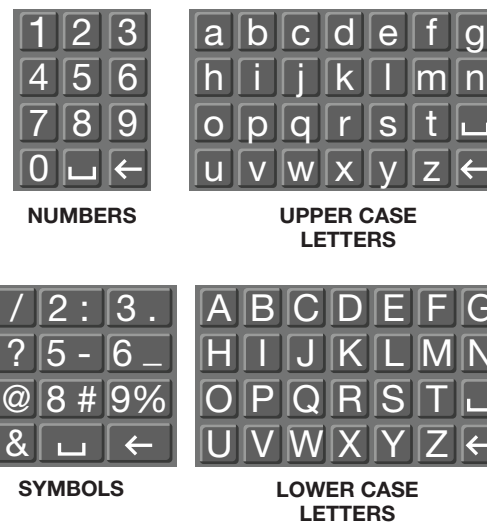


PICTURE 3-1

VIRTUAL KEYBOARD

The virtual keyboard is contextual. For example, it will only show digits when the field is for numeral entries. In fields where letters and symbols can be entered, users can switch between various formats – numbers, upper case, lower case and symbols – by selecting the white keyboard symbol that will appear to the right of a field where text can be entered. The symbol itself will change to show which keyboard format is available next.

Available keyboards include:



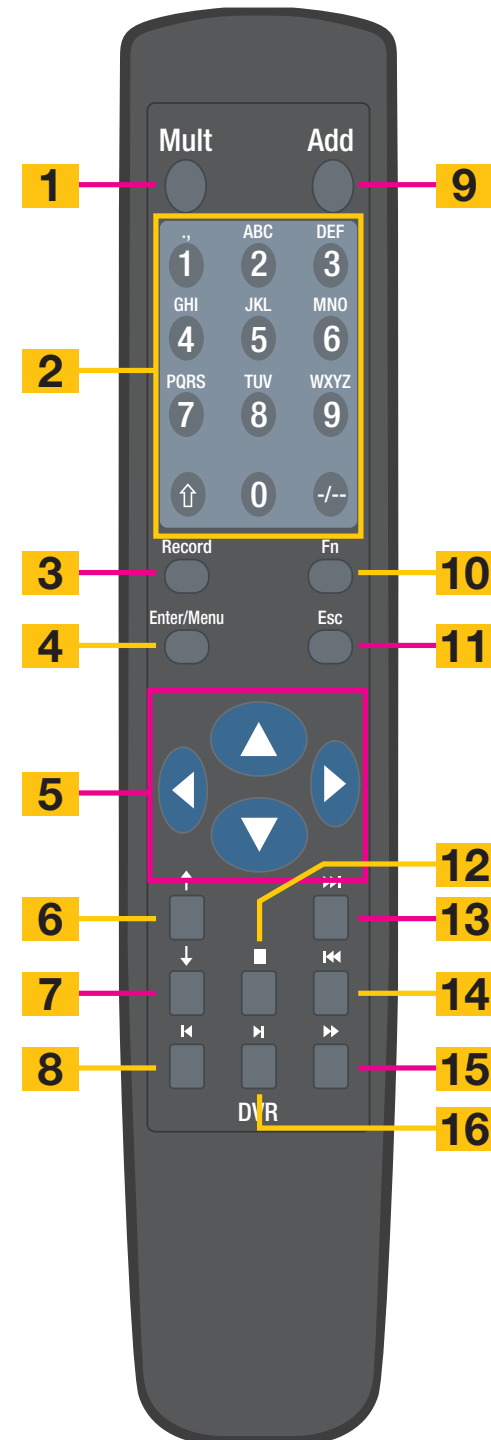
PICTURE 3-2

The keyboards are used by clicking on the desired character. Spaces are entered using the symbol and characters are deleted with the key. Clicking outside of the keyboard will close it.

3.2 REMOTE CONTROL

The buttons on the Remote Control operate in the same manner as on a conventional DVR remote. Some buttons have multiple functions depending on which menu is being accessed.

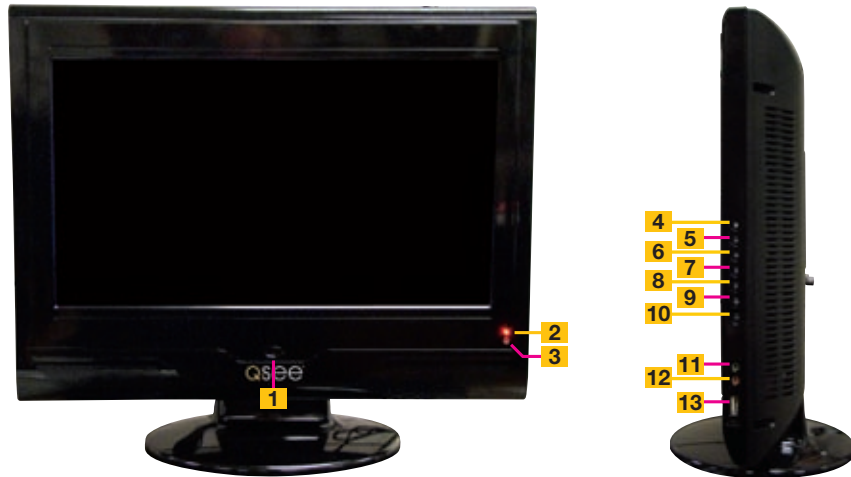
Num	Name	Function
1	Multiple-window switch	Switch between multiple-window and one-window view
2	0-9 number key	Input password, channel or switch channel.
3	Record	Start or stop recording manually In record interface, working with the direction buttons to select the channel to record
4	Enter /Menu key	Go to default button Go to the menu
5	Direction keys	Switch current activated control, go to left or right. In playback mode, it is to control the playback process bar. Aux function(such as switch the PTZ menu)
6	Previous	In playback mode, playback the previous video.
7	Next	In playback mode, playback the next video.
8	Slow Play	Multiple slow play speeds or normal playback.
9	Address	Click to input device serial number
10	Function/Aux Key	In 1-channel monitor mode: pop up assistant function: PTZ control and Video color Switch the PTZ control menu in PTZ control interface. In motion detection interface, functions as a directional key to complete setup Backspace: Press for 1.5 seconds to clear all contents in current text box. In HDD information interface, used to switch between HDD record time and other information Special combined operation in some menus.
11	Escape/Cancel	Go back to previous menu or cancel current operation (close upper interface or control) In playback mode, it goes to real-time monitor mode.
12	Stop	In playback mode, stop current playback.
13	Forward	Various forward speeds and normal speed playback.
14	Backward	Various backward speeds and normal speed playback.
15	Play/Pause	Reverse playback or paused mode, click this button to realize normal playback. In normal playback click this button to pause or resume playback. In real-time monitor mode, click this button to enter video search menu.
16	Fast Forward	Various fast speeds and normal playback.



PICTURE 3-3

3.3 FRONT AND SIDE PANEL BUTTONS

There are eight buttons total on the DVR itself. A single button on the front panel is used to turn the DVR or its monitor on or off. The seven buttons on the side have multiple functions depending on context.



PICTURE 3-4

Number	Function
1	When the device is off, press it for several seconds to boot up the device. Press it for a short time to turn off screen. When the device is on, press and hold to shut down the device.
2	Power indication light
3	Infrared remote control signal receiver
4	Mode button. Used to switch between PC input signal and main board signal.
5	Switch the current activated control. Go upward when used to modify setup. Auxiliary function such as control and switch the PTZ menu.
6	Switch the current activated control. Go downward when used to modify setup. Auxiliary function such as control and switch the PTZ menu.
7	Switch the current activated control. Used to adjust playback control bar to go left during playback.
8	Switch the current activated control. Used to adjust the playback control bar to go right during playback.
9	Go back to the previous menu or cancel current selection.
10	Confirm current operation Go to the default button Go to the menu
11	Headphone/Speaker port
12	Microphone port
13	USB port

BASIC OPERATION

This chapter is intended to get your system operational in a baseline format now that you've connected your system and turned it on. It combines information and instructions on several submenus and settings but may not mention all of the functions or options available in a given menu. For many users, these basic operating instructions may be all they need to operate their security system. But, because this system offers many more features, later chapters will cover those additional operations in greater detail.

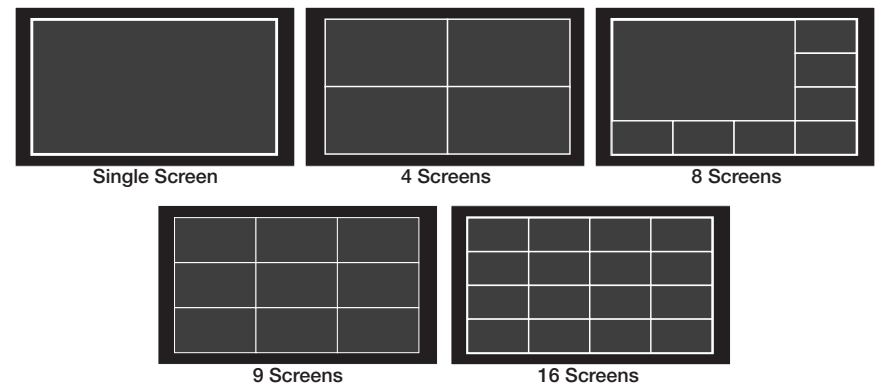
4.1 OPERATION

This DVR can be controlled through the USB mouse, the remote control or by using the buttons on the right side of the device. For the purposes of this manual, instructions will be given for using the mouse.

In operation, the mouse functions in the same manner as one would use a mouse attached to a computer; point, click, right-click, and etcetera. In fields where data needs to be entered, clicking on the field will bring up a virtual keyboard. (See Section 3.1 Mouse Control)

4.2 LIVE VIEW

Live View is the default mode for the DVR. It will display the video feeds from up to 16 cameras and you do not need to be logged into the DVR to view or change the channel(s) on the screen. The actual number of channels displayed depends on the number of cameras you own as well as how many channels your model supports. You can view a single channel in full-screen mode or four, eight, nine or 16 channels simultaneously depending on the number of channels your DVR supports.






PICTURE 4-1

Clicking on any one screen in multi-view mode will bring that screen to full-screen single-view mode. The exception is in eight-view where clicking on one of the smaller displays will move it to the larger display.

In addition to selecting the viewing mode from the **Shortcut Menu** using the mouse, you can also cycle through the modes using the up and down arrows on the remote or the side of the DVR. The left and right arrows on both the remote and DVR side panel will cycle through which channels are displayed.

In **Live View**, along with the channel(s), you will see the system date and time displayed along with the name and icons indicating the status of each channel. Setting the system date and time and changing the channel names is covered in **Section 5.3** under the **Settings** menu.

	Recording		Motion detected
	Video loss		Camera lock

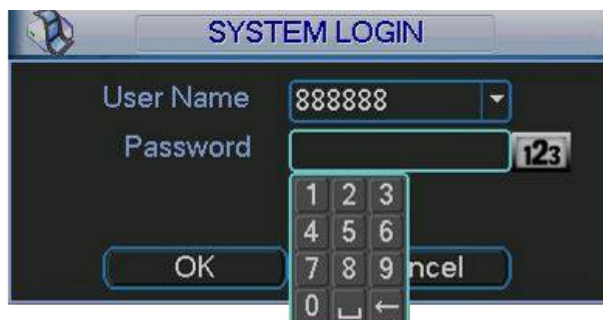
Digital Zoom

When the mouse cursor is in a channel display a white magnifying glass icon will appear in the upper left corner of that image. Clicking on this icon will add a blue check mark to it and you will be able to digitally zoom in on a section of the video feed by clicking and dragging to select the area. Right-click or uncheck the icon to return to normal view. This action can be performed in single or multi-screen viewing modes.

4.3 LOGIN, LOGOUT AND MAIN MENU

LOGIN

When the DVR starts up, the default video display is multiple window mode. Click **Enter** or click the mouse and the **System Login** screen will be displayed.



PICTURE 4-2

Using the mouse, front panel buttons or remote control, enter your user name and password. Whenever the cursor is over a text field, a keyboard icon will appear to the right. Clicking within the field itself will open the virtual keyboard as explained in **Section 3.1**. Clicking on the keyboard icon allows you to cycle between numbers, letters (upper and lower case) and symbols when appropriate.

Until new accounts are added, there are three types of pre-configured accounts available to users who log into the DVR:

- Administrator (local and network) Username: admin Password admin
- Local Administrator Username: 888888 Password: 888888
- User (can only monitor, back up and play back video)
Username 666666 Password 666666

You must have access rights – whether as the system administrator or logged-in user – in order to change settings. See **Account** in **Section 5.4** for information regarding user accounts.



IMPORTANT! It is highly recommended that you change your system password after you log on for the first time. Record your changes and keep that information stored securely as the system will prevent access if the incorrect login information is attempted three times within a 30-minute period. If you find yourself locked out of the DVR because of this, wait 30 minutes, reboot the DVR and attempt to log into it again.

Once you have logged in, the DVR will display one or more camera channels in Live View. How many channels are displayed will depend on how many cameras you have connected as well as what multi-view mode you have chosen.

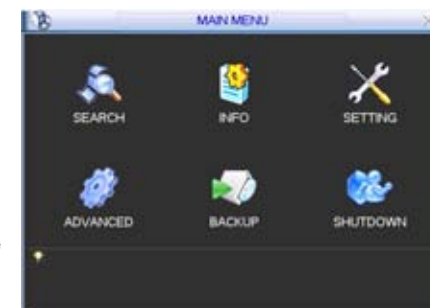
After a period of inactivity – configurable in the General Setting submenu described in Section 5.3 – the DVR will log users out. This will require the current user to re-enter their password.

MAIN MENU

After logging in, you can view – and access - the DVR's functions through the Main Menu.

There are six submenus available; **Search**, **Info**, **Setting**, **Advanced**, **Backup** and **Shutdown**. Clicking on an icon will take you to that function or the submenu it represents.

The **Main Menu** can be accessed at any time from the **Live View** by right-clicking the mouse and bringing up the **Shortcut Menu**. Pressing the **Return** button on the side of the DVR will also bring up the **Main Menu**.

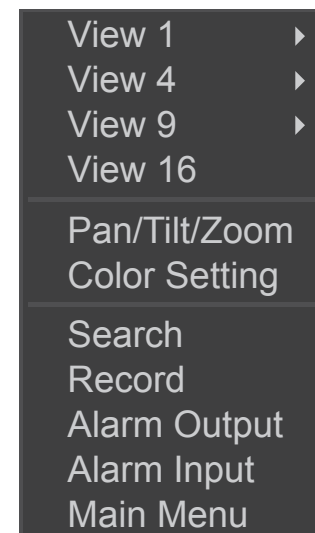


PICTURE 4-3

SHORTCUT MENU

In **Live View** mode, right-clicking anywhere on the screen will bring up the **Shortcut Menu**.

This menu allows you to quickly change your viewing mode as well as moving directly to a selection of menus.



PICTURE 4-4

LOGOUT

Selecting the Shutdown icon in the Main Menu will open the Shut Down window.

This window allows you to choose to log out as a user, shut down the system, restart the system or switch users.

In addition, the DVR can also be shut down by pressing on the front panel power button for three seconds. The system will stop operating and it can then be turned off via the **Power** button on the rear of the DVR.



PICTURE 4-5



PICTURE 4-6

AUTO RESUME

In the event of a power failure, the DVR will automatically save any video files it is currently recording and will then resume scheduled operations once power is restored.

4.4 RECORDING

The DVR must be configured to record on a schedule, but you can start recording on any and all channels using the **Manual Recording** option. For information on how to set recording schedules and motion detection recording, please see **Sections 4.6 and 4.7**.

MANUAL RECORDING

This window allows you to override the scheduled recording times of selected cameras. You can access the **Record Menu** via the **Shortcut menu** or by pushing the **Record** button on the remote.

There are three status modes: **Schedule**, **Manual** and **Stop**. The status of each channel is shown by the filled circle under its number. Each camera can only have one status at a time. Changes take effect once the **OK** button is selected.

Manual – The selected cameras will begin recording

Schedule – Cameras record based on your settings made in the **Schedule Menu** or

Detect Menus (See Sections 4.6 and 4.7 respectively)

Stop – All selected cameras stop recording

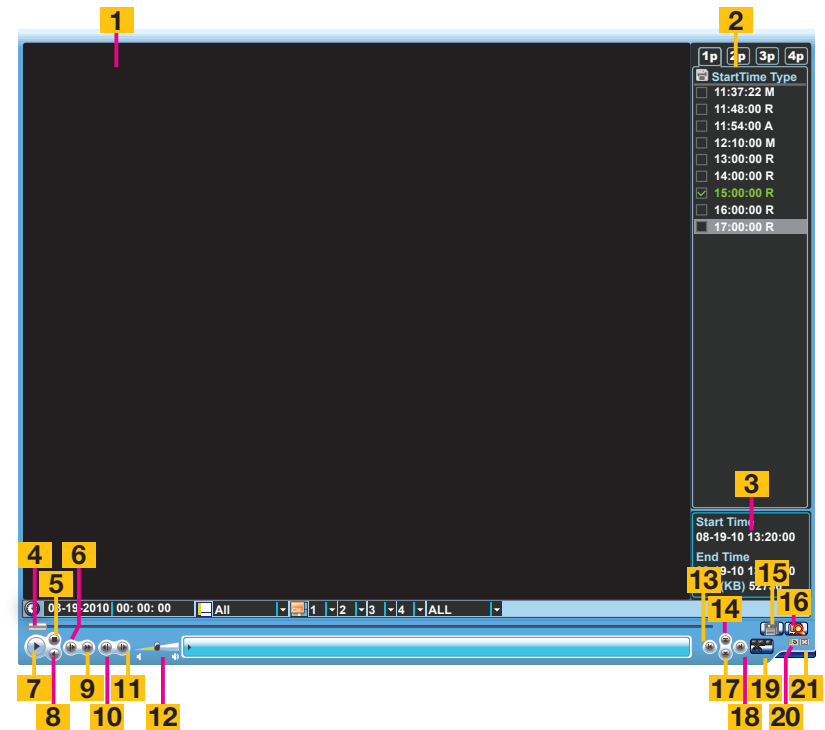


PICTURE 4-7

You can assign the same values to all cameras by selecting the desired status in the **“All”** column.

4.5 SEARCH AND PLAYBACK

The **Search and Playback** window can be accessed through the **Shortcut menu**. You can view the playback from any camera that was activate during the recording session.



PICTURE 4-8

Number	Function	Number	Function	Number	Function
1	Playback Window	8	Reverse	15	Backup
2	File List	9	Fast Play	16	Search
3	File Information	10	Previous Frame	17	Next Channel
4	Playback Progress Bar	11	Next Frame	18	Next File
5	Stop	12	Volume	19	Video Clip
6	Slow Play	13	Previous File	20	Repeat Playback
7	Play	14	Previous Channel	21	Full Screen

The playback screen can be set to display the recordings from one camera or as many channels as you have.

SEARCH

To begin a search for an event:

STEP 1. Enter the date to be searched.

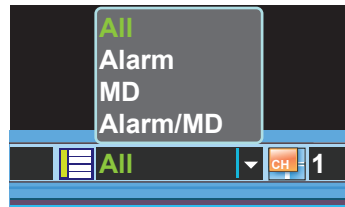
You can also click on the clock icon to open the Calendar. Highlighted dates have recorded files.



PICTURE 4-9

STEP 2. Enter the start time (if known) or

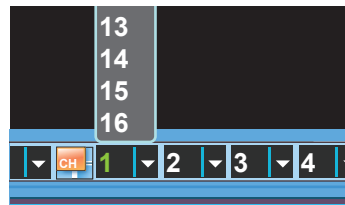
skip this field to search the entire day. Select the type of event; **All**, **Alarm**, **Motion Detection (MD)** or both **Alarm and Motion Detection**.



PICTURE 4-10

STEP 3. Select which channels you wish

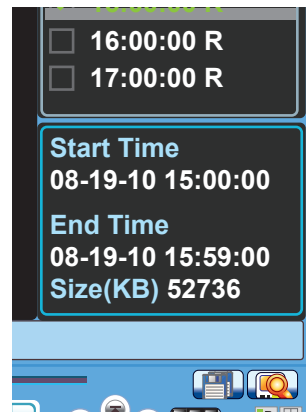
to view. Each of the four slots is a pull-down which allows you to select a specific channel. You can leave these empty to view 1-3 channels. You can also choose to view four channels at a time or all channels (8 or 16 depending on model) simultaneously.



PICTURE 4-11

STEP 4. Click on the Search icon and

any records fitting your criteria will be listed in the column to the right of the screen. Up to 128 files can be displayed and multiple tabs (pages) may be displayed in the search results depending on the number of cameras you have as well as how you configured your playback display. In the event that a camera is set to manually record, the events will be broken up by hour.



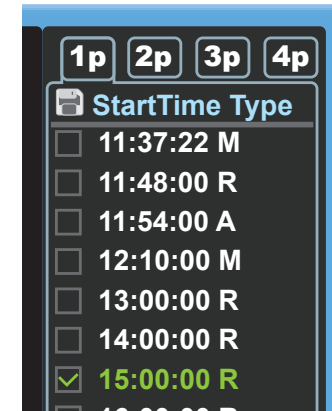
PICTURE 4-12

Files will be listed by their start time. In addition, when the DVR records a file, it also indicates the type of recording and it will indicate this one-letter code after the file name.

R = Regular recording

A = External alarm triggered recording

M = Motion detection triggered recording



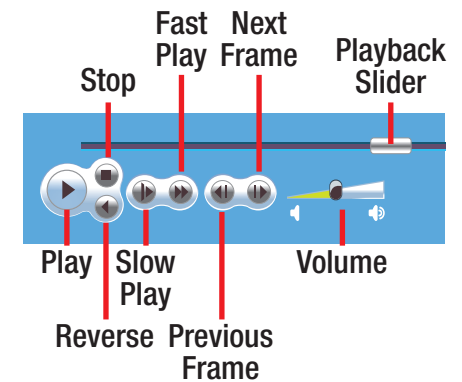
PICTURE 4-12

PLAYBACK

Once you've run your search, you may select which videos you wish to review.

Start, Stop and Play

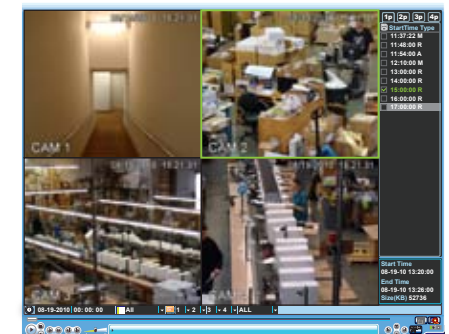
Double-click on the desired video file and playback will begin. The playback controls operate as with a normal DVD player or computer media player with pause, rewind, etc. In the case of multiple views, the channel with the green outline around its video is the one that is being controlled. You can switch between channels by clicking on the one you wish to control.



PICTURE 4-12

While all channels will display video from the same event, individual playbacks can be controlled separately. A single channel can be paused, rewound or sped up without affecting the playback of other channels.

Selecting the **Stop** button will end playback of that channel while the others (if any) continue to play back. To end playback on all channels, simply right-click the mouse or move to another file using the buttons to the right of the playback bar.

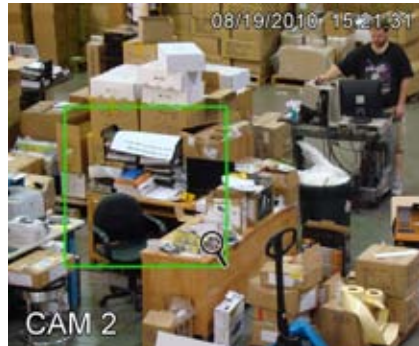


PICTURE 4-13

Zoom

In multi-screen playback, you may click on a channel to bring it to full-screen view. Double-clicking the screen again will further enlarge the screen and remove the playback bar. Double-clicking a third time will return you to the multi-screen mode. You can also step backwards in the process by right-clicking.

At any time, you can zoom into a recording by clicking and dragging the mouse. This will draw a green-outlined rectangle on that screen and the cursor will change to a magnifying glass. Click within the area you've selected to zoom in, or click outside to dismiss or re-select the area.



PICTURE 4-14

In the case of a multi-screen viewing mode, the zoomed in section will fill only that portion of the screen occupied by that channel until you double-click on it at which time it will expand to fit the screen. Double-clicking again will further enlarge the view and remove the playback bar as above. Right-clicking the mouse will return you to your previous mode of viewing.

Video Clip

This allows you to save only a portion of a video clip. For example; if you have a camera set to record all the time and it captures some action in a five-minute segment, you can clip only that portion and back it up. In addition to making an incident readily available, saving only the portion of interest will reduce the amount of disk space needed to back it up.

- STEP 1.** Select a file to view in the normal manner.
- STEP 2.** Find the section of interest and press the **Clip** button
- STEP 3.** Drag the playback bar to the end of the section and press the **Clip** button again.
- STEP 4.** Press the **Backup** button to save the file to a USB drive connected to the USB back-up port on the side of the DVR.



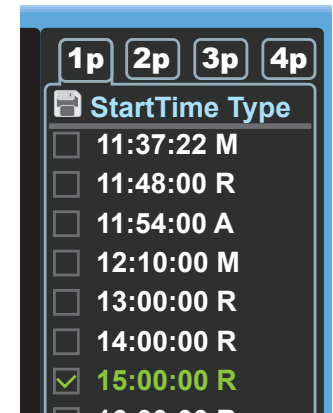
PICTURE 4-15

Back-up

Individual files recorded by the DVR can be backed up to an external USB device for playback on a computer.

You must have a USB device connected to the USB port on the side of the monitor before proceeding.

- STEP 1.** In your file list to the right of the playback screen, check the box next to the file(s) you wish to save.
- STEP 2.** Select the BACKUP icon and the Backup window will open. Your device will be listed at the top of the window showing how much space is available. Below it, the list of file(s) you wish to back up will be displayed along with type, start and end times and size. At the bottom of the window, the space required to save the file(s) will be displayed. You may uncheck any files you do not wish to back up at this time. The Remove button will remove all the files from your list.
- STEP 3.** Press start to back up your selected files.



PICTURE 4-16

Right-clicking the mouse will exit this window without saving the files.

More information about backing up files – including backing up the entire hard drive – can be found in **Section 4.9**.



NOTE! The video files are in a proprietary format that will not play outside the DVR without being converted to .avi format using the included General Player software included on the Manuals and Software disc that came with this DVR or available for free download at Q-See.com by searching for your model number and looking under Software.

Right-clicking with the mouse will exit the playback window.

4.6 SCHEDULE

The **Schedule** menu is located in the **Settings** menu and it allows you to determine when your cameras will record and under what circumstances. While the settings in this menu can be generally overridden by the user in the **Record** menu, the settings made in the **Schedule** menu are more detailed and flexible.

Channel – The first setting is which channel you wish to configure. In addition to selecting a channel number, you can globally configure all of your cameras by selecting the **All** option.

Week Day – You can set the recording schedule by day of the week, or apply the schedule to every day.

Pre-Record – This allows you to capture the moments before an event occurs. You can set the lead time from 1 to 30 seconds depending on the bit stream you are recording at.

Snapshot – By selecting this feature, you enable the DVR to take a still image “snapshot” when an alarm occurs. The number of snapshots taken, their format and other parameters are set in the **Encode** menu. (See **Section 5.3** for details.)

Record Types – You can schedule which type of recording occurs at what time of the day. There are six blocks of time that can be scheduled, and the duration of those blocks can be determined as well. There are three types of recordings that can be made; **Regular** (always recording), **MD** (motion detection) and **Alarm** (cameras will record when triggered by an external device connected to one of the Alarm In ports (see **Chapter 7** for **Alarm Setup** and **Alarm Activation**).

A white-filled box underneath a **Record** type indicates that it has been selected for that block of time. If no boxes are selected, that camera will not record although you will be able to see its video feed in **Live View**.

You may set more than one type of recording to occur at the same time but it should be noted that when regular recording is selected, the DVR will be already be recording whether a Motion Detection or Alarm occurs or not.



NOTE! Motion Detection can also be set up in the Detection menu as described in **Section 4.7**. If you need the DVR to do more than just record Motion events, then follow the instructions in **Section 4.7**. You do not need to set up motion detection in both menus.

Default – Returns your DVR’s recording settings to the factory default of recording all the time. You must check the **Save** button to apply your settings. Right-clicking or hitting **Cancel** will leave your settings unchanged.



PICTURE 4-17

4.7 MOTION, VIDEO LOSS AND CAMERA MASKING DETECTION

The **Detect** menu is a submenu of the **Setting** menu and contains the Motion Detection settings in addition to those for Video Loss and Camera Masking. Each channel can be individually configured to respond to each event as you chose, or you can give all cameras identical settings.

The upper portion of this window is for setting the type of event, whether it is activated, and specific parameters relating to event detection. The bottom portion of this window allows you to choose how the system will respond to these events.

MOTION DETECTION

With the **Event Type** drop-down set to Motion Detect, you can configure your DVR to record when someone or something moves through a camera’s field of view. Please note that this is an alternate way to schedule motion detection to the method laid out under **Schedule in Section 4.6** but it offers further refinements including what actions the DVR will take when motion is detected. You do not need to set up Motion Detection in both sections but the DVR will use the schedules from both menus to determine when to record Motion events.

Channel – You can select an individual channel to configure or select **All** to give all of your cameras the same settings. You must have set that channel to record motion detection in the **Schedule** menu as described in the previous section.

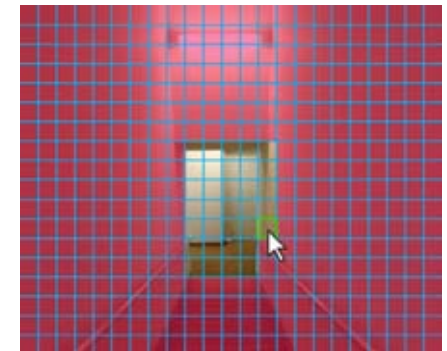
Region – Clicking the **Region** button will bring up a grid overlaying that camera’s view.

By default, each “block” of the grid will have a red hue indicating that it is sensitive to motion detection. Clicking in a block will make it clear meaning that motion detection has been turned off for that area. Turning off motion detection in selected areas is useful for situations when there is frequent movement by inanimate objects such as flags or wind-blown trees and this will reduce false alerts. You can click and drag the mouse to turn off multiple blocks at the same time and you can deactivate motion detection in multiple, separate, areas of the screen.

To reactivate motion detection, simply repeat the process in the deactivated blocks and they will regain their red hue and detect motion as normal.



PICTURE 4-18



PICTURE 4-19

You cannot use Copy/Paste in **Motion Detection** because each channel will have a different display. Right-clicking will exit the screen and your settings will be saved.

Sensitivity – The system supports six levels of sensitivity with Level 6 being the most sensitive.

VIDEO LOSS

By default, this is enabled. In the event that the DVR detects a loss of signal from a camera, it will send out a notification or activate other functions based on your settings in the lower portion of the **Detect** window.

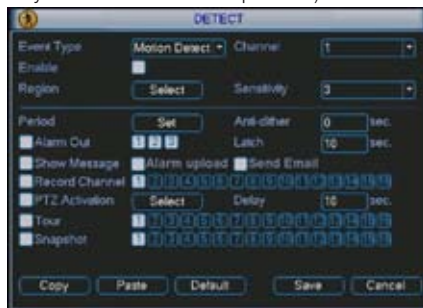
CAMERA MASKING

This is also enabled by default. If the system detects that something has covered a camera, it will respond based on your settings in the lower portion of the window.

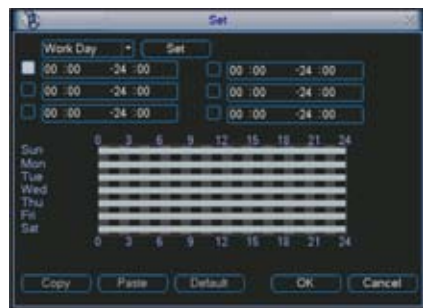
EVENT RESPONSE

The lower portion of the **Detect** window determines what actions the DVR will initiate upon detection of one of the three event types. Responses to a specific type of event can be individually tailored to each camera, but the response to different types of events must be set independently of each other. (ie: The response settings for a motion detection event do not change the settings for a video loss event – even if you've set identical responses.)

Period - This is where you set the schedule of when you want the DVR to record motion events. It operates in the same manner as the Schedule menu as described in **Section 4.6** with six blocks of time that can be laid out for recording to occur during a day. Not all blocks have to be configured or enabled. You can configure each day individually, or you can make separate schedules for week days and weekends.



PICTURE 4-20



PICTURE 4-21

The **Set** button will appear when either **Work Day** or **Free Day** is selected in the drop-down. This allows you to arrange the schedule to reflect your business' weekly schedule.



PICTURE 4-22

The **Copy** and **Paste** buttons allow you to duplicate a day's settings on another day while the **Default** button returns the DVR to recording Motion Detection events 24/7.

Once you have made your settings, select **OK** to save them and you will be returned to the **Detect** menu. Hitting **Cancel** or right-clicking to exit the menu will not save your changes.

Anti-Dither – This is the length of time that the DVR will delay before recording a motion event. The delay can be from 0 to 600 seconds.

Latch – This is the "hold time" that the system waits after a motion detection event ends before resuming motion detection searches. The delay can be set from 10 to 300 seconds (5 minutes).

Alarm Out – To utilize this feature you must connect have at least one external alarm attached to the DVR. You may have up to three separate alarms.

Show Message – When this is enabled, the system will bring up the **Alarm Status** window whenever an event is detected. You can configure this to display when motion, video loss or masking is detected.

Alarm Upload – The system can upload the alarm to the network including to an alarm monitoring service.

Send E-mail – E-mail notifications can be sent a single e-mail address. Please see **Network** in **Section 5.3 Setting Menu** for instructions on how to set up the e-mail alerts including recipient address.

Record Channel – When one camera detects an event, you can set the DVR to activate recording on other cameras.

PTZ Activation – If you have Pan-Tilt-Zoom cameras connected to the DVR, you can cause them to be activated when the system detects an event. You can further instruct it to perform one of 255 pre-set activities. You can also allow a delay of 0 to 300 seconds before the PTZ camera(s) activates. See **Section 6.2** for full instructions on programming these functions.



PICTURE 4-23

Tour – This will cause the DVR to cycle through selected channels on the display in live view. It will not affect what is recorded.

Snapshot – The DVR is capable of taking still images which can be sent via e-mail or FTP (See **Network** in **Section 5.3 Setting Menu** for full instructions.)

4.8 BACKUP

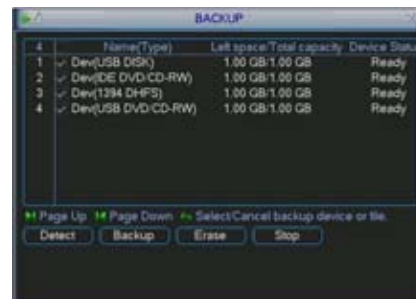
This DVR supports backing up files from the hard drive to both an external USB storage device as well as over a network. Network downloads are covered in **Chapter 7**. The USB port on the right side of the device is the only port usable for backing up files.

The **Backup** menu can be reached through the Main menu.



PICTURE 4-24

The **Backup** window will display any connected devices along with available space and status. If you have a device connected to the USB port on the side of the DVR and it does not appear, press the **Detect** button. If it still does not appear, then use a different USB device.



PICTURE 4-25



IMPORTANT! USB hard drives must be formatted as FAT 32.

Once an external USB device is detected, pressing the **Backup** button will open a new window allowing you to select which files to back up. You can select by channel, start and end times, as well as which type of event; regular recording, alarm, motion detection or all of them.

Only files with a check mark in front of them will be backed up. You can deselect whichever files you choose or select them all by selecting the box at the top of the list.

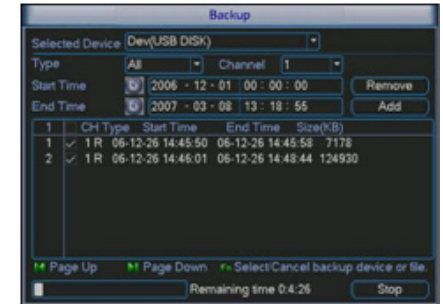


PICTURE 4-26

If you need to clear space on your external drive, you can use the **Erase** button. This will delete **ALL** files on that device.

Once you have selected the files, press **Start** to begin the download. A progress bar will be displayed showing estimated time remaining. During the download, the **Start** button will change to **Stop**. You can stop the process at any time by pressing the button again.

You can also right-click out of the menu once the file transfer has begun to go on to other activities without cancelling the download.



PICTURE 4-27

The files will be saved with the following naming format:

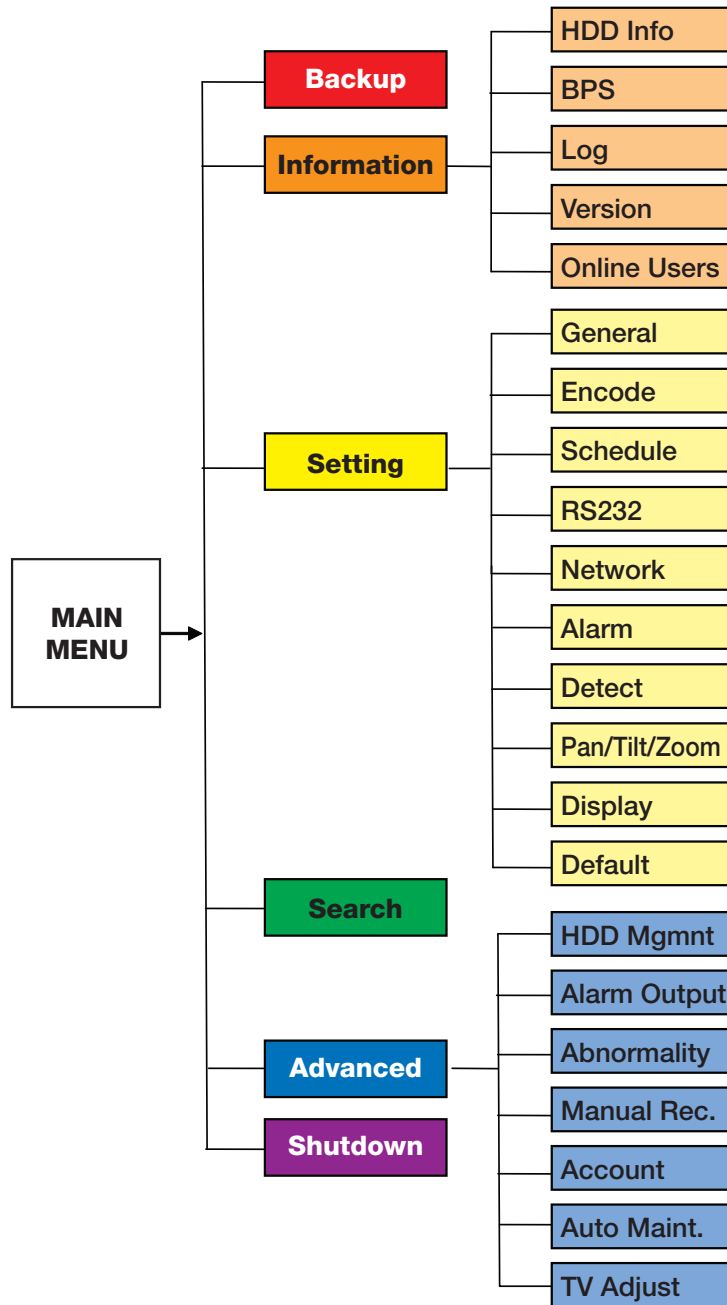
SN_CH(channel number)_TYPE_TIME(Year, Month, Date, Hour, Minute, Second)

Therefore, a file shown on the DVR as being a regular record (R), being recorded on 01/04/11 starting at 2:00:00 would have a file name of:

1_01_R_010411020000.dav

The Year Date Month format is the same as you have set in the **General** interface. The files can be played back using the software included on the CD accompanying this DVR.

Once you're ready to move beyond basic operation, the other menus in the system will allow you to configure the DVR to your individual needs.



5.1 MAIN MENU

The **Main Menu** can be accessed at any time from the Live View by right-clicking the mouse and bringing up the **Short Cut Menu**. Pressing the **Return** button on the side of the DVR will also bring up the **Main Menu**.

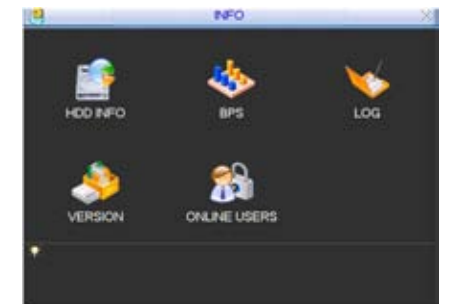
There are six submenus available; **Search, Info, Setting, Advanced, Backup** and **Shutdown**. Clicking on an icon will take you to that function or the submenu it represents. The **Search** menu is covered in **Section 4.5 Search and Playback**.



PICTURE 5-1

5.2 INFO MENU

Double-clicking on the **Info** icon will open the Info window. There are five items: **HDD** (Hard Disk Drive) **Info**, **BPS** (data stream statistics), **Log**, **Version** and **Online Users**.



PICTURE 5-2

HDD INFORMATION

This window displays information on the type, size, available space and status of the system's internal hard drive.

The system supports a single SATA hard drive and it will be designated SATA 1. Below the drive name is the drive status indicator.

"O" Drive is operating normally.

"X" Indicates an error

"-" Hard drive not installed

"?" Hard drive is damaged



PICTURE 5-3

In the case of a hard drive error, the system will come directly to this menu. An error may be indicated if the hard drive time and system time do not match. To resolve this issue, adjust the time in the **General setting** menu located in the Setting menu (See **Section 5.3**) and restart the system. Formatting the drive, using **HDD Manage** as described in **Section 5.4 Advanced** is another possible solution to drive errors.

If the drive is damaged or missing, you will need to install a drive. Please see **Chapter 10** for hard drive installation instructions.

Select **View Recording Times** to show files recorded on the DVR.

BPS

This window shows, in real time, the video data stream for each camera in kilobytes per second (KB/s) as well as the amount of space each camera is writing to the hard drive in megabytes per hour (MB/h). The green lines for each camera will progress from left to right.

Channel	Kb/S	MB/H	Wave
1	16192	5341	
2	16192	5341	
3	16192	5341	
4	16192	5341	
5	16192	5341	
6	16192	5341	
7	16192	5341	
8	16192	5341	
9	16192	5341	
10	16192	5341	
11	16192	5341	
12	16192	5341	
13	16192	5341	
14	16192	5341	
15	16192	5341	
16	16192	5341	

PICTURE 5-4

LOG

Any activity on the DVR is logged and recorded on the system. This information can be viewed and searched from this window.

Log Time	Event
12	09-07-10 10:41:48 Shut down at [09-07-10 10:40:47]
13	09-07-10 10:41:49 Reboot with Flag [bit1]
14	09-07-10 10:42:02 <default>-User Logout
15	09-07-10 10:42:02 <888888>-User Login
16	09-07-10 12:43:44 <default>-User Login
17	09-07-10 12:43:45 Shut down at [09-07-10 10:42:51]
18	09-07-10 12:43:45 Reboot with Flag [bit1]
19	09-07-10 12:43:52 <default>-User Logout
20	09-07-10 12:43:52 <888888>-User Login

PICTURE 5-5

Information on user access, system shutdowns, changes in recording status, video loss and etcetera are listed. You can search for activity in a similar manner to the file search. This information can be backed up to an external USB drive and it will be saved as a text document.

```

FileLog - Notepad
File Edit Format View Help
11/01/04 02:00:45 <def>-user Login
11/01/04 02:00:45 Shut down at [11/01/04 02:00:10]
11/01/04 02:00:45 Reboot with Flag [bit0]
11/01/04 02:00:48 video loss:1
11/01/04 02:00:48 video loss:2
11/01/04 02:00:48 video loss:3
11/01/04 02:00:48 video loss:4
11/01/04 02:00:48 video loss:5
11/01/04 02:00:48 video loss:6
11/01/04 02:00:48 video loss:7
11/01/04 02:00:48 video loss:8
11/01/04 02:00:48 video loss:9
11/01/04 02:00:48 video loss:10
11/01/04 02:00:48 video loss:11
11/01/04 02:00:48 video loss:12
11/01/04 02:00:48 video loss:13
11/01/04 02:00:48 video loss:14
11/01/04 02:00:48 video loss:15
11/01/04 02:00:48 video loss:16
11/01/04 10:55:34 <def>-user Logout
11/01/04 10:55:34 <888888>-user Login
11/01/04 11:10:06 <888888>-user Logout
11/01/04 11:10:06 <def>-user Login
11/01/04 11:10:06 <def>-user Login
11/01/04 12:26:04 <def>-user Logout
11/01/04 12:26:04 <888888>-user Login
11/01/04 12:33:13 <888888>-user Logout
11/01/04 12:33:13 <def>-user Login
11/01/04 13:40:23 <def>-user Logout
11/01/04 13:40:23 <888888>-user Login
  
```

PICTURE 5-6

VERSION

This display shows system hardware and firmware specifications.

Item	Value
Channels	16
Alarm In	15
Alarm Out	3
System	2.50E.0000.0
Build Date	2009-06-18

UPGRADE
If you need to upgrade system now please insert USB upgrade disk, then press the start button to start upgrade. Don't shut down the power during upgrade!

Start

PICTURE 5-7

The hardware data shows the number of channels the system is configured for along with the number of alarms in and out that can be utilized. The system's serial number is also displayed, along with the version and build date of the firmware.

You can update the firmware using this menu. Check your product's page at www.Q-See.com to see if you have or need the latest version of the firmware. If your system is operating without problems, we recommend that you do not update the firmware unless there is an added feature that you need. To update the firmware, you must download the file from our website and save it onto a removable USB drive that is otherwise empty. Connect the USB drive to the port on the right side of the DVR and press **Start**.

ONLINE USERS

A list of users accessing the DVR from over the network or through the Internet is shown in this menu.

User Name	IP
J.W	10.6.2.37
J.W	10.6.2.37
J.W	10.6.2.37
J.W	10.6.2.37
J.W	10.6.2.37
J.W	10.6.2.37
J.W	10.6.2.37
J.W	10.6.2.37
J.W	10.6.2.37
J.W	10.6.2.37
J.W	10.6.2.37

Disconnect Block for 60 sec.

PICTURE 5-8

The user's name as well as the IP address used to access the DVR is displayed.

If you have proper system management rights (Configured in **Account**, See **Section 5.4 Advanced** for full instructions), you can disconnect or block a user. The maximum time a user can be disconnected is 18 hours (65,535 seconds).

5.3 SETTING MENU

Double-clicking on the Setting icon will open the Setting menu window. A total of ten interfaces are available through this menu and they contain most of the functions needed to configure your DVR. Additional settings are available in the **Advanced** menu covered in **Section 5.4**. In addition to **Schedule** and **Detect**, which were covered in **Chapter 4**, available interfaces are: **General**, **Encode**, **RS232**, **Network**, **Alarm**, **Pan/Tilt/Zoom**, **Display** and **Default**.



PICTURE 5-9

Pan/Tilt/Zoom cameras will be covered in **Chapter 6** while Alarms will be covered in their entirety in **Chapter 7**.

GENERAL

This window is where the basic settings for the DVR are configured. Your settings will only be saved if you click the Save button before exiting the window.

System Time – The date and time

Date Format – Choose from Year-Month-Day, Month-Day-Year or Day-Month-Year

Date Separator – The three options are a dot (.), dash (-) or slash (/)

Time Format – Choose between 24-hour (military-style) or 12-hour (AM/PM) formats

Language – The system currently supports English or French. The system will need to be restarted for the language change to take effect.



PICTURE 5-10

HDD Full – Depending on the number of cameras recording, the size of your hard drive, how many cameras are recording and how often, image quality and other factors, your DVR's hard drive can be completely full of recordings in one to four weeks. When it is full, the DVR will stop recording unless you set it to overwrite older files.



IMPORTANT! The overwrite features should be enabled before you begin recording or the DVR may not delete files created before that point. If this occurs, reformatting the hard drive will fix the situation.



WARNING! Overwritten files can not be recovered. Important files should be backed up onto another device to prevent loss.

Pack Duration – Rather than creating 24-hour long files when a channel is set to record all the time, this allows you to set the maximum record length between one to two hours (measured in minutes).

DVR No. – If you are controlling more than one DVR with a single remote, this allows you to give each DVR a separate numerical ID.

Video Standard – This DVR operates using the NTSC standard common to North America.

Auto Logout – This sets the duration of inactivity before the DVR will automatically log a user out of the system.

Snapshot – When you enable snapshots in the Schedule menu (Section 4.6), this determines how much time will pass between snapshots. You can set the interval from 1 to 600 seconds (10 minutes).

DST – In order for your DVR to adjust to Daylight Savings Time automatically, you should enable the function and then set whether DST begins and ends in your region based on a variable date such as the last Saturday of a particular month or a specific date.



PICTURE 5-11



PICTURE 5-12

LCD Shut Down – This will turn off the screen after a period of inactivity. This does not log the user out, and it can be set to a different interval than the Auto Logout.



IMPORTANT! You **MUST** stop all recording before changing the date or time.

ENCODE

This window allows you to manage the quality of the recording from each channel as well as the transmission rate and whether there's an accompanying audio feed.

As with other windows described earlier, each channel can be set individually or all at the same time. Settings can be copied from one channel and pasted to another. Only by hitting **Save** will your settings be retained. Right-clicking or hitting **Cancel** will leave the system with your previous settings.

The system is configured to record using the H.264 format and this cannot be changed.

In addition to the settings for display on the DVR, you can also adjust the settings for the sub-stream display, referred to as **Extra Stream 1** in this window. This stream is the data that is sent to remote monitoring devices. Due to bandwidth concerns, these data streams are generally smaller than those sent directly to the DVR itself. These streams run in parallel with the main stream sent to the hard drive and they do not affect each other.



PICTURE 5-13

Resolution – This system supports the D1, CIF or QCIF recording format. D1 is equivalent to full TV resolution at 704x480 pixels and offers the best resolution at the cost of taking up the most disk space. CIF is roughly one-half the resolution of D1 at 352x240 and correspondingly takes up less room on the drive. QCIF is smaller still at 176x120 pixels.

The Extra Stream can only use the QCIF resolution.

Frame Rate (FPS) – Variable between 1 to 30 frames per second. The higher the number, the smoother the playback.



NOTE! Generally, the trade-off for higher quality and increased frame rate is the amount of room a video file will take on the drive along with how much “bandwidth” the signal takes up within the system. This system cannot record with all channels set to maximum resolution and frames per second and it will limit you to one channel set at D1 recording at 30FPS with all other channels either being limited to CIF at 30FPS or less, or D1 with a maximum frame rate of 7FPS.

Bit Rate Type – Variable Bit Rate (VBR) versus Constant Bit Rate (CBR). VBR provides better compression, but issues may arise when streaming for remote viewing.

Quality – Only enabled when VBR is selected, this can be set from 1 to 6 with 6 having the highest image quality.

Bit Rate (KB/S) –Configurable from 192 to 1024 kilobytes per second, this is the maximum bit rate the selected channel can utilize. Your network may not have enough bandwidth to handle maximum rates from all of your cameras. Adjusting these settings to suit your network will improve performance and on-screen image quality.

Audio/Video – Selecting this box adds an audio feed (if you have a microphone located at or near the camera). On the Extra Stream, you can enable the Audio (first box in that column) only if the Video box is also toggled.

Overlay – This window allows you to mask off areas from view. This is useful in circumstances such as when a camera's field of view includes a combination lock or other similar situation.

You can mask up to four areas in each camera's field of view in two modes. Preview mode blocks the area for both local and network viewers. Monitor allows the local user to view the area but remote viewers cannot see the area. These privacy blocks affect both the live view and playback. You can select either or both allowing you to block selected areas for one set of viewers but not others.

Clicking any of the numbered boxes will create a black area in the upper left corner of the screen. If you select more than one, they will all be located in the same place. Clicking on the **Set** button will hide the **Overlay** window and give you a view of that camera's video feed along with the black box(es). The active box will be outlined in green and you can switch between boxes by clicking on another one. Each box will have its number inside. It can be moved and sized as needed using the mouse. Right-clicking on the screen will return you to the **Overlay** window.

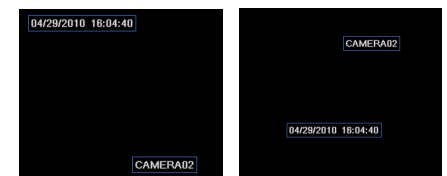


PICTURE 5-14



PICTURE 5-15

Time Display – This allows you to display the system time on the channel's screen during playback or not. In addition, by clicking the **Set** button, the time display can be relocated anywhere on the screen by clicking and dragging. A “Before” and “After” example is shown in **Picture 5-16**.



PICTURE 5-16

Channel Display – Like time display, this toggles the appearance of the channel's number on the screen during playback as well as allowing it to be repositioned in a similar fashion.

Snapshot

In addition to taking video of an event, the DVR can be set to record - and transmit - still images from whichever cameras you select in the **Schedule**, **Detect** and **Alarm** windows which are covered in **Sections 4.6**, **4.7** and **7.3** respectively.

The actual settings for the Snapshot feature are configured in the **Snapshot** window which can be opened by pressing the **Snapshot** button in the **Encode** window.

Mode - You can choose to have each camera take a snapshot based on **Timing** or **Trigger**

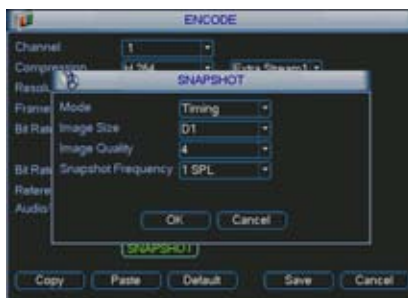
Image Size - **D1** produces an image twice the size of **CIF**. You can choose to use a different format for snapshots than the format that camera is configured to record video.

Image Quality - With a range of 1 to 4, this controls the quality of the snapshot(s). A setting of "4" provides better images, but at an increased file size. You may have to lower the quality if the file size exceeds your e-mail in-box's capacity.

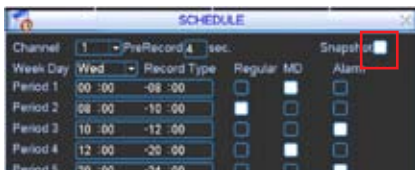
Snapshot Frequency - This will allow you to take 1-7 shots in sequence.

Each camera can be individually configured. These settings are what will be used when you enable the **Snapshot** feature in any window that offers that option. Examples are highlighted with Red Boxes in **Pictures 5-18**, **5-19** and **5-20**.

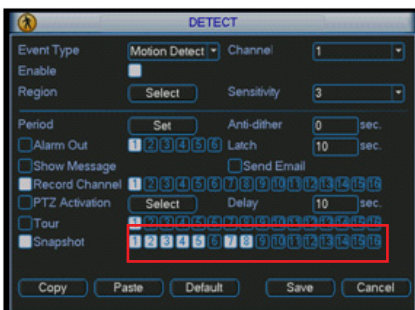
NOTE! It is possible to have the Snapshot feature set to occur both on schedule and when triggered by an event such as Motion Detection. The triggered activation will take priority over the scheduled event.



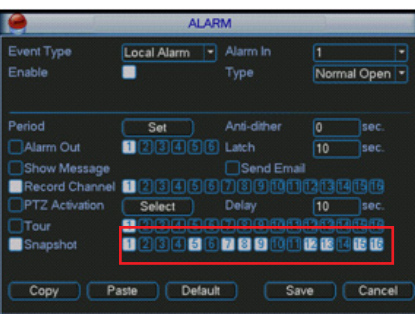
PICTURE 5-17



PICTURE 5-18



PICTURE 5-19



PICTURE 5-20

SCHEDULE

This is covered in **Section 4.6 Schedule**

RS232

The RS232 port on the back of the DVR can be used to connect to selected devices including a Point of Sale (POS) system or network keyboard. When integrated with a POS system, the DVR can integrate the text component and can conduct searches within the records using this info.

If a network keyboard (NKB) is connected, it can be used to operate the DVR.

When connecting a component through the RS232 port, you will need to consult the manual of that device for proper settings.

Function - Select the device that you've attached to the port. Your choices are; **Console**, **Keyboard**, **Adapter**, **NetKeyboard** and **PTZ Matrix**

Baud Rate - this should be set to match the baud rate of the connected device.

Data Bit - The value ranges between **5** and **8**.

Stop Bit - The available values are **1** and **2**

Parity - Choose between parity values of **None**, **Odd**, **Even** or **Space**



PICTURE 5-21

NETWORK

Accessing the DVR from within a Local Area Network, over the Internet or via a Smartphone along with setting up e-mail notifications and other online features will be covered in full in the **Remote Monitoring Guide** included on the CD that came with your DVR or available for download from www.Q-See.com.

ALARM

The connection, configuration and operation of alarms with this system is covered in **Chapter 7 "Alarm."**

DETECT

Please see **Section 4.7** for instructions on using the features in this window.

PAN/TILT/ZOOM

Connecting and operating PTZ cameras with this DVR is covered in **Chapter 6 "Pan/Tilt/Zoom."**

DISPLAY

This window contains the settings that control the Graphical User Interface (GUI) as well as how you view the DVR.

Transparency – You can choose to make the menu screens more transparent or opaque with 128 being the most transparent and 255 being completely opaque.



PICTURE 5-22

Channel Name – You can name each channel - up to 25 characters. An example is naming the channels based on where they're located.



PICTURE 5-23

Time Display and **Channel Display** – These buttons enable their respective displays on the video during playback.

Resolution – There are five pre-set options; 1366x768 (default), 1280x1024, 1280x720, 1024x768 and 800x600. The DVR will need to reboot in order for these changes to take place.

Enable Tour – Selecting this box will cause the screen to cycle through displaying channels selected in the following fields.

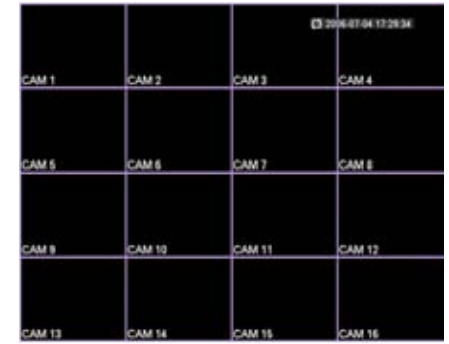
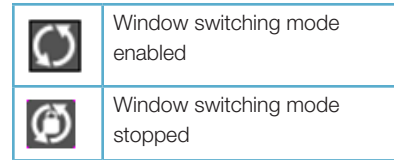
Interval – This is the time – from 5 to 120 seconds – that the DVR will display each group of channels before moving to the next group in the tour.

View – These are the number of groups available in each tour. Deselecting a number means that this group of channels will be skipped during the tour.

Motion Tour Type – If a motion detection event occurs, and the Tour button is selected in the Detect window (**See Section 4.7**) the DVR will switch a single-screen view tour or an eight-screen view tour displaying the channels that were selected in that menu.

Alarm Tour Type – If an external alarm triggers and the Tour button is enabled in the Alarm Menu (**See Section 7.3**) then the DVR will switch to a single-screen or eight-screen view tour displaying the channels that were selected in that menu.

In Tour mode, you will see an icon in the upper right corner of the display which allows you to control the tour by right-clicking upon it. Clicking upon the icon will cause the tour to start or resume.

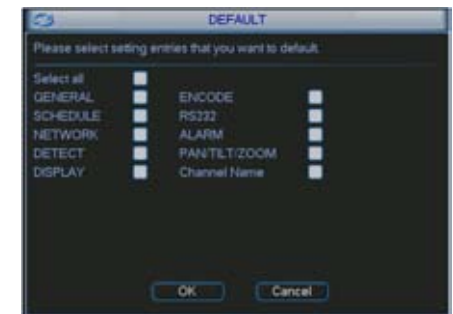


PICTURE 5-24

DEFAULT

The options in this window will allow you to return various settings back to their default configuration.

The settings that will be changed are self-explanatory.



PICTURE 5-25



WARNING! Language, time display mode, video format, IP address, and user account will not retain your settings after being reset back to default values!

5.4 ADVANCED

The settings in this menu cover user accounts, hard disk management, video display, and system maintenance.



PICTURE 5-26

HDD MANAGE

This displays some of the same information found in the **HDD Info** window in the **Info** menu (see **Section 5.2**) but this window allows you to make additional settings.

The drive name and status is displayed.

The status indicators are:

O	Drive is operating normally.
X	Indicates an error
-	Hard drive not installed
?	Hard drive is damaged



PICTURE 5-27

Clicking on **Alarm Set** opens the **Abnormality** window which is covered immediately following this section.

Alarm Release – this turns off any disk alarm that may be occurring.

You can set the hard drive to four states:

Read/Write	Normal operation. The device records (writes) files to disk and plays (reads) them.
Read Only	No more files can be recorded onto the drive, but existing files can be viewed.
Format	Reformats the hard drive.
Recover	If you are having problems with the hard drive, including corrupted files, selecting Recover causes the drive to re-set, but does not erase its contents.



CAUTION! Reformatting the hard drive will erase all recorded events.

No changes will take place unless the **Execute** button is pressed once you've made your selection. The drive's status will be displayed next to the **Type** heading below the pull-downs. If you make changes and press **Execute**, the DVR will restart once you press **OK** to exit. You cannot right-click out of the menu.

ABNORMALITY

This window allows you to set up alarms for disk and system disconnection errors as well as how these alarms are handled. Each type of alarm can be independently enabled along with what events that type of alarm will trigger.

Event type – Chose from No Disk, Disk Error, Disk No Space, Net Disconnected and IP Conflict.

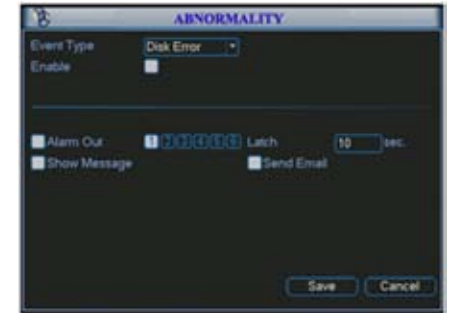
Alarm Out – The alarm can be sent to up to three external alarm devices connected to the DVR

Latch – This is the “hold time” that the DVR will wait before issuing another alarm. The delay can be set to between 1 to 300 seconds (5 minutes).

Show Message – When enabled, this will display the event notification on the DVR's screen.

Alarm Upload – This will send the alarm signal to a network, including an alarm monitoring center.

Send E-mail – this will send an e-mail notification to the recipient address set up in the **Network** menu (see **Section 1.2 Advanced Network Setup** in the **Remote Monitoring Guide**).



PICTURE 5-28

ALARM OUTPUT

Alarm configuration is covered in Chapter 7. This window allows you to quickly change the operating mode of connected alarms – **Schedule**, **Manual** (on) or **Stop** (off) – as well as showing the status of any connected alarms.

You can turn change the mode of the alarms individually or all at once by clicking the circle in the **All** column. In addition to activating them to operate based according to their schedule, you can turn them on or off. This will override the scheduling set up in Section 7.3 and elsewhere.

If alarms are properly connected, the **Status** indicator boxes for that alarm will be highlighted.



PICTURE 5-29

RECORD

This is the **Manual Recording** window covered in **Section 4.4**.

ACCOUNT

This is the account management window which allows you to add or delete users, create user groups, modify the access privileges of users, and create or change passwords.

There are three pre-configured default users; Admin, 888888 and 666666. The first two have administrator rights.

When adding a user, you not only create their user name and password, but you can grant or deny control over specific activities on the DVR, including which cameras that user can view or play back. These privileges can be changed later by an administrator-level user using the **Modify User** button. Administrator Users have control over 60 different functions while basic Users have 35 functions that can be allowed or denied.

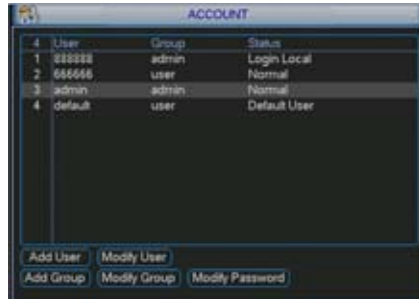
A user or group name can consist of at most eight characters and no two users may have the same user name. There is no limit to the number of users or groups.

The **Memo** field allows you to include a note about the user or group that is only visible in this window.

toggling the **Reusable** box allows more than one user to log in using this account

Creating a group gives you the ability to set the access privileges for as many users and any users' rights cannot exceed that of the group they are in.

Selecting **Modify Password** opens a new window which allows you to select the user whose password you want to change. Enter the old password and then the new password twice.

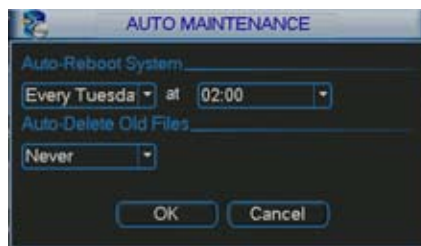


PICTURE 5-30

AUTO MAINTAIN

Much like a regular computer, this DVR benefits from being restarted after extended periods of operation.

You can determine when the system will automatically reboot and you can optionally have it auto-delete old files at that time as well. You can set this option to delete files that are 1-31 days old.



PICTURE 5-31

TV ADJUST

This control is for use if you have an external TV monitor connected to the Video Out. It allows you to adjust the picture on the television to allow the display to fit the margins of that screen.



PICTURE 5-32

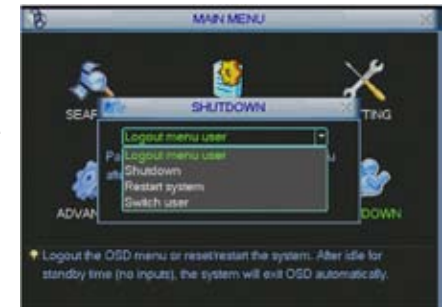
5.5 BACKUP

This window was covered in **Section 4.8 Backup**

5.6 SHUTDOWN

This is the preferred method to use when shutting down the DVR.

When this window is opened, you have the option of logging out as a user, switching the user, shutting down the system or restarting it.



PICTURE 5-33

6.1 CONNECTING A PTZ CAMERA

The RS485 connector is used to connect and control PTZ cameras. It uses a single-direction protocol meaning that it can send commands out to the camera(s) but not receive any data back from the unit.

The DVR is set by default for RS485 to be disabled for each channel. Therefore, PTZ settings must be enabled before PTZ cameras can be utilized. This system supports 26 of the most common protocols including Pelco-D and Pelco-P.

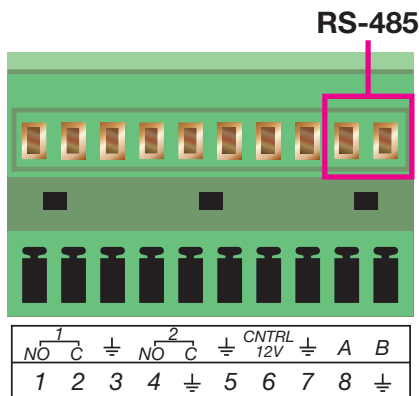
When connecting a PTZ camera, the following should be taken into account:

- Ensure that the camera has the same grounding with the DVR otherwise you may not be able to control the PTZ. Shielded twisted wire is recommended with the shielded layer being used to connect to the ground. Improper grounding may result in chip damage.
- For excessively long wire runs, or if multiple PTZ cameras are connected to the DVR, 120Ω should be parallel connected between the A and B lines on the far end to reduce reflection and maintain the signal quality
- The 485 port of this DVR cannot parallel connect with the 485 port of another device
- The voltage between the A and B lines of the camera should be less than 5V.

STEP 1. The data cable from the PTZ camera must be connected to the ports highlighted in **Picture 6-1**. Multiple PTZ cameras can be connected to this port, but you may require an expander port to do so.

STEP 2. Connect the other end of the cable to the proper pins in the connector on the camera

STEP 3. Connect the camera video and power cables as you would any other camera.



PICTURE 6-1

6.2 PTZ CONTROL AND SETUP

The following instructions are based on the Pelco-D protocol. You will need to have the manual for your PTZ camera at hand to ensure the proper settings within the DVR.

SETUP

For ease of set-up, the PTZ camera's video feed should be displayed on the screen.

STEP 1. Open the **Pan/Tilt/Zoom Menu** from the **Settings** menu. You cannot use the **Shortcut Menu** to access the PTZ controls until after you have configured a channel to use PTZ.



PICTURE 6-2

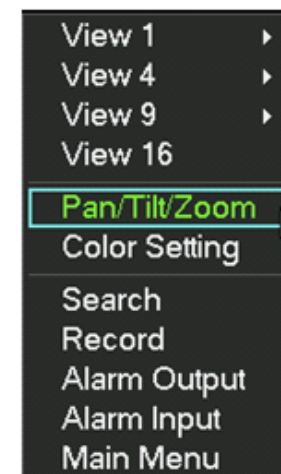
STEP 2. Be certain that the channel listed at the top is the one which the PTZ camera will be connected to. Enter data into the other fields according to the data provided in your PTZ camera's manual, including protocol, data bits, stop bits and parity.



PICTURE 6-3

STEP 3. Click the save button once you have entered the settings. If you are operating an identical PTZ camera on another channel, you may use the **Copy** and **Paste** buttons to apply those settings to the channel that camera is connected to.

STEP 4. Once you have saved your settings and exited the menu, you can right-click the mouse to bring up the **Shortcut Menu** allowing you to select the Pan/Tilt/Zoom controls.



PICTURE 6-4

CONTROL

Selecting the Pan/Tilt/Zoom shortcut will open the **Pan/Tilt/Zoom** controls window

Speed – From 1 to 8

– and + adjust zoom, focus and iris



PICTURE 6-5

Using the mouse, you can control the direction of the camera's movements by clicking on the arrows.



PICTURE 6-6

Intelligent Positioning Key - If your protocol supports it, clicking and dragging in the blue button in the center will allow you to move the camera faster – between 4 to 16x speed.

SETTING PRESET/PATROL/PATTERN/SCAN

Clicking the Set button in the **PTZ Control Panel (Picture 6-5)** opens a new window in addition to leaving the **PTZ Control Panel active**.

This window allows you to set up the PTZ's Preset, Tour, Pattern and Border functions.



PICTURE 6-7

Preset

STEP 1. Start by using the eight direction arrows on the PTZ Control Panel (Picture 6-5) to position the camera where you want.

STEP 2. Click the Preset button in the Function list and enter the number you want to assign to this preset.

This preset can now be added to a tour.

Patrol

STEP 1. Click the Patrol button in the Function list and enter the number of the preset you wish to add to it.

STEP 2. Click Add Preset to enter it into the tour. You can have up to 80 presets in a single patrol.

STEP 3. Assign the patrol a number



PICTURE 6-8

Pattern

STEP 1. Click the Pattern button in the Function list.

STEP 2. Click the Begin button

STEP 3. Modify the zoom focus and iris settings using the **PTZ Control Panel (Picture 6-5)**

STEP 4. Click the End button to save the changes

STEP 5. Enter the desired number for this pattern into the field.



PICTURE 6-9

Border (Auto Scan)

STEP 1. Click the **Border** button in the Function list

STEP 2. Select either the **Left** or **Right** button to indicate which edge you are defining

STEP 3. Use the direction arrows in the **PTZ Control Panel (Picture 6-5)** to move the camera to the limit desired.

STEP 4. Repeat for the other border.



PICTURE 6-10

In the **PTZ Control Panel (Picture 6-5)**, clicking the PTZ Trace button will begin the auto scan. The button will convert to a Stop button which can be used to end the scan.

RUNNING PTZ FUNCTIONS

Clicking on the **Page Switch** button in the **PTZ Control Panel (Picture 6-5)** will switch to a new window (**Picture 6-11**) which allows you to activate the functions created above as well as the Auto Pan and Flip functions.

Enter the number of the function you wish to activate and select the function button to run that function.

In addition, there are other functions that can be engaged in this window.

AutoPan - This will cause the camera to automatically rotate.

Flip - Most PTZ cameras have a mechanical stop which will prevent the camera from rotating a full 360°. If the camera is tracking someone or some thing and it reaches this stop, pressing Flip will bring the camera around the other direction to continue tracking. Some PTZ cameras have “E-flip” which will do this automatically.

Page Switch - returns you to the **PTZ Control Panel (Picture 6-5)**

Reset - This ends the currently running function.



PICTURE 6-11

ALARMS

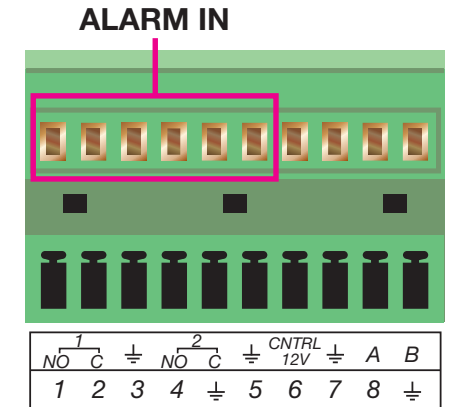
This DVR features connections for external alarms – both input and output. When an event is detected the system can notify local users or send notification to a monitoring service. At the same time, the system can accept signals from motion detectors, smoke detectors or other alarms and begin recording based on that input and your settings.

You will need to have the manual for your alarm(s) handy to ensure the proper settings within the DVR.

7.1 ALARM INPUT

When attaching alarms, the following criteria must be met:

1. The alarm input must be grounded.
2. A grounding signal is required for the alarm input
3. When connecting the DVR to another device - including another DVR - through the alarm input, a relay should be used to separate them.

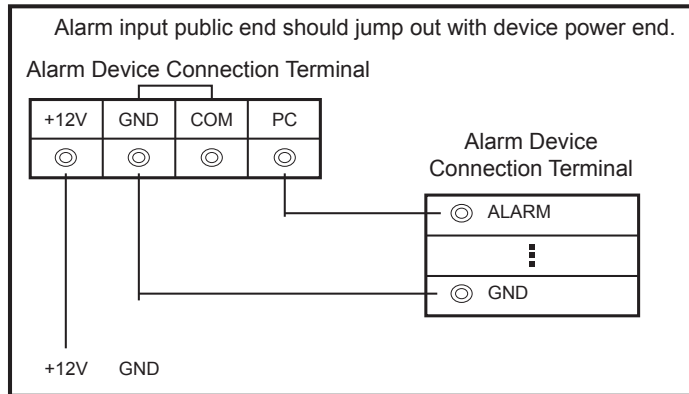


PICTURE 7-1

Parameter	Grounding Alarm
⊥	Ground line
Alarm Input	1, 2, ..., 8 becomes valid in low voltage.
1-NO C 2-NO C	Two NO activation outputs.
CTRL 12V	Controls the power output You need to close the device power to cancel the alarm.

The accompanying diagram (**Picture 7-2**), along with your alarm's manual should be consulted to ensure proper connection.

- Normal open or Normal close type
- Parallel connect COM end and GND end of the alarm detector (Provide external power to the alarm detector).
- Parallel connect the Ground of the combo DVR and the ground of the alarm detector.
- Connect the NC port of the alarm sensor to the combo DVR alarm input(ALARM)
- Use the same ground with that of combo DVR if you use external power to the alarm device.



PICTURE 7-2

7.2 ALARM OUTPUT

The alarm output port should not be directly connected to a higher power load (greater than 1A) to avoid high current which may damage the relay. Use the co-contactor to establish the connection between the alarm output port and the load.

- 2 way relay alarm output (NO contact). Provides external power to external alarm device.
- To avoid overloading, please read the following relay parameters sheet carefully.
- RS485 A/B cable is for the A/B cable of the PTZ camera.

Relay Specification

Model:	JRC-27F	
Material of the contact	Silver	
Rating (Resistance Load)	Rated switch capacity	30VDC 2A, 125VAC 1A
	Maximum switch power	125VA 160W
	Maximum switch voltage	250VAC, 220VDC
	Maximum switch current	1A
Insulation	Between contacts with same polarity	1000VAC 1minute
	Between contacts with different polarity	1000VAC 1minute
	Between contacts and winding	1000VAC 1minute
Surge voltage	Between contacts with same polarity	1500V (10×160us)
Length of open time	3ms max	
Length of close time	3ms max	
Longevity	Mechanical	50×10 ⁶ times (3Hz)
	Electrical	200×10 ³ times (0.5Hz)
Temperature	-40°C ~+70°C (-40°F to +158°F)	

7.3 ALARM SETUP AND ACTIVATION

Once external alarms are properly connected, you can configure the DVR to activate them.

The **Alarm** interface can be selected from the **Setting** menu.



PICTURE 7-2

The upper portion of this window is used to choose an alarm, its configuration and its type.

Alarm In – Select the alarm channel you are configuring.

Event Type – Choose between Local Input and Network Input

Enable – When this is selected the alarm response(s) in the bottom portion of this window are enabled.

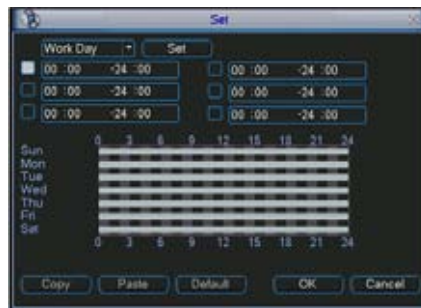
Type – Alarms are either Normally Open (NO) or Normally Closed (NC)



PICTURE 7-3

The bottom portion of the window allows you to choose what actions the DVR will initiate when an alarm is activated along with scheduling when the alarms are active.

Period – This is for setting the schedule for when alarms are active. Clicking the Set button opens up a new window. Its operation is exactly like the setting window used to schedule motion detection and covered in **Section 4.7**.



PICTURE 7-4

You can set the schedule in up to six blocks of time for specific days of the week or by weekday and weekend.

Clicking the **Set** button next to the day drop down allows you to specify which days are work days and which are not.



PICTURE 7-5

Anti-dither – This is the hold time you want the system to delay before beginning recording on an alarm.

Latch Time – This is the time that the DVR will before starting a new event (10 seconds to 300 seconds (5 minutes)) after the alarm is ended.

Alarm Out – This will send an alarm signal to up to three connected external alarms when enabled.

Show Message – When this is enabled, an alert message will be displayed on the DVR's screen.

Alarm Out – To utilize this feature you must connect have at least one external alarm attached to the DVR. You may have up to three separate alarms.

Show Message – When this is enabled, the system will bring up the **Alarm Status** window whenever an event is detected. You can configure this to display when motion, video loss or masking is detected.

Alarm Upload – The system can upload the alarm to the network including to an alarm monitoring service.

Send E-mail – E-mail notifications can be sent a single e-mail address. Please see the **Section 1.2 Advanced Network Setup** in the **Remote Monitoring Guide** for instructions on how to set up the e-mail alerts including recipient address.

Record Channel – When one camera detects an event, you can set the DVR to activate recording on other cameras.

PTZ Activation – If you have Pan-Tilt-Zoom cameras connected to the DVR, you can cause them to be activated when an alarm occurs. You can further instruct it to perform one of 255 pre-set activities. You can also allow a delay of 0 to 300 seconds before the PTZ camera(s) activates. Setting up these pre-programmed functions is covered in **Section 6.2 PTZ Control and Setup**.



PICTURE 7-5

Tour - When enabled, this causes the DVR's display to cycle through selected Live View channels while maintaining the selected recording functions. Instructions for configuring this feature are found in **Section 5.3 Setting Menu**.

Snapshot - When this is selected, the DVR will begin recording still images, in addition to whatever video is being recorded, and it will upload or e-mail these images as configured in **Section 5.3 Setting Menu**.

Your DVR uses a standard desktop computer SATA (Serial Advanced Technology Attachment) hard disk drive and will support up to a 2TB (terabytes) drive. These drives are the current industry standard and may be purchased wherever computer parts are sold. Depending on where you purchased your DVR, it may come with a pre-installed drive. But, we recognize that you may wish to upgrade or replace your drive in the future so this DVR is designed to make installation and replacement easy for the average user.

It should be noted that while this is the only user-serviceable part within the case and you will not void your warranty by installing or upgrading your hard disk drive, care must be taken to avoid damage to the other components within the case.



WARNING! ELECTRIC SHOCK RISK!

The DVR **MUST** be unplugged from all power sources as well as from the cameras before opening the case. Failure to do so can result in damage to the DVR or its components as well as injury or death.



8.1 INSTALLATION/REMOVAL

It is strongly advised against opening the case when atmospheric conditions present the risk of static discharge which can damage electronic components.

Whether installing the drive for the first time or removing the old one to install a new one, the steps are largely the same:

STEP 1. Disconnect the DVR from the power source as well as any other connections.



PICTURE 8-1

STEP 2. Insert the key in the lock and press down. Turn clock-wise 90 degrees to unlock.



PICTURE 8-2

STEP 3. You will also need to loosen the two thumbscrews to either side of the lock.



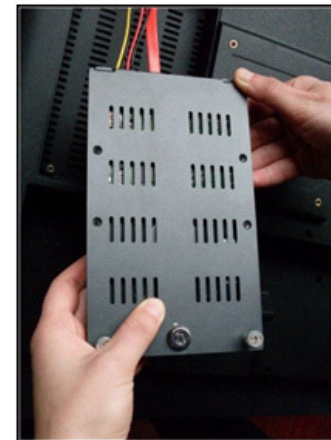
PICTURE 8-3

STEP 4. Lift the drive cover from the bottom and then slide it towards the bottom of the unit. If you are replacing a hard drive, you will need to unscrew the four drive mounting screws holding the drive to the cover plate.



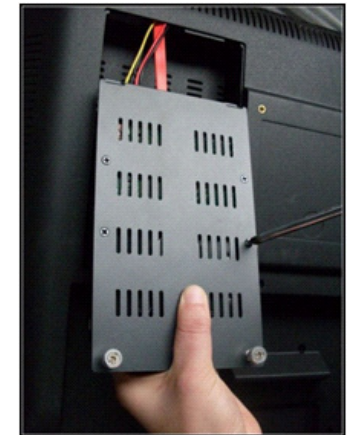
PICTURE 8-4

STEP 5. Connect the power and data cables before attaching the drive to the cover plate. Press firmly, but do not force them onto the pins or you may damage them. The connectors are “keyed” to ensure they are connected in the proper position.



PICTURE 8-5

STEP 6. Place the hard drive cover plate on the drive lining up the four mounting holes on both parts



PICTURE 8-6

STEP 7. Use the screws to attach the drive to the cover. Recheck the connection of the cables before reattaching the cover panel to the DVR.



PICTURE 8-7

STEP 8. Place the HDD with the HDD cover back into the slot being careful not to pinch or bend the cables inside. Firmly tighten both thumbscrews.



PICTURE 8-9

STEP 9. Re-insert the key into the hole and then press. Turn the key counter clockwise 90 degrees to lock the panel in place.

8.2 CALCULATING THE RECORDING CAPACITY OF A HARD DISK DRIVE

While the physical data capacity of a hard drive is fixed, how much video you can record upon it depends on your recording configurations. Higher quality recordings will take up more space on the drive and setting the DVR to record for more frequently will fill it up more rapidly.

To determine the optimal capacity for your purposes, the chart below to estimate the size of hard drive that you'll need.

VIDEO FORMAT	RESOLUTION	FRAME RATE (FPS)	VIDEO QUALITY	BIT RATE (kbps)	SPACE USED (MB/h)
NTSC	CIF	30	Highest	1M	465
			Higher	768k	297
			Medium	512k	230
			Low	384k	173
			Lower	256k	115
			Lowest	128k	56
	D1		Highest	2M	910
			Higher	1.5M	712
			Medium	1M	468
			Lower	768K	297
			Lowest	512K	241
			PAL	CIF	25
Higher	768k	295			
Medium	512k	235			
Low	384k	175			
Lower	256k	112			
Lowest	128k	56.4			
	D1		Highest	2M	915
			Higher	1.5M	700
			Medium	1M	465
			Lower	768K	297
			Lowest	512K	241

The formula for calculating the required disk space is:

Total Recording Capacity = Used space per hour (MB/h) x Recording time (hour) x number of channels

Example: A customer is using the NTSC format (30 frames per second), CIF resolution with video quality set to Lowest and a total of 16 Channels. He wants the unit to record continuously for a month. Therefore, the calculation will look like this:

56(MB/h), x 24 (hours/day) x 30 (days) x 16 (channels) = 645,120MB or 650GB

Installing a 750GB SATA hard drive should provide enough space for one month's continuous recording time at those settings.

APPENDIX

A.1 TROUBLESHOOTING

1. Combo DVR does not boot up properly *Possible Causes:*

- Input power is not correct, check power supply.
- Power switch button is damaged.
- Updated firmware using wrong file.
- Hard drive malfunction or something wrong with hard drive cable.
- Front panel error.
- Main board is damaged.

2. The LCD does not work after device boots up. *Possible Causes:*

- The screen is damaged during the transportation resulting from heavy vibration.
- You have pressed the M button, but there is no PC signal input. Please press M again to resume.
- The LCD connection is loose. Please contact Q-see for help.
- Updated firmware using wrong file.

3. Combo DVR often automatically shuts down or stops running. *Possible Causes:*

- Input voltage is not stable or it is too low.
- Hard drive malfunction or something is wrong with the cable.
- Device is not getting enough power.
- Front video signal is not stable.
- Working environment is too hot, or too much dust.
- System board malfunction.

4. System cannot detect hard drive. *Possible Causes:*

- No hard drive is installed
- Hard drive is damaged.
- Hard drive cable connection is loose.
- Main board SATA port is damaged.

5. There is no video output to one or more channels. *Possible Causes:*

- Updated firmware using wrong file.
- Brightness is 0. Please restore factory default setup.
- There is no video input signal or it is too weak.
- Check privacy mask setup or your screen saver.
- Combo DVR hardware malfunctions.

6. Real-time video color is distorted. *Possible Causes:*

- When using BNC output, NTSC and PAL setup is not correct. The real-time video becomes black and white.
- Combo DVR and monitor resistance is not compatible.
- Video transmission is too long signal is becoming degraded.
- Combo DVR color or brightness setup is not correct.

7. Cannot search local records. *Possible Causes:*

- HDD ribbon is damaged.
- HDD is broken.
- Upgraded program is not compatible.
- The recorded file has been overwritten.
- Record function has been disabled.

8. Video is distorted when searching local records. *Possible Causes:*

- Video quality setting is too low.
- Program read error, bit data is too small. There is mosaic in the full screen. Please restart the combo DVR to solve this problem.
- Hard drive data cable error.
- Hard drive malfunction.
- Combo DVR hardware malfunction.

9. There is no audio when monitoring. *Possible Causes:*

- Channel with audio is not full screen, make the channel you want to hear audio on full screen.
- Audio cable is damaged.
- Combo DVR hardware malfunction.

10. There is audio when monitoring but there is no audio when system plays back. *Possible Causes:*

- Setup is not correct. Please enable audio function
- Corresponding channel has no video input. Playback is not continuous when the screen is blue.

11. Time display is not correct. *Possible Causes:*

- Setup is not correct
- Battery contact is not correct or voltage is too low.
- Crystal is broken.

12. Combo DVR cannot control PTZ. *Possible Causes:*

- Front panel PTZ error
- PTZ decoder setup, connection or installation is not correct.
- Cable connection is not correct.
- PTZ setup is not correct.
- PTZ decoder and combo DVR protocol and/or address do not match.
- When there are several decoders, please add 120 Ohm between the PTZ decoder A/B cables furthest end to deter reverberation or impedance matching. Otherwise the PTZ control is not stable.
- The PTZ camera is too far from the DVR.

13. Motion detection function does not work. *Possible Causes:*

- Period setup is not correct.
- Motion detection zone setup is not correct.
- Sensitivity is too low.

14. Cannot log in client-end or web. *Possible Causes:*

- For Windows 98 or Windows ME user, please update your system to Windows 2000 sp4 or later. Or you can install client-end software of lower version.
- ActiveX control has not been enabled.
- Video card driver on computer may need to be upgraded.
- Network connection error.
- Network setup error.
- Password or user name is invalid.

15. There is only mosaic no video when previewing or playing back video file remotely.

Possible Causes:

- a. Network bandwidth is not sufficient.
- b. Computer does not have enough resources to handle video flow.
- c. There is multiple-cast group setup in combo DVR. This mode can result in mosaic. Usually we do not recommend this mode.
- d. There is privacy mask or channel protection setup.
- e. Current user does not have monitoring rights.
- f. Combo DVR local video output quality is not good.

16. Network connection is not stable. Possible Causes:

- a. Network is not stable.
- b. IP address conflict.
- c. MAC address conflict.
- d. PC or combo DVR network card is not good.

17. Burn error /USB backup error. Possible Causes:

- a. Burner and combo DVR are in the same data cable.
- b. System uses too much CPU resources. Try stopping recording first and then begin backup.
- c. Data amount exceeds backup device capacity. It may result in burner error.
- d. Backup device is not compatible.
- e. Backup device is damaged.

18. Keyboard cannot control combo DVR. Possible Causes:

- a. Combo DVR serial port setup is not correct
- b. Address is not correct
- c. When there are several switchers, power supply is not enough.
- d. Transmission distance is too long.

19. Alarm signal cannot be disarmed. Possible Causes:

- a. Alarm setup is not correct.
- b. Alarm output has been opened manually.
- c. Input device error or connection is not correct.

20. Alarm function is not working. Possible Causes:

- a. Alarm setup is not correct.
- b. Alarm cable connection is not correct.
- c. Alarm input signal is not correct.
- d. There are two loops connected to one alarm device.

21. Remote control does not work. Possible Causes:

- a. Need to enter the correct Device ID on the remote control.
- b. Distance is too far or control angle is too small.
- c. Remote control battery power is low.
- d. Remote control is damaged or combo DVR front panel is damaged.

22. Can not playback the downloaded file. Possible Causes:

- a. There is no media player.
- b. Need Divx Codec in file player

23. Forgot local menu operation password or network password

- a. Contact Q-See tech support and we can generate a new password for the unit.

A.2 MINIMUM COMPUTER CONFIGURATION

Minimum required configuration of a PC for remote connection:

COMPONENT	MINIMUM REQUIRED
CPU	Intel Celeron 2.4G
MOTHERBOARD	Intel 845
HDD	80G
RAM	512M
VGA	NVIDIA GeForce MX440/FX5200 ATIRADEON 7500/X300
OS	Windows 2000(SP4 above) / Windows XP(SP2 above) /VISTA/Win7
DIRECTX	9.0

Minimum PC configuration for 16-channel real time access with fully open mainstream channel

PC MODULE	PARAMETERS
CPU	Intel Core(TM)2 Duo CPU E4600
MOTHERBOARD	G41/P41 chip
HDD	80G
RAM	1GB
VGA	GMA3100/NVIDIA GeForce 8400/ ATI RADEON HD3450
OS	Windows 2000(SP4 above) /Windows XP(SP2 above)/ VISTA/Win7
DIRECTX	9.0



WARNING! Do not turn the system power off during the upgrade process!
Doing so may damage the chipset and prevent the DVR from starting.

Q-SEE PRODUCT WARRANTY

Q-See is proud to back all of our products with a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software.

Liability Exclusions:

Any product malfunction or abnormalities in operation or damage caused by the following reasons are not within the free service scope of our company:

1. Equipment damage caused by improper operation.
2. Improper equipment operation environment and conditions (e.g., improper power, extreme environmental temperatures, humidity, lightning and sudden surges of electricity).
3. Damage caused by acts of nature (e.g., earthquake, fire, etc).
4. Equipment damage caused by the maintenance of personnel not authorized by Q-See.
5. Product sold over 12 months ago.

In order to fulfill the terms of your warranty, you must complete the registration process after purchasing our product. To do this, simply fill out the User's Information Card on our website at www.Q-See.com



QUESTIONS OR COMMENTS? CONTACT US

MAILING ADDRESS

Q-See Products
Digital Peripheral Solutions, Inc.
8015 E. Crystal Drive
Anaheim, CA 92807

FAX

714-998-3509

WEBSITE

www.Q-See.com

PRODUCT SUPPORT, DOWNLOADS, FIRMWARE UPDATES & MANUALS

www.Q-See.com

CUSTOMER SUPPORT

Live Chat at www.Q-See.com (M-F, 9-5 PST)
Email: support@dpsi-usa.com
Phone: 877-998-3440 (M-F, 9-5 PST)

simplicity - quality - technology



Digital Peripheral Solutions, Inc.

8015 E. Crystal Drive

Anaheim, CA 92807

Free Manuals Download Website

<http://myh66.com>

<http://usermanuals.us>

<http://www.somanuals.com>

<http://www.4manuals.cc>

<http://www.manual-lib.com>

<http://www.404manual.com>

<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

Golf course search by state

<http://golfingnear.com>

Email search by domain

<http://emailbydomain.com>

Auto manuals search

<http://auto.somanuals.com>

TV manuals search

<http://tv.somanuals.com>