HIKVISION

DS-7200HVI-ST Series DVR

USER'S MANUAL

Version 1.0

Hikvision® Network Digital Video Recorder User Guide

This manual is written for DVR firmware version 1.0.

Preventive and Cautionary Tips

Before connecting and operating your DVR, please be advised of the following tips:
- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the DVR.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the DVR in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in an explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

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Introduction

1.1 Overview

Thank you for your purchase of the DS-7200HVI-STSeries Digital Video Recorder (DVR). To getthe most out of your DVR, please read through this *User'sManual* thoroughly.

Developed by Hikvision on the basis of the latest technology, DS-7200HVI-ST Series Digital Video Recorder combines the latest in advanced H.264 video encoding and decoding technologies delivering high performance rock-solid reliability and longer recording times.
DS-7200HVI-ST Digital Video Recorder can be used as a standalone video surveillance product, as well as to build up a powerful surveillance network making it is perfect for home or small business applications.

Figure 1.DS-7204HVI-ST DVR

Figure 2. DS-7208HVI-ST DVR

Figure 3. DS-7216HVI-ST DVR

1.1.1 Product Key Features

Compression
- PAL/NTSC adaptive video inputs.
- H.264 video compression with high reliability and superior definition.
- OggVorbis audio compression standard.
- Independent video encoding parameters, including frame rate, resolution, bit rate, video quality, etc.
- Scheduled and event recording parameters configurable for per individual camera.
- Support dual stream.
- Encoding for both audio/video composite stream and video stream; audio and video synchronization during composite stream encoding.
- Compression, storage and network transmission of 4CIF or CIF video image in JPEG format.

Local Monitoring
- Up to 1024×768 resolution for VGA output display.
- Simultaneous VGA and CVBS output.

- 1/4-camera video live view, with the camera order adjustable.
- Group switch, manual switch and automatic cycle modes selectable for video live view, with the auto cycle period configurable.
- Digital zoom in live view mode.
- Shield of assigned channel for live view.
- Privacy masking capability.
- Multiple PTZ protocols supported, and settings and callup of presets, patrols and patterns.
- Video image zoom-in by clicking the mouse and tracing by dragging mouse in PTZ control mode.

Hard Disk Management
- Connection to 1 SATA hard disk supported, with up to 2TB storage capacity.
- S.M.A.R.T technology.
- HDD standby function.
- HDD file system is compatible with Windows. Use pre-allocating hard disk management technology, and no disk fragments.

Recording
- Cycle and non-cycle recording mode.
- Scheduled and event video encoding parameters.
- Multiple recording types, including manual, continuous, alarm, motion, motion | alarm and motion & alarm recording, etc.
- 8 recording time periods with separate recording types.
- Pre-record and Post-record time for alarm and motion detection, and pre-record time for schedule and manual recording.
- Lock and unlock of video files.
- HDD property can be set to read-only.
- Video data search and playback by channel number, recording type, time etc.
- Digital zoom function in playback mode.
- Pause, play fast, play slow, skip forward, and skip backward when playback, locating in progress bar by dragging the mouse.
- 4-channel synchronous playback.

Backup
- Record files backed up via USB device.
- Bunch backup by file or by time.
- Record files edited for backup in playback.
- Management and maintenance for backup devices.

Alarm & Exception
- Configurable arming time for alarm in/out.
- Various alarm types supported: alarms for video loss, motion detection, video tempering, video signal abnormal, video in/out format unmatched, illegal access, network disconnection, IP conflict, hard disk error and hard disk full.
- Various alarm response actions supported: camera recording, relay out, on-screen warning, audible warning and upload to center, etc.
- Auto recovery from exceptions.

Others
- Control of DVR via front panel keys, mouse, IR control and special keyboard.
- Three-level user management, each user with individual operating permission for DVR and camera.
- Powerful record and search for log of operation, alarm and exceptions.
- Import/export of device configuration files.

Network
- 10/100M adaptive network interface.
- TCP/IP protocol suites, PPPoE, DHCP, DNS, DDNS, NTP, SADP protocols, etc.
- Unicast and multicast supported; TCP and UDP protocols applicable in unicast transmission.
- Remote search, playback and download, lock/unlock of video files;
- Support breakpoint resume.
- Remote access and configuration of parameters; remote import/export of device configuration parameters.
- Remote access of device running status, system log and alarm status.
- Remote control of DVR via button operation.
- Remote lock/unlock of panel buttons and mouse.
- Remote formatting of hard disk, upgrade, reboot/shutdown and other system maintenance operations.
- RS-232 and RS -485 transparent channel transmission.
- Event alarm and exceptions upload to remote management host.

- Remote manual recording.
- Remote video image capture in JPEG format.
- Remote PTZ control.
- Voice talk and broadcast.
- Built-in WEB Server.

Development
- Provision of SDK in Windows and Linux operating systems.
- Application software source code of Demo.
- Support and training service for application system development.

1.2 Connecting Your DVR

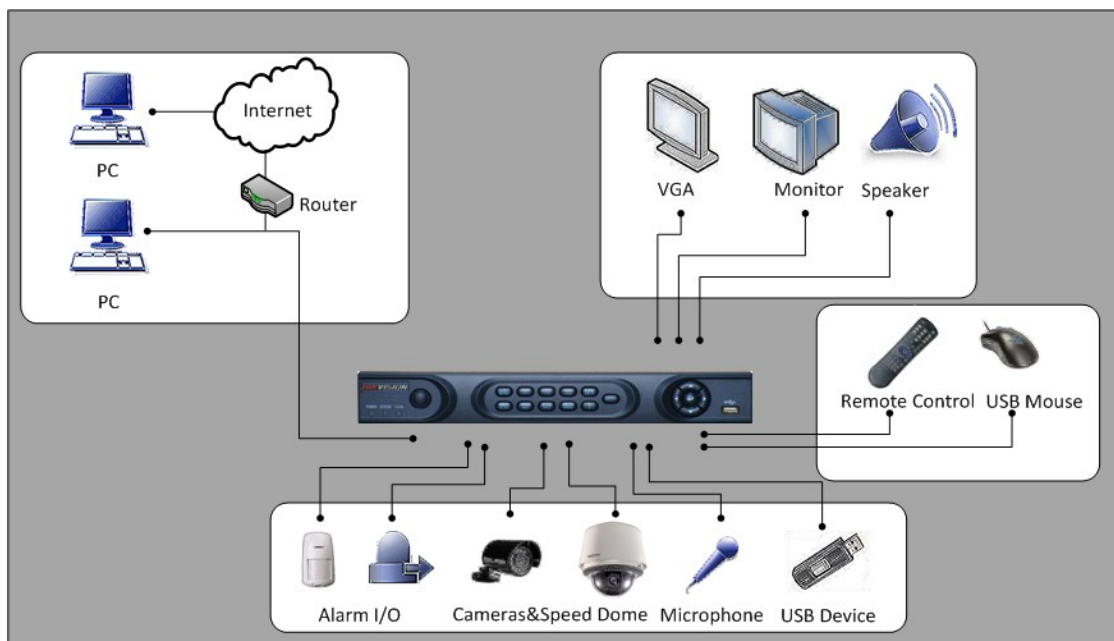You may follow the diagram below (Figure 4) in connecting your DVR to its peripherals.

Figure 4. DVR Connection Diagram

1.3 Operating Your DVR

There are numerous ways to navigate and operate your DVR. You may use the **FrontPanel Controls,** the included **IR (Infra-Red) Remote**, a **Mouse** and the **Soft-Keyboard**.

1.3.1 Using the Front Panel Controls

Your DVR comes with built-in front panel controls, as shown in Figure 5.

Figure 5. DVR Front Panel Controls

The controls on the front panel includes:

1. Status Indicators: Status indicators for different features of the DVR.
- **Power:** Power indicator turns green when DVR is powered on.
- **Status:** The indicator lights when the compound key switches to numeric/letter input mode.
- **TX/RX:** TX/RX indictor blinks blue when network connection is functioning properly.

2. IR Receiver: Receiver for IR remote.

3. Compound Buttons:
- **1 MENU:** (1) Enter numeral "1"; (2) Enter the main menu interface
- **2ABC/F1:** (1) Enter numeral "2"; (2) Enter letters "ABC"; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
- **3DEF/F2:** (1) Enter numeral "3"; (2) Enter letters "DEF"; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
- **4GHI/ESC:** (1) Enter numeral "4"; (2) Enter letters "GHI"
- (3) Exit and back to the previous menu
- **5JKL/EDIT:** (1) Enter numeral "5"; (2) Enter letters "JKL"; (3) Delete characters before cursor;
- (4)Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback
- **6MNO/PLAY:** (1) Enter numeral "6"; (2) Enter letters "MNO";
- (3) Playback, for direct access to playback interface
- **7PQRS/REC:** (1) Enter numeral "7"; (2) Enter letters "PQRS"; (3) Manual record, for direct access to manual record interface; manually enable/disable record
- **8TUV/PTZ:** (1) Enter numeral "8"; (2) Enter letters "TUV"; (3) Access PTZ control interface
- 9WXYZ/PREV: (1) Enter numeral "9"; (2) Enter letters "WXYZ"; (3) Multi-camera display in preview
- **0/A:** (1) Enter numeral "0"; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input)

4SHIFT: Switch of compound keys between the numeric/letter input and functional control.
5. DIRECTION/ENTER Buttons:
- **DIRECTION Buttons:** The DIRECTION buttons are used to navigate between different fields and items in menus. In Playback mode, the *Up* and *Down* button is used to fast-forward and rewind recorded video. The *Left*and *Right* button will select the next and previous day of recordings. In Preview mode, these buttons can be used to cycle through channels.

- **ENTER Button:** The ENTER button is used to confirm selection in any of the menu modes. It can also be used to tick checkbox fields. In Playback mode, it can be used to play or pause the video. In Single Play mode, pressing the ENTER button will advance the video by a single frame.

6. USB Ports: Universal Serial Bus (USB) ports for additional devices such as USBmouse and USB Hard Disk Drive (HDD).

*Note:*It is important to note that you must click the EDIT button on either the remote or front panel on a text field before you're able to edit its content. After you're done entering text, you must hit the ENTER button to be able to move on to the next field.

Note: There is a power button and a jog shuttle control button on the front panel of 7216HVI-ST series product, so it support manual shutdown.

1.4 Using the IR Remote Control

Your DVR may also be controlled with the included IR remote control, shown in Figure 6. Batteries (2x AAA) must be installed before operating.
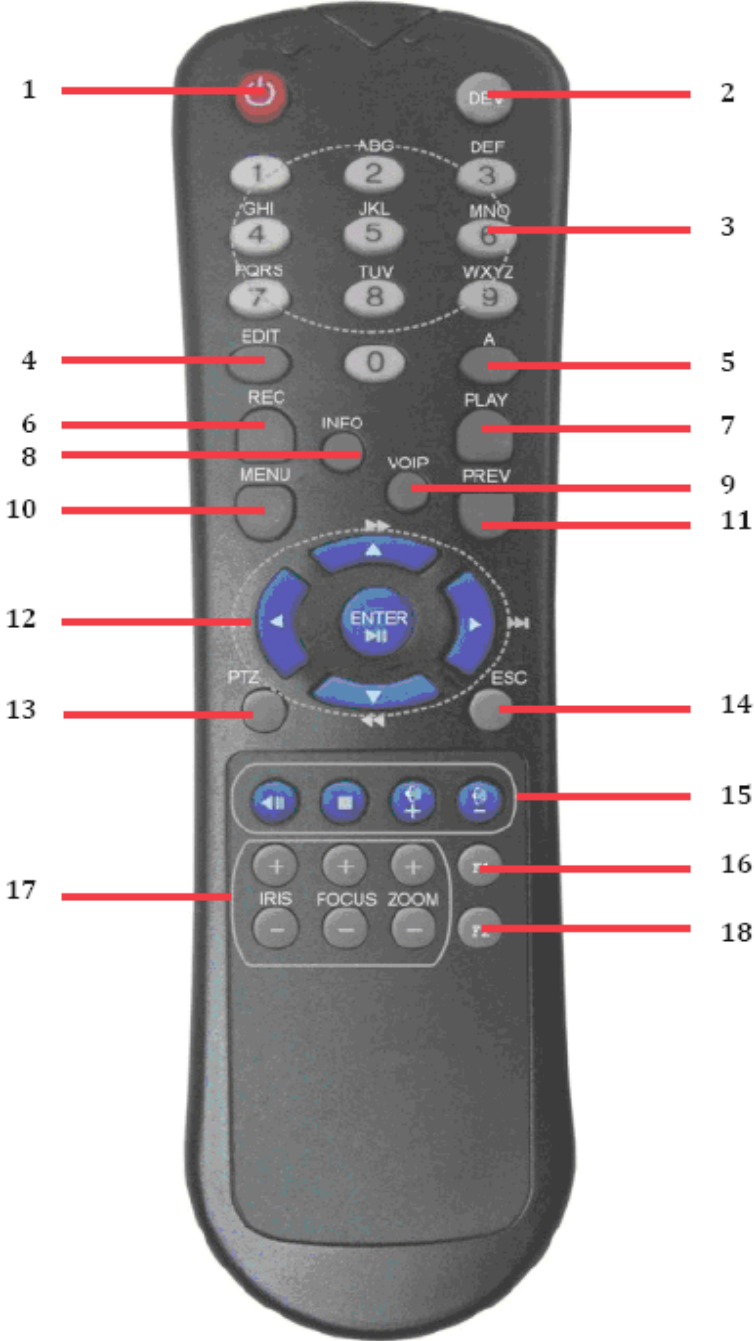

Figure 6. IR Remote Control

The keys on the remote control closely resemble the ones found on the front panel.Referring to Figure 6, they include:

1. POWER Button: Same as POWER button on front panel .
2. DEV Button: Enables/Disables Remote Control.
3. Alphanumeric Buttons: Same as Alphanumeric buttons on front panel .
4. EDIT Button: Same as EDIT/IRIS+ button on front panel .
5. A Button: Same as A/FOCUS+ button on front panel.
6. REC Button: Same as REC/SHOT button on front panel .
7. PLAY Button: Same as PLAY/AUTO button on front panel .
8. INFO Button: Same as ZOOM+ button on front panel .
9. VOIP Button: Same as MAIN/SPOT/ZOOM- button on front panel .
10. MENU Button: Same as MENU/WIPER button on front panel .
11. PREV Button: Same as PREV/FOCUS- button on front panel .
12. DIRECTION/ENTER Buttons: Same as DIRECTION/ENTER buttons onfront panel .
13. PTZ Button: Same as PTZ/IRIS- button on front panel .
14. ESC Button: Same as ESC button on front panel .
15. RESERVED: Reserved.
16. F1 Button: Same as F1/LIGHT button on front panel .
17. PTZ CONTROL Buttons: Buttons to adjust the iris, focus and zoom of a PTZcamera.
18. F2 Button: Same as F2/AUX button on front panel .

Aim the remote control at the IR receiver located at the front of the unit to test operation. Ifthere is no response:
1. Using the front control panel or the mouse, go into Main Menu > System Configuration>Display Configuration
2. Check and remember DVR device No. The default ID# is 255. This ID# isvalid for all IR controls.
3. Press the DEV button on the remote.
4. Enter the DVR ID# from step 2.
5. Press the ENTER button on the remote.

If the Status indicator on the front panel turns blue, the remote control is operatingproperly. If the Status indicator does not turn blue and there is still no response from theremote, please check the following:
1. Batteries are installed correctly and the polarities of the batteries are notreversed.
2. Batteries are fresh and not out of charge.
3. IR receiver is not obstructed.

Note: If buttons are not available on front panel, they are also unable on remote control.

1.5 Using a USB Mouse

A regular 3-button (Left/Right/Scroll-wheel) USB mouse can also be used with this DVR.
To use a USB mouse:
1. Plug USB mouse into one of the USB ports on the front panel of the DVR.
2. The mouse should automatically be detected. If in a rare case that the mouse isnot detected, please refer to the recommended device list from your provider.
The buttons on the mouse corresponds to:
1. Left Button:
- **Single-Click:** Select a component of a menu, such as a button or an inputfield. This is similar to pressing the ENTER button on the remote/frontpanel controls.
- **Double-Click:** Switch between single screen and multi-screen mode inPreview/Playback mode.
- **Click and Drag:** Clicking and dragging the Left mouse button can be usedto control the pan/tilt of a PTZ camera as well as to vary the amount of digitalzoom. It can also be used to setup the alarm areas.
2. Right Button:
- **Single-Click:** Shows pop-up menu.
3. Scroll-Wheel:
- **Scroll Up:** In Preview mode, scrolling up will switch to the previousscreen. In Menu mode, it will move the selection to the previous item.
- **Scroll Down:** In Preview mode, scrolling down will switch to the nextscreen. In Menu mode, it will move the selection to the next item.

1.6 Using the Soft Keyboard

When a mouse is used to perform task on the DVR, clicking on a text input field will bringup the Soft Keyboard, shown in Figure 7.

Figure 7. Soft Keyboard

The buttons on the soft keyboard represents:

Switch to Lowercase: Switch to lowercase input.

Switch to Uppercase: Switch to uppercase input.

Symbols: Switch to symbols input.

Backspace: Delete the character in front of the cursor.

Enter: Confirm selection.

ESC: Exit out of Soft Keyboard.

Figure 8. Soft Keyboard Buttons

C H A P T E R 2
Getting Started

2.1 Starting and Shutting Down Your DVR

Proper startup and shutdown procedures are crucial to expanding the life of your DVR.
To startup your DVR:

1. Ensure the power supply is plugged into an electrical outlet. It is HIGHLY recommendedthat an Uninterruptible Power Supply (UPS) be used in conjunctionwith the unit.
2. Connect the DVR to a VGA monitor. You will only see the DVR menu systemwhen it's connected to a VGA monitor.
3. Press the POWER switch on the back rear panel. The Power indicator LEDshould turn green. The unit will begin to start.
4. After startup, the Power indicator LED will remain green. (Figure 9).

Figure 9. Startup Splash Screen

To shutdown the DVR:

1. Enter the Shutdown menu, shown in Figure 10 by going to Main Menu >Maintenance > Shutdown.

Figure 10. Shutdown Menu

2. Select the Shutdown button.
3. Click the Yes button.
Note: 7216HVI-ST support manual shutdown. Press and hold the power button for 3 seconds. Enter the administrator's user name and password for authentication. Then click Yes button.

2.2 Rebooting and Locking Your DVR

While in the Shutdown menu (Figure 10), you may also reboot or lock your DVR. Lockingyour DVR will return you to the Live Feed mode, which will require the correctadministrator password to exit out of it. The Reboot button will reboot your DVR.

To reboot or lock your DVR:
1. Enter the Shutdown menu by going to Main Menu > Maintenance > Shutdown.
2. Select the Lock button to lock the DVR or the Reboot button to reboot the DVR.

2.3 Setting Date & Time

It is extremely important to setup the system date and time to accurately timestamprecordings and events.
To setup date and time:
1. Enter the System Configuration menu by going to Main Menu > System Configuration,as shown in Figure 11.

Figure 11. System Configuration Menu

2. Click the Time/Date button to enter the Time/Date menu (Figure 12).

Figure 12. Time/Date Menu

3. The current system time and date as well as the time zone will be displayed.Using the directional buttons on the front panel/remote or the mouse, selectthe correct date, time and time zone.
4. To enable Daylight Savings Time, click and check the **Enable DST** checkbox.
5. To acquire the time and date over an NTP (Network Time Protocol) Server,check the **Synchronize via NTP** server checkbox. You may enter your ownNTP server or select from one of the default locations from the list of servers,as shown in Figure 13.
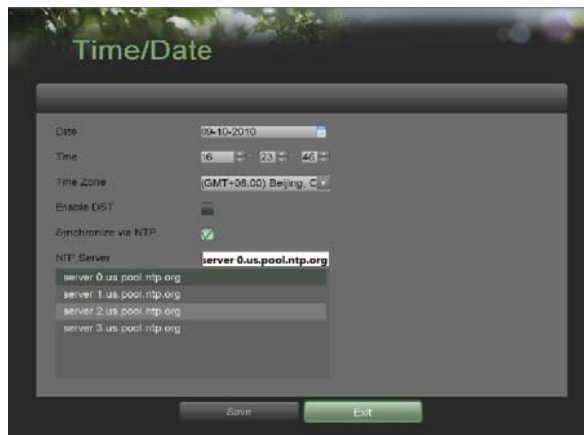
Figure 13. Time/Date Menu

6. Click the Save button to save settings and click the Exit button to exit out of themenu. Clicking the Exit button without clicking the Save button will exit themenu without saving.

2.4 Checking the Status of Your DVR

The current status of your DVR can be checked at anytime by going to the Status menu. TheStatus menu, shown inFigure 14 can be accessed by going to Main Menu > Status.

Figure 14. Status Menu

The items that are found on the Status menu include:

- **Model:** The model number of the DVR.
- **Firmware Version:** The current firmware version installed on the DVR.
- **Encoder Version:** The current encoder version installed on the DVR.
- **System Time:** The current system time.
- **Total Disk Space:** Total disk space of the DVR.
- **Free Disk Space:** Total free disk space of the DVR.
- **Uptime:** The amount of time the DVR has been up and running.
- **Messages:** Displays the overall system status.
- **IP Address:** IP address that is set for the DVR.
- **Subnet Mask:** Subnet mask that is used for the DVR.
- **Default Gateway:** The default gateway that is set on the DVR.
- **DNS Server:** The DNS server that's currently being used on the DVR.
- **DVR Domain Name:** The DVR domain name that is set for the DVR.
- **Client/HTTP Port:** The current ports being used for client and web access.
- **Multicast Address:** The multicast address that's being used on the DVR.
- **Camera Status:** The recording status of the attached cameras. A blue circledenotes that the camera is recording while a gray circle shows that it is not.

C H A P T E R 3

Live Feed

3.1 Watching a Live Feed

The Live Feed mode is automatically started after the DVR boots up. It is also at the very topof the menu hierarchy, thus hitting the ESC button multiple times (depending on whichmenu you're on) will bring you to the Live Feed mode.

3.1.1 Understanding Live Feed Icons

There are multiple icons on each display in Live Feed mode to indicate different camerastatus and settings. These icons include:

Event Icon: Indicates video loss or tampering, motion detection and/or sensor alarm.

Record Icon: Indicates the current channel is recording. Therecording may have been started manually, from a schedule, and/ortriggered from motion or alarm.

Picture Settings Icon: Adjust picture settings for selected display.

PTZ Control Icon: Enter PTZ control mode for the selected display.

Preset Icon: Recall PTZ preset.

Patrol Icon: Recall PTZ patrol.

Tour Icon: Recall PTZ tour.

Zoom In/Zoom Out: Zoom in/out with PTZ.

Full Screen/Exit Full Screen Icon: Enter into/exit out of full screenmode for selected display.

Audio On/Audio Off Icon: Enable/disable audio for selecteddisplay.

Close Icon: Exit out of current setting and return to previous mode.

Figure 15. Live Feed Icons

3.1.2Operating the Live Feed

In Live Feed mode, you may adjust the settings for individual cameras by left-clicking onthe desired display with the mouse. The selected display will be surrounded with a greenborder, as shown in Figure 16.

Figure 16. Live Feed Mode

The settings you may adjust with each display includes:

• **Picture Settings:** Settings for the brightness, contrast, saturation and hue ofselected display. To adjust the picture settings of a display:

1. Select display.
2. Click the Picture Settings icon. This will bring up the Picture Settingsmenu, as shown in .Figure 17

Figure 17. Picture Settings Menu

3. Increase/decrease amount for brightness, contrast, saturation and hue.The affect will be displayed immediately on the screen.
4. Click the Close icon to save the settings and return to the Live Feed mode.

• **PTZ Control:** If the selected camera is a PTZ camera, you may control itdirectly from the display. To control a PTZ camera:
    1. Select display that corresponds to a PTZ camera.
    2. Click the PTZ Control icon. This will bring up additional PTZ control buttons,as shown in Figure 18.

Figure 18. PTZ Control Mode

    1. Control the PTZ using PTZ control buttons. Pan and tilt PTZ by clicking onthe directional buttons. Zoom in and out using the Zoom In/Out buttonsand recall presets, patrols and patterns by clicking the number next to thecorresponding icons.
    2. Click the Close icon to return to Live Feed mode.

*Note:*PTZ parameters for the camera must be set correctly before the PTZ can becontrolled.

*Note:*A maximum of five presets,four patrols and patterns can be displayed on this interface.

More presets, patrols and patterns can be recalled in the PTZ Configuration menu.
• **Audio:** Enable/disable audio for selected display. To enable or disable audio:
    1. Select display to enable/disable audio.
    2. Enable audio by clicking the Enable Audio icon and disable audio by clickingthe Disable Audio icon. An error message similar to the one shown inFigure 19 will pop up if the *Enable Audio* option is not selected in the DisplayConfiguration menu for the specified channel.
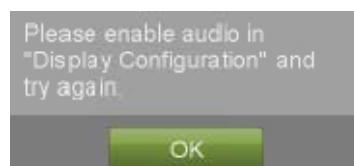
Figure 19. Enable Audio Error Window

• **Digital Zoom Mode:** Enable digital zoom on the selected channel. Onceenabled, the regular feed will be shown in the lower right corner while thezoomed in view will be shown on the full screen. The zoomed in region maybe changed by moving the red rectangle in the regular feed window.
• **Full Screen Mode:** Enable full screen mode for selected display. To enable fullscreen mode:
    1. Select display to enable full screen on.
    2. Click the Full Screen icon.
    3. Click the Exit Full Screen icon to return to normal display mode.

3.2 Using the Display Menu

The Display Menu can be accessed by right-clicking the mouse on any of the display in Live
Feed mode. The Display menu, shown in Figure 20 allows you to quickly change into
different display modes and to start/stop auto-switching of the display modes.
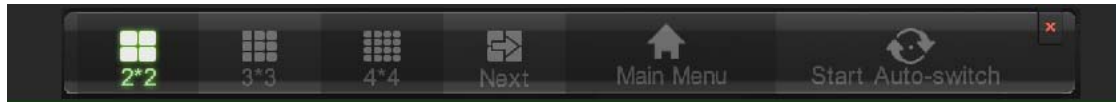
Figure 20. Live Feed Display Menu

2x2 Mode: Click to switch to fourchannel display mode.

3x3 Mode: Click to switch to ninechannel display mode.

4x4 Mode: Click to switch to sixteenchannel display mode.
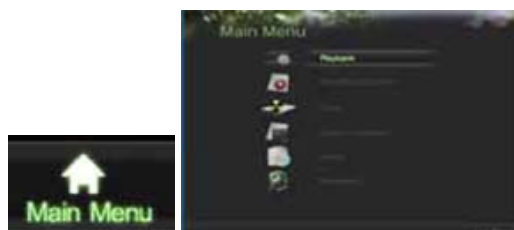
Main Menu: Click to go to DVR MainMenu. If **Lock Main Menu** is selected inthe Lock Menus menu, you must enterthe current Admin Password to exit outof the Live Feed.

Start/Stop Auto-Switch: Click to start/stop auto-switch. Auto-switch will cyclethrough selected cameras. Switching ofcamera can be on an individual ormultiple camera basis.

Next Set of Display: Click to view thenext set of display. In 2x2 mode, this willshow the next four display. In 3x3 mode,this will show the next nine display.

Note: In order to use auto-switching of channels, the *dwell time* must be configured inthe Display Configuration menu.

Note: After 20 seconds of inactivity, the DVR will automatically exit out of the Displaymenu and go back into the Live Feed mode.

Note: The **Lock Main Menu** setting is selected by default, meaning the Admin passwordmust be enter to exit out of the Live Feed into the Main Menu. To change this option andremove the lock to the Main Menu, visit the Lock Menus menu (See *Locking andUnlocking System Menus* on page 59)**.**

3.3 Configuring Live Feed Displays

Live Feed displays can be customized to your own needs. These settings can be accessedby entering the Display Configuration menu, shown in Figure 21.

Figure 21. Display Configuration Menu

To customize display settings:
1. Enter the Display Configuration menu by going to Main Menu > System Configuration> Display Configuration.
2. Select the **Video Output** to configure. You may configure either the VGA, MainCVBS or Spot CVBS.
3. The settings available to configure for each video output includes:

- **Screen Configuration:** Screen configuration of each video output. Youmay select between a 1x1, 2x2 or 4x4 configuration.
- **Sequencing Dwell Time:** The time in seconds to *dwell* between switchingof channels when Start Sequence is selected in Live Feed. Selecting *DisableSwitching* will disable switching in Live Feed.
- **Enable Audio:** Enables/disables audio output for the selected video output.
- **Output Format:** Designates the video output standard.
- **Device Name/No.:** Designates the device name and number of the currentunit.
- **VGA Resolution:** Designates the resolution of main VGA display.
- **Mouse Pointer Speed:** Pointer speed of the mouse, the higher theamount, the faster the mouse would move.

3.4 Setting Camera Order

Setting the camera order allows you to logically position cameras for more efficientmonitoring of your own individual location.

Figure 22. Camera Order Setting

To set the camera order:
1. Enter the Display Configuration menu, shown in Figure 20 by going to MainMenu > System Configuration > Display Configuration.
2. Select the **Video Output** to configure camera order for.
3. Select the **Screen Configuration** you would like to use in Live Feed. The previewof the screen configuration on the right will change depending on theoption selected.
4. Each display in the preview of the screen configuration will have a selectionbox containing a list of the different cameras that are available on the DVR.
1. Pressing the up and down button of each selection box, select the camera youwould like to show in the particular display. Selecting 'X' will disable the display.
5. Click the Previous and Next button to go to the next set of displays for theselected screen configuration. For example, in 2x2 screen configuration mode,pressing the Next button will bring up the next set of 4 displays.
6. Click the Save button to Save settings.
7. Repeat steps 2-6 to adjust the camera order for other video outputs.
8. Click the Exit button to exit out of the menu.

*Note:*You must click the Save button after adjusting the order of one video output beforeyou are able to move on to adjust another one.

CHAPTER 4
Record Settings

4.1 Configuring Settings for Recording

There are multiple ways to setup your DVR for recording. They include setting up arecording schedule, triggering a recording by motion detection and/or a sensor alarm, andmanually starting the recording.

4.1.1 Configuring Recording Settings

Before setting your DVR up for recording, certain settings should be configured first.These settings can be found in the Recording Configuration menu, shown in Figure 23.

Figure 23. Recording Configuration Menu

The first set of settings to configure in this menu is the recording quality settings. Toconfigure the recording quality settings:

1. Enter the Recording Quality Settings menu by going to Main Menu > RecordingConfiguration > Recording Quality Settings. The Recording Quality Settingsmenu is shown in Figure 24.

Figure 24. Recording Quality Settings Menu

2. Select the camera to configure in the camera drop down menu on the upperleft of the menu. If all cameras are to be configured with the same settings,select *All Cameras* from the list.

3. Select the **Encoding Parameters** mode to configure. Either Continuous or OnEvent can be selected.
4. Select the camera resolution in the **Resolution** drop down menu The optionsfor the camera resolution includes 4CIF,CIF and QCIF.
5. Select the recording **Frame Rate** to use for the designated camera. A rate of25 all the way down to 1of a frame can be selected.
6. Set the picture quality using the **Picture Quality** slider. A preview of theselected picture quality will be shown on the right preview screen. Increasingthe picture quality will also increase the bit rate of the video feed. The resolutionand frame rate of the feed will be adjusted automatically.
7. Select the **Pre-record** time. The pre-record time is the time in seconds to alsorecord before a recording is triggered. Setting the pre-record time to MAX willallow the DVR to use up to the maximum available buffer space for recording.
8. Select the **Post-record** time. The post-record time is the time in seconds toalso record after a recording has ended.
9. Enter the **Files Removed After** time. The **Files Removed After** time denotesthe amount of days that files will be deleted after its initial recording. Settingthe time to 0 will allow the DVR to only delete and overwrite files when theHDD is full.
10. Repeat steps 3-9 for other Encoding Parameters mode.
11. Select the Save button to save the recording quality settings and select Exit toreturn to the previous menu. Selecting the Exit button without clicking Savewill quit out of the menu without saving settings.

Note: For 7204HVI-ST Series, when resolution is 4CIF,Frame rate can be set as 12 all the way down to 1. For 7208HVI-ST Series, when resolution is 4CIF, Frame rate can be set as 8 all the way down to 1,But for 7216HVI-ST Series, when resolution is 4CIF, Frame rate can only be set as 6 all the way down to 1.

4.1.2 Configuring a Quick Recording Schedule

A quick recording schedule allows you to set one time period per day for recording.
To setup a quick recording schedule:
1. Enter the Quick Schedule Configuration menu, shown in Figure 25 by going toMain Menu > Recording Configuration > Quick Schedule Configuration.

Figure 25. Quick Schedule Configuration Menu

2. Select the camera to configure from the camera drop down menu. If all thecameras are to be configured with the same settings, select *All Cameras* fromthe list.
3. Check the **Enable** checkbox to enable the recording schedule. If the checkboxis unchecked, the recording schedule will be disabled.
4. Check the **24/7** checkbox if you would like to record continuously or on eventfor 24 hours a day, 7 days a week. If you wish to schedule different time framesfor Monday through Sunday, leave the **24/7** checkbox unchecked and skip tostep 6.
5. Select **Recording Type** for 24/7 recording and move on to step 8. Recordingtype includes *Continuous* for continuous recording or *On Event* for recordingwhen an event is triggered (i.e. from detected motion).
6. Select the start and stop time for each day of the week. The start and stop timeare listed using a 24 hr cycle (i.e. 18:00 is equivalent to 6:00pm).
7. Select **Recording Type** for each day of the week. Recording type includes*Continuous* for continuous recording or *On Event* for recording when an eventis triggered (i.e. from detected motion) for the selected time period.

8. Select the Save button to save the schedule settings and select Exit to return to the previous menu. Select the Exit button without clicking Save will quit out of the menu without saving settings.

Note:*On Event* recordings are recordings that are triggered from motion detection and/or from an external alarm (See ***Configuring Alarms and Exceptions*** on page 61).

Note: If an event occurs during *Continuous* recording, the frame rate will automatically switch to that set for *Event* recording.

4.1.3 Configuring an Advanced Recording Schedule

An advanced recording schedule allows you to schedule multiple time periods per day for recording as oppose to a single time period of a quick recording schedule. Setting up an advanced recording schedule will allow you to further conserve disk space by recording only during the time periods you would like to record at.

To setup an advanced recording schedule:
1. Enter the Advanced Schedule Configuration menu, shown in Figure 26 by going to Main Menu > Recording Configuration > Advanced Schedule Configuration.

Figure 26. Advanced Schedule Configuration Menu

2. Select the camera to configure from the camera drop down menu. If all the cameras are to be configured with the same settings, select *All Cameras* from the list.
3. Check the **Enable** checkbox to enable the recording schedule. If the checkbox is unchecked, the recording schedule will be disabled.
4. Select a day between Monday to Sunday to configure schedule for.
5. Setup time periods for schedule. If the **24HR** checkbox is checked, recording will occur over the entire day. To setup multiple time periods, uncheck **24HR** and enter the **Start** and **Stop Time** for the selected day. The start and stop time are listed using a 24 hr cycle (i.e. 18:00 is equivalent to 6:00pm).
6. Select recording type under **Type** for selected day of the week. Recording type includes *Continuous* for continuous recording or *On Event* for recording when an event is triggered (i.e. from detected motion) for the selected time period.
7. If there are scheduling errors detected, such as overlapping time periods, error messages such as those shown in Figure 25 will appear.

Figure 27. Advanced Schedule Configuration Error Messages

8. Select the Add button to add time frame to schedule. The newly added timeframe will appear in the schedule on the left, with the schedule parametersshown on the right. Continuous recordings are shown in blue on the schedulewhile event recordings are shown in yellow. An example of this can be seenin Figure 28.
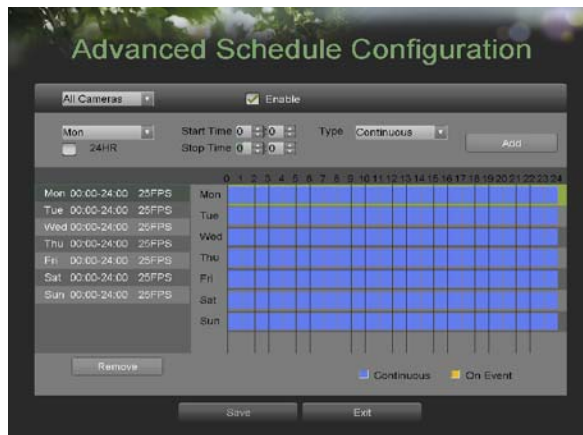
Figure 28. Advanced Schedule Configuration Example

9. Repeat steps 4-10 to setup additional time periods for the selected day.
10. Select the Save button to save the schedule settings and select Exit to return tothe previous menu. Selecting the Exit button without clicking Save will quitout of the menu without saving settings.

Note:Creating a schedule in the Quick Schedule Configuration menu will also create aschedule in Advanced Schedule Configuration. The quick schedule will show up as a timeperiod in the Advanced Schedule Configuration.

C H A P T E R 5
Playback

5.1 Playing Back a Recording

Previously recorded files can be played back using the Playback Interface. You must firstsearch for recordings to play them back.

5.1.1 Understanding the Playback Interface

It's important to understand how to use the Playback Interface to efficiently navigatethrough recorded files. To access the Playback Interface, shown in Figure 29, go to MainMenu > Playback.
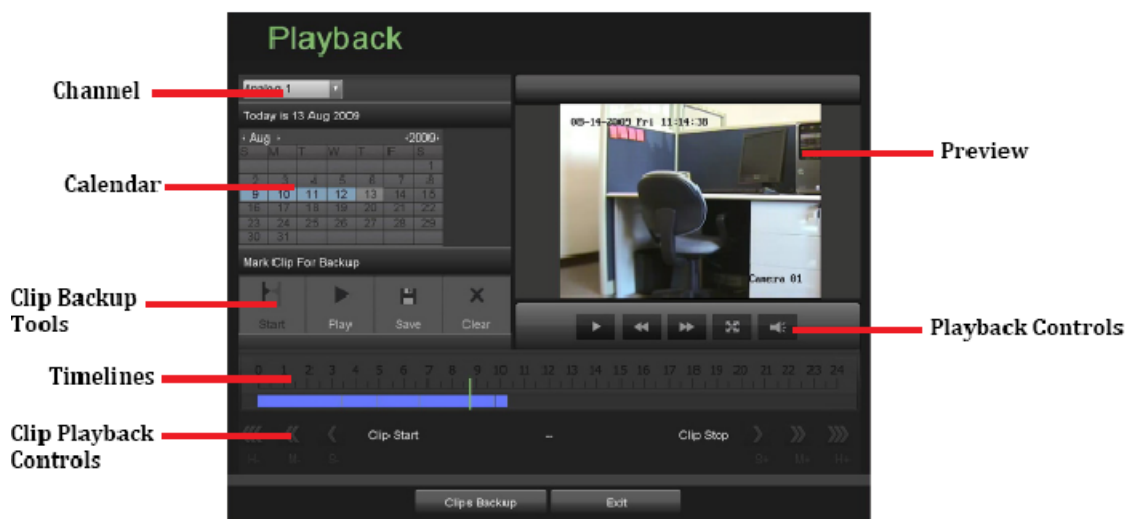
Figure 29. Playback Interface Menu

Some of the main features of the Playback Interface includes:
- **Channel Selector:** Select the channel to search for recordings on.
- **Calendar:** Select the date to search for recordings on.
- **Timeline:** Select the time to search for recordings on.
- **Preview:** Shows a preview of the selected recording.
- **Playback Controls:** Controls for playback of the selected recording.
- **Clip Backup Tools:** Tools to backup clips from a recording.
- **Clip Playback Controls:** Controls for playback of marked clip.

5.2 Searching for Recorded Files

The Playback Interface allows for easy searching of recorded files. To search for recordedfiles using the Playback Interface:

1. Enter the Playback menu, shown in Figure 28 by going to Main Menu > Playback.
2. Select the channel to search for recordings on.
3. Select the date to search for recordings on using the calendar. The system dateis shown at the top of the calendar. You may change the month and year of thecalendar by clicking the left and right arrows next to the month and year.Dates with continuous recordings in the selected month and channel are displayed inlight blue, and dates are displayed in yellow when they are on event recording. Dates without recordings are dark gray. The active selecteddate is displayed in light gray, as shown in Figure 30.

Figure 30. Playback Menu Example

4. Click on the desired date that is highlighted in light blue to search for recordings.If recordings exist, the timeline will be filled with blue bars to designaterecorded files. The playback marker, indicated by a green vertical line willautomatically jump to the beginning of the earliest recordings for the selecteddate. The marker can be moved to any other location by clicking on thedesired position on the blue bars.
5. Select the Play button in the Playback Controls to start playback of the recording.

5.3 Playing Back Recorded Files

After finding the recordings you would like to playback (See *Searching for RecordedFiles* on page 37), you may use the Playback Controls to navigate through the recording.

The controls found under Playback Controls include:

Play Button:Button to playback recording.

Decrease Speed Button: Button to decrease play speed.

Increase Speed Button: Button to increase play speed

Enter/Exit Full-Screen Mode: Button to enter into and exit out of full-screen mode.

Enable/Disable Audio: Button to enable and disable audio in playback mode.
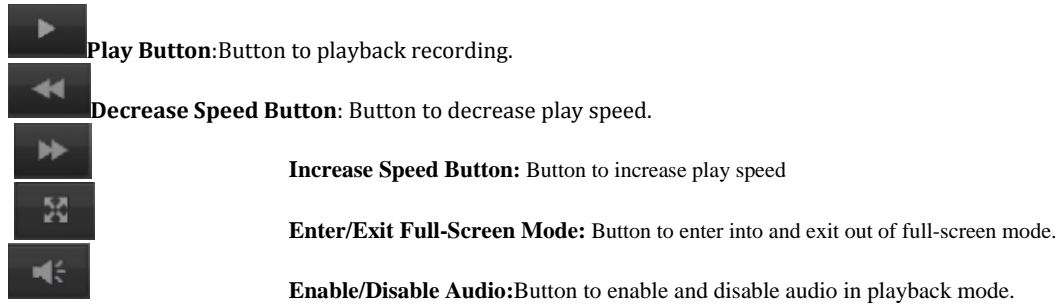
Figure 31. Playback control buttons

To playback recorded files:

1. Search and select recording to playback in the Playback Interface.
2. Click the Play button to begin playback of selected recording and the Pausebutton to pause playback.
3. You may slow down or speed up the playback speed by clicking the DecreaseSpeed/Increase Speed button.
4. Click the Full-Screen button to enter full-screen playback mode, shown in Figure 32

Figure 32. Full-Screen Playback Mode

5. In full-screen mode, you may hide the toolbars by clicking the Hide Toolbarbutton. Clicking the Exit Full-Screen button will return you to the originalplayback mode.
6. Click the Enable/Disable Audio button to turn on and off audio during playback.
7. Click the Digital Zoom button to enable digital zoom. Once enabled, the regularrecorded feed will be shown in the lower right corner while the zoomed inview will be shown on the full screen. The zoomed in region may be changedby moving the red rectangle in the regular recorded feed window.
8. Click the Exit button to return to the previous menu.

5.4 Playing Back Multiple Channels

You may also playback recordings from multiple channels simultaneously. To playbackrecordings from multiple channels:
1. Search and select recording to playback in the Playback Interface.
2. Enter into Full-Screen mode, shown in Figure 30 by clicking the Full-Screenbutton.
3. In Full-Screen mode, you may select additional channels to playback by clickingthe checkbox next to the desired camera in the Channel Selector panel. Playbackwill begin simultaneously on the selected channels.
4. You may stop playback on any of the channels by un-checking the checkboxnext to the channel.

Note: Up to4 channels can be played back at the same time.

C H A P T E R 6

Backup

6.1 Backing Up Video Clips

Video clips can be backed up to various devices, such as USB flash drives, USB HDDs or aDVD writer.

6.1.1 Selecting Video Clips

Video clips can be selected for backup in the Playback Interface using the controls found inthe *Mark Clip For Backup* panel, shown in Figure 33.

Figure 33. Mark Clip For Backup Controls

The controls found in the *Mark Clip For Backup* panel includes:
- **Start Clip Button:** Mark the starting point for the video clip.
- **Stop Clip Button:** Mark the ending point for the video clip.
- **Play Clip Button:** Play the selected video clip.
- **Save Clip Button:** Save the selected video clip to the HDD.
- **Clear Clip Button:** Clear the selected video clip.

To select video clips in the Playback Interface:
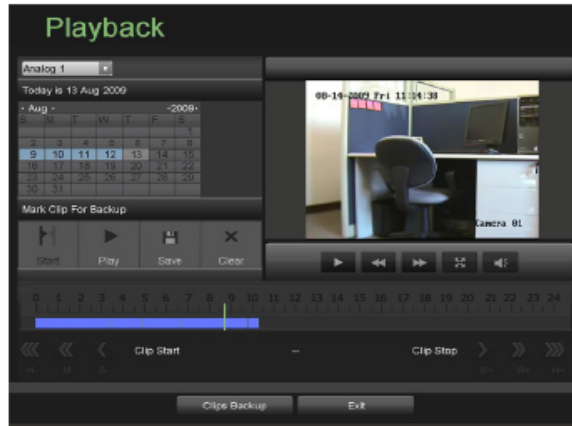1. Enter the Playback Interface, shown in Figure 34 by going to Main Menu >Playback.

Figure 34. Playback Menu

2. Search for the recorded files that you would like to select video clips from(See *Searching for Recorded Files* on page 35). Video clips can only beselected in single playback mode.
3. Select the starting position of the video clip by clicking the desired location onthe blue recordings bar.
4. Click the Start Clip button.
5. Select the ending position of the video clip.
6. Click the stop Clip button.
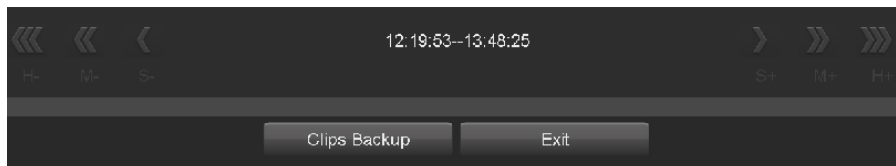7. The selected video clip time range will be shown at the bottom of the PlaybackInterface, as seen in Figure 35.

Figure 35. Video Clip Time Range

8. You may play the video clip using the Play Clip button or use the arrow keysshown next to the clip time range to progress through the video one second,minute or hour at a time.
9. Click the Save Clip button to save clip to the DVR. Clip must be first saved tothe DVR before it can be backed up to an external USB storage device or to aDVD writer. Clicking the Clear Clip button will remove the video clip.
10. Repeat steps 2-7 to select additional clips. If you would like to backup videoclips at this point, click the Backup button.

Note: The Play Clip, Save Clip and Clear Clip buttons are not available unless a completedvideo clip is selected. A completed video clip has a start and end point marked by using theStart Clip and End Clip button.

Note: The Start Clip button is not available when there is still a video clip that has notbeen saved or cleared.

6.2 Backing Up Video Clips

After video clips have been selected in the Playback Interface (See *Selecting Video Clips*on page 46), you may back them up to an external USB storage device or DVD writer bygoing to the Backup menu.

To backup video clips:
1. Enter the Clips Backup menu, shown in Figure 36 by first going to Main Menu> Playback. In the Playback menu, click the Clips Backup button.
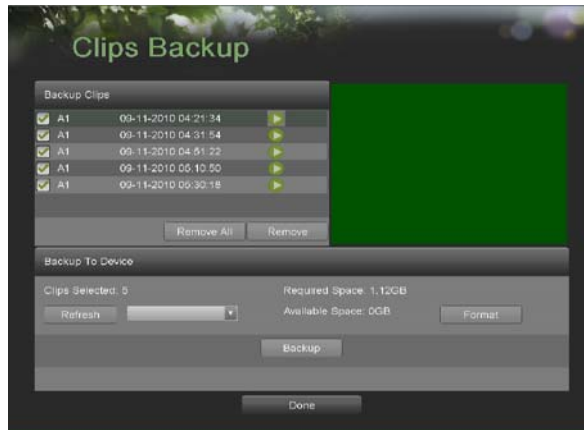
Figure 36. Clips Backup Menu

2. If video clips were successfully saved to the HDD using the Playback Interface,they will be listed under the **Backup Clips** heading on the left hand side of themenu. The camera number as well as the time range would be listed.
3. Select the video clips you would like to backup by checking the checkbox nextto the desired clips. You may also click the Play icon to play and review theclip. Video clips can be deleted by selecting it and clicking the Remove buttonor by clicking the Remove All button to delete all clips.
4. Connect at least one USB storage device to the DVR. If the device is compatiblewith the DVR, it will automatically be detected. Select the backup device fromthe **Backup Device** drop down menu.
5. The **Clips Selected**, **Required Space** and **Available Space** will be displayed onthe Clips Backup menu. If the USB storage device has not been properly initializedand formatted, you may click on the Format button to do so. It isimportant to note that formatting will delete ALL data from the storage device.
6. If the available space on the storage device is adequate, select the Backup buttonto begin backup of the selected clips.
7. After clips have been backed up, you may click the Playback button to return tothe Playback Interface or the Done button to return to the previous menu.

Note: Formatting a storage device will permanently delete all the files on that device.
There is also NO WARNING MESSAGE after clicking the Format button to format thestorage device. Please proceed with caution and backup all critical data from the storagedevice before formatting.

6.3 Backing Up Recorded Files

Not only can video clips be backed up, full recorded files can also be backed up to a storagemedium.
To back up recorded files:
1. Search for recorded files using the File Management menu (See *Searchingfor Recorded Files* on page 83).
2. Select the files you would like to backup by checking the box next to the file.You may also check the *All File* box to backup all files. The total required spacewill be shown next to **Total Size**.
3. Click the Files Backup button, this will take you to the Files Backup menu, asshown in Figure 37.
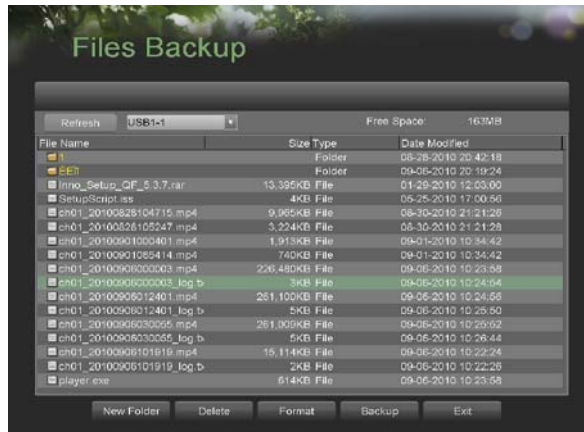
Figure 37. Files Backup Menu

4. In the Files Backup menu, connect a USB storage device and click the Refreshbutton. If the device is detected, a list of its file contents as well as the availablefree space will be shown.
5. You may delete files on the USB storage device to free up additional storagespace by clicking the Delete button on the selected file. You may also formatthe device by clicking the Format button. Formatting will remove ALL filesfrom the device.
6. When there is sufficient storage space for backup, click the Backup button. Abackup progress bar will be shown.
7. Click the OK button once backup has completed.
8. Click the Exit button to return to the File Management menu.

C H A P T E R 7

System Configuration

7.1 Configuring Network Settings

7.1.1 Network configuration

Network settings must be configured before you're able to use your DVR over the network.

To configure network settings:

1. Enter the Network Configuration menu, shown in Figure 38 by going to MainMenu > System Configuration > Network Configuration.

Figure 38. Network Settings Menu

2. The current network settings are displayed on the right side of the menu.
3. If you have a DHCP server running and would like your DVR to automaticallyobtain an IP address and other network settings from that server, check the**DHCP** checkbox.
4. If you would like to configure your own settings, enter the settings for:
    *   **IP Address:** IP address you would like to use for your DVR.
    *   **Subnet Mask:** Subnet Mask of network.
    *   **Default Gateway:** IP address of your Gateway. Typically the IP address ofyour router.
    *   **DNS Server:** The preferred and alternate Domain Name System (DNS)Server to be used with your DVR.
5. To enable Dynamic DNS (DDNS), check the **DDNS** checkbox. Dynamic DNSallows you to create a hostname and associate it to your IP address, makingaccess to your DVR over the internet easier. To configure DDNS:
    1. Enable DDNS by checking the **DDNS** checkbox.
    2. Select a DDNS provider from the **DDNS Provider** selection box.
    3. Enter settings for **Server Address**, **DVR Domain Name**, **User Name**, and**Password**.
6. If a central monitoring station that is compatible with your DVR is available,you may enter its settings under **Central Station IP** and **Central Station Port**.
7. Enter the **Client Port** and **HTTP Port** to be use with your DVR. The clientport designates the port to be use with the client software while the HTTPport refers to the one to be use with the built-in Web Server.
8. After all settings have been configured; you may test the connection by clickingthe Test Connection button. A confirmation message, similar to the oneshown in Figure 39 will pop up if the network is working properly.

Figure 39. Test Connection Confirmation

9. Select the Save button to save the network settings and select Exit to return to the previous menu. Selecting the Exit button without clicking Save will quit out of the menu without saving settings.

7.1.2 Extended remote connection

Extended remote connection is used for adding more network visitors with sub stream. Check "Extended remote connection" to enable this function.
7204HVI-ST support up to 24 network visitors, six for each channel.
7208HVI-ST support up to 48 network visitors.
7216HVI-ST support up to 50 networks visitors.
If you don't enable this function, then 7208HVI-ST/7216HVI-ST only support up to 24 network visitors.
You have no need of checking "Extended remote connection" when it is 7204HVI-ST.

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7.2 Managing User Accounts

By default, DVR comes with two user accounts, the *Administrator* account and the *Guest* accounts. The *Administrator* user name is *admin* and the password is *12345*. The default password for *Administrator* should be changed right away for security reasons. The *Administrator* has the authority to add, delete or configure parameters for many of the system functions. The Guest accounts user name is guest without password. You can easily switch between accounts by click Login/Logout at the lower left corner of the main menu.

7.2.1 Adding a New Remote/Local User

You may add up to 30 new users to your DVR.

To add new users:
1. Enter the User Settings menu, shown in Figure 40 by going to MainMenu > System Configuration > User Settings.

Figure 40. Remote User Settings Menu

2. Under **Users List**, click on *Select this entry to add new user*.
3. Once a new entry has been selected, the fields under **Users** will become editable.Enter the information for **Name**, **Password** and **Verify**.
4. In the **Remote Permissions** panel, select the functions that you would like togive the user access to remotely. You may also check the **All**checkbox to givefull control to the selected remote user. These functions include:
   - **Log Search:** View logs that are saved on the DVR.
   - **Serial Port Control:** Configure settings for RS232 and RS485 ports.
   - **Two-Way Audio:** Ability to use two-way radio between the remote clientand the DVR.
   - **Advanced Control:** Manage hard disk drives (initializing and settingproperties for HDDs). Ability to remote update system firmware and stoppingof the relay output.
   - **Live View:** Access the Live Feed.
   - **PTZ Control:** Control PTZ cameras.
   - **Configuration:** Configure parameters, restore parameters to factorydefaults and import settings to as well as export settings from DVR.
   - **Video Output Control:** Configure settings for video output.
   - **Alarm Control:** Alert or control the relay output of the DVR. Alarm andexception settings must be configured properly to upload to host.
   - **Shutdown/Reboot:** Shutdown or reboot the DVR.
   - **Playback:** Playback recordings remotely.
   - **All:** Full permission to use all functions.
5. Click the Save button to save user settings and click Done to return to the previousmenu.

Note: Users both have the local access permission and the remote access permission.

Note: Lock menus configuration is to allow local users entering or not entering menus.(Details see page 60)
You can go to Lock Menus menu easily by clicking the' Lock menus' button on the bottom of the User setting menu.

Note: If you forget the password to your DVR, contact your supplier with the serialnumber of your DVR to obtain a secure code to reset your DVR.

Note: User settings only appear on the list of System Configuration when login with Administrator accounts.

7.2.2 Deleting a User

To delete a user from the DVR:
1. Enter the User Settings menu, shown in Figure 39 by going to MainMenu > System Configuration > User Settings.
2. Select a user to delete in the **Users List** panel.
3. Click the Remove button to delete user.
**4.** Click the OK button to confirm deletion of user.

5. Click the Done button to exit menu.

7.2.3 Editing a User

To edit a user:
1. Enter the User Settings menu, shown in Figure 39 by going to MainMenu > System Configuration > User Settings
2. Select a user to edit in the **Users List** panel.
3. Edit user information in the **Users** and **Remote Permissions** panel. Remotepermissions are defined above in *Adding a New Remote User* on page 54.
4. Click Save button to save settings and Done button to exit menu.

*Note:*Password of Administrator can be modified in User setting menu. If password of administrator is changed, a dialog box to enter in the older password will appear after clicking save button, enter in the right password and click Done button to exit.

*Note:*User password can be both numbers and characters. You can click the button ![abc] on the password editable fields to enter characters.
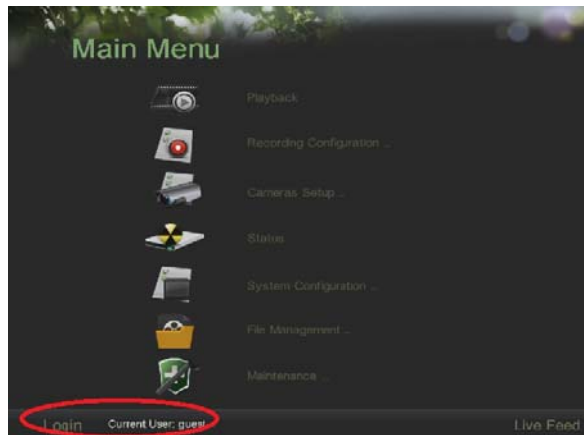
7.2.4 Switch User

Figure 41.Main Menu

On the main menu (see in Figure 41), information about users are show on the lower left corner, ![Login Current User: guest],click Login/Logout to switch users.

7.3 Configuring PTZ Cameras

7.3.1 Configuring Basic PTZ Settings

Settings for a PTZ camera must be configured before it can be used. Before proceeding,verify that the PTZ and RS-485 of the DVR are connected properly.

To configure PTZ settings:
1. Enter the PTZ Configuration menu, shown in Figure 42 by going to MainMenu > System Configuration > PTZ Configuration.

Figure 42. PTZ Configuration Menu

2. Select the **Serial Settings** tab.
3. Select the camera to configure in the camera drop down menu on the upperleft of the menu. If all cameras are to be configured with the same settings,select *All Cameras* from the list.
4. Configure PTZ settings, including those of **Baud Rate**, **Data Bit**, **Stop Bit**, **Parity**,**Flow Ctrl**, **Protocol** and **Address** according to the parameters of the PTZcamera(s).
5. Click the Save button to save current settings.

To test and verify PTZ settings:
1. Enter the PTZ Configuration menu, shown in Figure 41 by going to MainMenu > System Configuration > PTZ Configuration.
2. Select the **On Camera Settings** tab. This will open up the On Camera Settingsmenu, shown in Figure 43.

Figure 43. PTZ Configuration

3.   Select the camera to test in the camera drop down menu.
4.   Using the Directional buttons and other PTZ control buttons (Zoom In/Out,Focus In/Out, Iris In/Out), test the functionality of the PTZ camera. If PTZcamera and protocol supports it, you may also click the Auto-Scan button totest its function. PTZ controls buttons are shown in Figure 44.
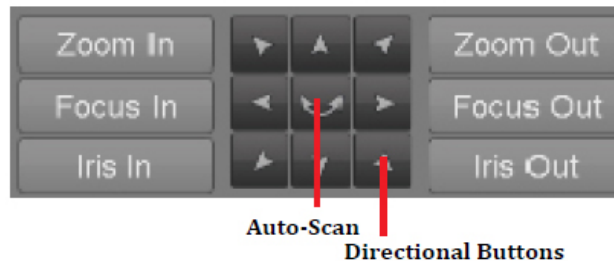

Figure 44. PTZ Controls Button

5.   If PTZ camera is not working properly, make sure PTZ is connected and configuredwith the correct settings under the **Serial Settings** tab.
6.   Click Done to exit and return to the previous menu.

7.4 Customizing PTZ Presets, Patterns and Patrols

Your DVR allows you to customize presets, patterns and patrols for a connected PTZ ,camera. A PTZ camera must first be configured before PTZ presets, patterns and patrolscan be customized (See *Configuring Basic PTZ Settings* on page 57).

To customize PTZ presets:
1.   Enter the PTZ Configuration menu, shown in Figure 42 by going to MainMenu > System Configuration > PTZ Configuration.
2.   Select the **On Camera Settings** tab.
3.   Select **Save Presets** and move the camera to the desired position using thePTZ control buttons.
4.   Double-click on a preset number in the upper left corner of the screen. Thecurrent position of the PTZ camera will be set for the selected preset number.
5.   To test the newly configured preset, first move the PTZ camera to a differentposition. Select **Recall Presets** and click on the preset number. The camerashould move to the location that was set for the selected preset number.
6.   Click the Done button to exit out of the PTZ Configuration menu.

*Note:*Only the first 23 presets are shown in the table. To save or recall more presets,click on the "..." button. Clicking the "..." button will bring up a selection list for presets up to200.

To customize PTZ patterns:
1.   Enter the PTZ Configuration menu, shown in Figure 42 by going to MainMenu > System Configuration > PTZ Configuration.
2.   Select the **On Camera Settings** tab.
3.   Select a **Pattern Number** to set from the drop down list.
4.   Click the Record button to begin recording the movement of the PTZ.
5.   Move the PTZ to the desired locations using the PTZ control buttons.
6.   Click the Save button to save pattern.
7.   To test out your new pattern, click the Play button. The PTZ should move as itdid during the recording process. You may click the Stop button at any time toend the pattern. Clicking the Play button again will start playing the PTZ patternagain at the initial position.
8.   Click the Done button to exit out of the PTZ Configuration menu.

To customize PTZ patrols:

1. Enter the PTZ Configuration menu, shown in Figure 42 by going to MainMenu > System Configuration > PTZ Configuration.
2. Select the **On Camera Settings** tab.
3. Select a **Patrol Number** to set from the drop down list.
4. Select a **Preset Number** that is next to the **Patrol Number** from the dropdown list that you would like to add to the patrol.
5. Click the Add button. The **Preset Number** will be added to the patrol list.
6. Repeat steps 4-5 until you have included all the presets you would like to haveon the patrol.
7. Click the Up and Down button at the bottom of the list to change the order ofthe presets in the patrol.
8. To test out your new preset, click the Play button. The PTZ should movethrough the list of added presets.
9. Click the Done button to exit out of the PTZ Configuration menu.

7.5 Configuring Alarms and Exceptions

7.5.1 Setting Up Motion Detection

Set up properly, using motion detected recording will increase the number of days yourDVR is able to record. It will only record relevant events rather than everything, which willalso make searching for events easier.

To set up motion detection:
1. Enter the Motion Detection Settings menu, shown in Figure 45 by going toMain Menu > Recording Configuration > Motion Detection Settings.
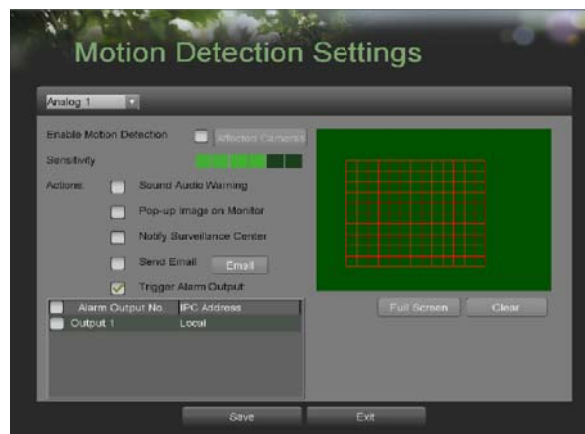

Figure 45. Motion Detection Settings Menu

2. Select the camera to configure in the camera drop down menu on the upperleft of the menu. If all cameras are to be configured with the same settings,select *All Cameras* from the list.
3. Check the **Enable Motion Detection** checkbox to enable motion detection forthe selected camera. Uncheck the checkbox to disable motion detection.
4. Set the motion detection sensitivity by adjusting the green **Sensitivity** bar. Themore lime green rectangles selected in the bar, the higher the sensitivity willbe to motion.
5. Set the motion detection region in the preview screen on the right side of themenu by left-clicking with the mouse on an open area. A red grid will beshown, designating that the selected area is part of the motion detectionregion. Dragging or left-clicking on areas that overlap the current selectedmotion detection area will include them into the region. You may also click theFull Screen button to include the whole area into the motion detection region.Left-clicking on any part of the grid will remove that section from the motion detection region.
6. If you're not satisfied with the selected region, you may click the Clear buttonto reset the motion detection area.
7. Select the **Actions** to take if motion is detected in the designated regions. Morethan one action can be selected. The actions available includes:

- **Sound Audio Warning:** DVR will sound an audio warning if motion isdetected in the designated regions of the camera.
- **Pop-up Image on Monitor:** DVR will show an image of what caused themotion on the monitor.
- **Notify Surveillance Center:** DVR will notify surveillance center whenmotion is detected.
- **Send Email:** DVR will send an email out to the designated recipients whenmotion is detected.
- **Trigger Alarm Output:** DVR will trigger alarm output when motion isdetected. Selecting this option will enable the Alarm Output list, where theoutput to trigger can be selected.

8. Select the Save button to save the motion detection settings and select Exit toreturn to the previous menu. Selecting the Exit button without clicking Savewill quit out of the menu without saving settings.

7.5.2 Configuring Alarm Inputs

Recordings can also be triggered from an external sensor alarm device. To setup recordingtriggers from alarm inputs:

1. Enter the Trigger Settings menu, shown in Figure 46 by going to Main Menu >Recording Configuration > Trigger Settings.

Figure 46. Trigger Settings Menu

2. Select the **Recording Triggers** tab.
3. Select the camera to configure in the camera drop down menu on the upperleft of the menu. If all cameras are to be configured with the same settings,select *All Cameras* from the list.
4. Check the **Enable Trigger Events** checkbox to enable trigger events for theselected camera. Uncheck the checkbox to disable trigger events.
5. Select the trigger inputs that you would like to associate with the selected camera.
6. Select the Save button to save the trigger settings and select Exit to return tothe previous menu. Selecting the Exit button without clicking Save will quitout of the menu without saving settings.

Certain actions can also be performed if an alarm input is triggered. To setup triggeractions:

1. Enter the Trigger Settings menu, shown in Figure 45 by going to Main Menu >Recording Configuration > Trigger Settings.
2. Select the **Trigger Actions** tab, this will take you to the Trigger Actions submenu,shown in Figure 47.

Figure 47. Trigger Actions Sub-Menu.

3. Select the alarm input to configure in the **Alarm Input No.** drop down menuon the upper left of the menu. If all alarm inputs are to be configured with thesame settings, select *All*from the list.
4. Select the **Trigger Action** for the external alarm input device. *Normal Open* or*Normal Close* can be selected.
5. Select the **PTZ Actions** (only if a PTZ camera is configured on the DVR) to runwhen the alarm input is triggered. Only one PTZ action can be selected peralarm input.
6. Select the **Actions** to run when the alarm input is triggered. Multiple actionscan be selected per alarm input. The actions available includes:
   - **Sound Audio Warning:** DVR will sound an audio warning if alarm is triggered.
   - **Pop-up Image on Monitor:** DVR will show the corresponding channelthat is associated with the trigger input.
   - **Notify Surveillance Center:** DVR will notify surveillance center whenalarm is triggered.
   - **Send Email:** DVR will send an email out to the designated recipients whenalarm is triggered.
   - **Trigger Alarm Output:** DVR will trigger alarm output when input is triggered.Selecting this option will enable the Alarm Output list, where theoutput to trigger can be selected.
7. Select the Save button to save the trigger settings and select Exit to return tothe previous menu. Selecting the Exit button without clicking Save will quitout of the menu without saving settings.

7.5.3 Configuring Exceptions

Actions can also be triggered when the DVR detects certain exceptions. To setup exceptionconfiguration:
1. Enter the Exception Configuration menu, shown in Figure 48 by going toMain Menu > System Configuration > Exception Configuration.

Figure 48. Exception Configuration Menu

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2. Select the **Exception Type** to configure. The exception type includes:
   - **HDD Full:** If selected, trigger action when HDD is full.
   - **HDD Error:** If selected, trigger action when errors on the HDD are detected.
   - **Network Failure:** If selected, trigger action when a network failure is detected.
   - **IP Conflict:** If selected, trigger action if an IP conflict is detected.
   - **Illegal Login:** If selected, trigger action when illegal logins are detected.
   - **Video Exception:** If selected, trigger action when an exception such as distorted video is detected.
   - **Video Output Standard Mismatch:** If selected, trigger action when video output standard does not match.
3. Select the **Actions** to take when the exception is detected. More than one action can be selected. The actions available includes:
   - **Sound Audio Warning:** DVR will sound an audio warning if exception is detected.
   - **Notify Surveillance Center:** DVR will notify surveillance center if exception is detected.
   - **Send Email:** DVR will send an email out to the designated recipients if exception is detected.
   - **Trigger Alarm Output:** DVR will trigger alarm output if exception is detected. Selecting this option will enable the Alarm Output list, where the output to trigger can be selected.
4. Select the Save button to save the exception settings and select Exit to return to the previous menu. Selecting the Exit button without clicking Save will quit out of the menu without saving settings.

7.5.4 Configuring E-mail Settings

If you would like to have the DVR send out e-mails when certain events are detected or exceptions have been triggered, you must first setup the e-mail settings.

To setup e-mail settings:
1. Enter the Email Configuration menu, shown in Figure 49 by going to MainMenu > System Configuration > Email Configuration.
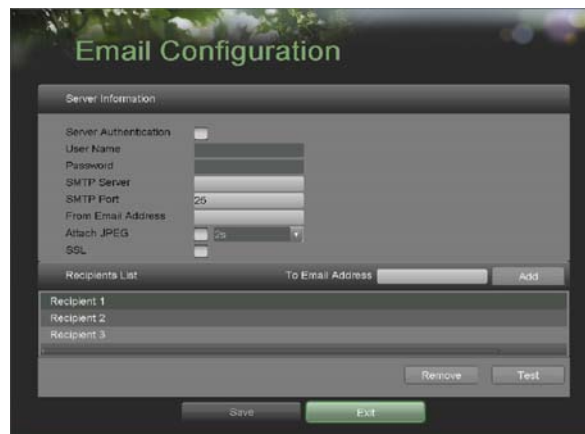

Figure 49. Email Configuration Menu

2. Under **Server Information**, enter all pertinent email information, including:
   - **Server Authentication:** Enable if email server requires authentication. Enabling Server Authenticating will enable the User Name and Password fields.
   - **User Name:** User name to use for server authentication.
   - **Password:** Password to use for server authentication.
   - **SMTP Server:** Address for SMTP server.
   - **SMTP Port:** Port for SMTP server.
   - **From Email Address:** The *From* address to use when an e-mail is sent out from the DVR.

- **Attach JPEG:** Enabling will attach a small JPEG segment (duration can beset next to the Attach JPEG checkbox) to the out-going e-mail.
- **SSL:** Enable Secure Sockets Layer (SSL) for out-going e-mail.

3. Enter **To E-mail Address** and click the Add button. The e-mail address will beadded to the **Recipients List**.
4. You may now test the e-mail settings by clicking the Test button or remove ane-mail address off the **Recipients List** by selecting the recipient and clicking
5. Remove.
6. Select the Save button to save the e-mail settings and select Exit to return to theprevious menu. Selecting the Exit button without clicking Save will quit out ofthe menu without saving settings.

C H A P T E R 8

Camera Management

8.1 To setup privacy zones:

1. Enter the Privacy Zones menu, shown in Figure 50 by going to Main Menu >Camera Setup > Privacy Zones.
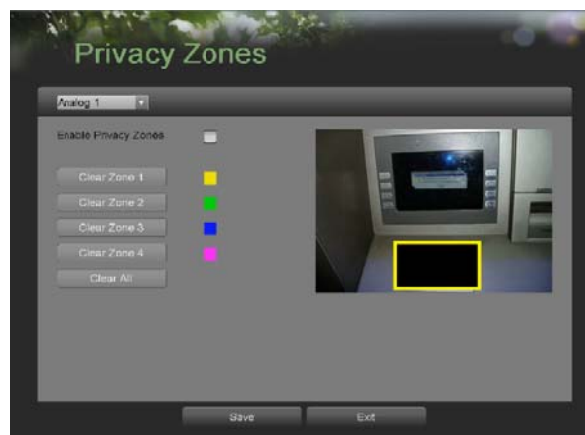

Figure 50.Privacy Zone Menu

2. Select the camera to setup privacy zones in using the camera drop downmenu on the upper left of the menu. If all cameras are to be configured withthe same settings, select *All Cameras* from the list.
3. Click **Enable Privacy Zones**.
4. Up to four privacy zones can be used per camera and are shown using fourdifferent colors, yellow, green, blue and pink. Using the mouse, click and dragout rectangular boxes defining the desired zones.

5. You may clear a privacy zone at any time by clicking on the correspondingClear Zone button or Clear All button to clear all zones.
6. Select the Save button to save the privacy zones settings and select Exit toreturn to the previous menu. Selecting the Exit button without clicking Savewill quit out of the menu without saving settings.

8.2 Configuring Video Tampering Detection

Video tampering detection can be used to recognize if an area of a camera is purposelycovered and to respond accordingly.
To configure video tampering detection:
1. Enter the Video Tampering Detection menu, shown in Figure 51 by going toMain Menu > Camera Setup > Video Tampering Detection

Figure 51. Video Tampering Detection Menu

2. Select the camera to setup video tampering detection in using the camera dropdown menu on the upper left of the menu. If all cameras are to be configuredwith the same settings, select *All Cameras* from the list.
3. Click **Enable Video Tampering Detection**.
4. Adjust the **Sensitivity** for video tampering detection.
5. Select **Actions** to take if video tampering is detected. More than one action canbe selected per channel. These actions include:
    *   **Sound Audio Warning:** DVR will sound an audio warning if tampering isdetected.
    *   **Pop-up Image on Monitor:** DVR will show the corresponding channelthat is associated with the tampered channel.
    *   **Notify Surveillance Center:** DVR will notify surveillance center whentampering is detected.
    *   **Send Email:** DVR will send an email out to the designated recipients whentampering is detected.
    *   **Trigger Alarm Output:** DVR will trigger alarm output when tampering isdetected. Selecting this option will enable the Alarm Output list, where theoutput to trigger can be selected.
6. Select the Save button to save the privacy zones settings and select Exit toreturn to the previous menu. Selecting the Exit button without clicking Savewill quit out of the menu without saving settings.

Note:Video tampering area is defaulted as full screen. Area setting is not supported.

8.3 Configuring Video Loss Detection

Video loss detection can be enabled on any of the channels on your DVR to detect the loss ofvideo.

To configure video loss detection:
1. Enter the Video Loss Detection menu, shown in Figure 52 by going to MainMenu > Camera Setup > Video Loss Detection.

Figure 52. Video Loss Detection Menu

2. Select the camera to setup video loss detection in using the camera drop downmenu on the upper left of the menu. If all cameras are to be configured withthe same settings, select *All Cameras* from the list.
3. Click **Enable Video Loss Detection**.
4. Select **Actions** to take if video loss is detected. More than one action can beselected per channel. These actions include:
    * **Sound Audio Warning:** DVR will sound an audio warning if video loss isdetected.
    * **Pop-up Image on Monitor:** DVR will show the corresponding channelthat is associated with the video loss channel.
    * **Notify Surveillance Center:** DVR will notify surveillance center whenvideo loss is detected.
    * **Send Email:** DVR will send an email out to the designated recipients whenvideo loss is detected.
    * **Trigger Alarm Output:** DVR will trigger alarm output when video loss isdetected. Selecting this option will enable the Alarm Output list, where theoutput to trigger can be selected.
5. Select the Save button to save the privacy zones settings and select Exit toreturn to the previous menu. Selecting the Exit button without clicking Savewill quit out of the menu without saving settings.

8.4 Configuring OSD Settings

On Screen Display (OSD) settings can be configured in the OSD Configuration menu. TheOSD is shown in each display in Live Feed and Playback mode.

To configure OSD settings:

1. Enter the OSD Configuration menu, shown in Figure 53 by going to MainMenu > Cameras Setup > OSD Configuration.

Figure 53. OSD Configuration Menu

2. Select the camera to setup OSD configuration in using the camera drop downmenu on the upper left of the menu. If all cameras are to be configured withthe same settings, select *All Cameras* from the list.
3. Configure OSD settings, including:
   - **Camera Name:** Name of selected camera.
   - **Display Camera Name:** Enable to display camera name in OSD.
   - **Display Date:** Enable to display date in OSD.
   - **Display Week:** Enable to display week in OSD.
   - **Date Format:** Format of date.
   - **Time Format:** Format of time.
   - **OSD Display:** Display style for OSD.
4. Using the mouse, click and drag OSD elements on preview screen to desiredlocation.
5. Select the Save button to save the privacy zones settings and select Exit toreturn to the previous menu. Selecting the Exit button without clicking Savewill quit out of the menu without saving settings.

C H A P T E R 9

Disk Management

9.1 Managing Disks

9.1.1 Checking Disk Status

The status of all installed hard disk drives (HDD) can be checked under the DiskManagement menu.

To check the status of installed disks:
1. Enter the Disk Management menu, shown in Figure 54 by going to Main Menu> System Configuration > Disk Management.

Figure 54. Disk Management Menu

2. There are four different panels found in the Disk Management menu. Theyinclude:
    *   **Disk Utilization:** Displays the maximum space available of all disks combined.
    *   **Available Disks:** Displays a list of all installed disks(include local and network) and their respectivespace and status.
    *   **Status:** Displays the available disk space of all disks combined.
3. Click the Done button to exit out of Disk Management.

9.2 Formatting Disk

A newly installed hard disk drive (HDD) must be first formatted before it can be used withyour DVR. Formatting the disk will erase all data on it.

To format a new disk:
1. Enter the Disk Management menu, shown in Figure 54 by going to Main Menu> System Configuration > Disk Management.
2. Select a disk to format. A disk that has not been formatted will show *ErrorDetected* as its status. If the disk is one that is newly installed, the status of thedrive will show up as *Non-Active* and the Reformat button will change to theAdd button.
3. Click the Reformat/Add button.
4. A confirmation message, similar to the one shown in Figure 55 will appear onthe screen. Click the Yes button to continue formatting process.
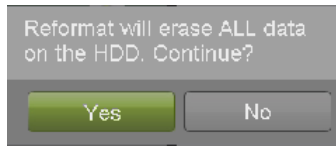
Figure 55. Disk Format Confirmation

5. A format progress bar (Figure 55) will be shown on the menu. After the diskhas been formatted, the status of the disk will change to *Active*.

Figure 55. Disk Format Progress Bar

6. Click the Done button to exit out of Disk Management.

9.2.1 Enabling Disk Overwrite

Enabling disk overwrite will allow the DVR to overwrite the installed disks once the disksare full.

To enable disk overwrite:
1. Enter the Disk Management menu, shown in Figure 54 by going to Main Menu> System Configuration > Disk Management.
2. Check the Overwrite checkbox.
3. Click the Save button.
4. Click the Done button to exit out of Disk Management.

9.3 Managing Files

9.3.1 Searching for Recorded Files

Previously recorded files can be searched by criteria in the File Management menu.

To search for all recorded files:
1. Enter the File Management menu, shown in Figure 56 by going to Main Menu> File Management.

Figure 56. File Search Menu

2. Select the cameras that you would like to include in the search. Analog camerasare listed on the first row, preceded with the letter A. Digital cameras arelisted on the second row, preceded with the letter D. If you would like includeall cameras in the search, check the *All*box.
3. Select the **Start Time**.
4. Select the **End Time.**
5. Select the **Video Type**. Video type includes *Continuous* and *On Event* recordings.
6. Select the **File Type**. File type includes *Locked* and *Unlocked* files.
7. Click the Search button or if you would like to search for only locked files, theSearch All Locked Files button.
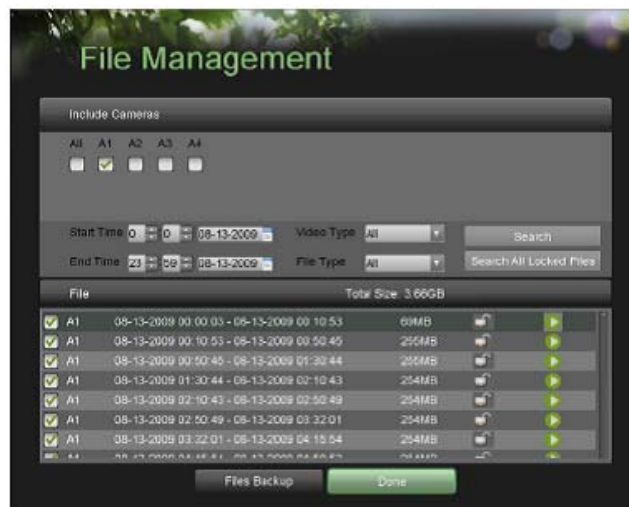8. A list of results with your search criteria will be shown at the bottom of themenu (Figure 57).

Figure 57. File Search Results

9. You may now play the selected file by clicking the Play button that is next tothe file.
10. Click the Done button to exit out of the File Management menu.

9.4 Locking and Unlocking Recorded Files

To lock and unlock recorded files:

1. Search for recorded files using the File Management menu (See *Searchingfor Recorded Files* on page 83).
2. Select the file you would like to lock/unlock.
3. Click the Lock icon for the selected file.
4. Click the Done button to exit out of the File Management menu.

Note: Locked files will never be overwritten until they are unlocked.

C H A P T E R 1 0

DVR Management

10.1 Managing System

10.1.1 Upgrading the System Firmware

The system firmware for your DVR can be updated from a USB storage device.
To update the system firmware:

1. Enter the Firmware Upgrade menu, shown in Figure 58 by going to MainMenu > Maintenance > Firmware Upgrade.

Figure 58. Firmware Upgrade Menu

2. Connect the USB storage device to a USB port on the DVR.
3. Click the Refresh button. The contents of the USB storage device will be shownon the screen.
4. Select the firmware file. The firmware file is named *digicap*.
5. Click the Upgrade button to upgrade the DVR. The DVR will automaticallyreboot after the upgrade is completed. If you do not wish to upgrade at thispoint, click the Cancel button.

10.1.2 Restoring Default Settings

To restore factory default settings to your DVR:

1. Enter the Factory Default menu, shown in Figure 59 by going to Main Menu >Maintenance > Factory Default.

Figure 59. Factory Default Menu

2. Select the OK button to restore factory defaults or select the Cancel button to return to the previous menu.

   Note: Network information such as IP address, subnet mask and gateway will not be restored.

10.2 Exporting & Importing Configuration

Configuration information from your DVR can be exported to a USB storage device and imported into another DVR. This will allow you to efficiently setup the same configuration on numerous DVRs.

To export DVR configuration:
1. Enter the Export/Import Configuration menu, shown in Figure 60 by going to Main Menu > Maintenance > Export/Import Configuration.

Figure 60. Import/Export Configuration Menu

2. Connect the USB storage device to a USB port on the DVR.
3. Click the Refresh button. The contents of the USB storage device will be shown on the screen.
4. Click the New Folder button to create a new folder or the Delete button to delete a file/folder.
5. Select the location where you would like the configuration to be stored on the USB storage device.
6. Click Export to export a configuration file to USB storage device. The configuration file will be named *devCfg.bin*.
7. Click the Exit button to exit out of the Export/Import Configuration menu.

To import DVR configuration:

1. Enter the Export/Import Configuration menu, shown in Figure 65 by going toMain Menu > Maintenance >Export/Import Configuration.
2. Connect the USB storage device to a USB port on the DVR.
3. Click the Refresh button. The contents of the USB storage device will be shownon the screen.
4. Select the configuration file. The configuration file is named *devCfg.bin*.
5. Click the Import button.
6. Click the Exit button to exit out of the Export/Import Configuration menu.

10.3 Viewing System Logs

Many events of your DVR are logged into the system logs.To access the system logs and search for these events:
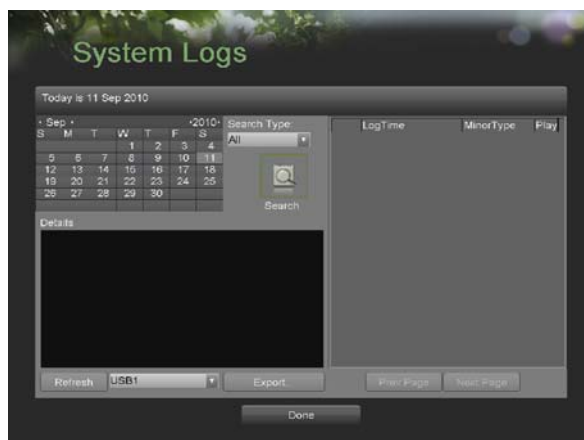1. Enter the System Logs menu, shown in Figure 61 by going to Main Menu >Maintenance > System Logs.

Figure 61. System Logs Menu

2. Select the date from the **Calendar** to search for system logs in. The current systemdate is displayed in the upper left corner of the menu.
3. Select the log type using the **Search Type** drop down list. Four log types areavailable: **Alarm**, **Exception**, **Operation**,**Information**.
4. Click the Search button. The search results will be displayed in a list on theright side of the menu (Figure 62). If there are more than 2000 entries, clickthe Prev Page or Next Page button to display more entries.
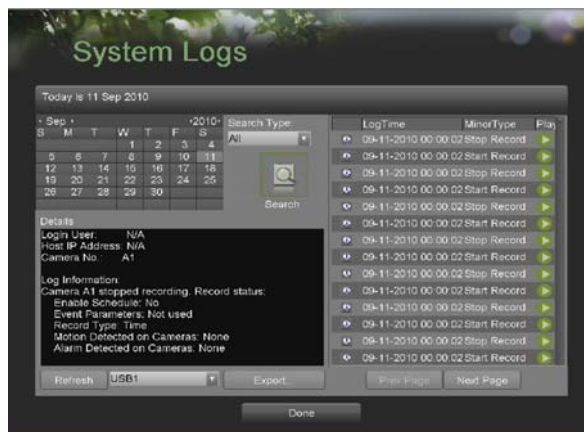

Figure 62. System Log Search Results

5. Select an entry to view more detail information about the entry.
6. If applicable, you may also view the associated video to the selected log entryby clicking the Play button.
7. Log files can also be exported onto a USB storage device. To export a log file,connect a USB storage device to the DVR, select the log files to export and clickthe Export button.
8. Click the Done button to exit out of menu.

10.4 Locking and Unlocking System Menus

System menus on your DVR can be locked to prevent unauthorized local access.

To lock and unlock system menus:
1. Enter the Lock Menus menu, shown in Figure 63 by going to Main Menu >Maintenance > Lock Menus.
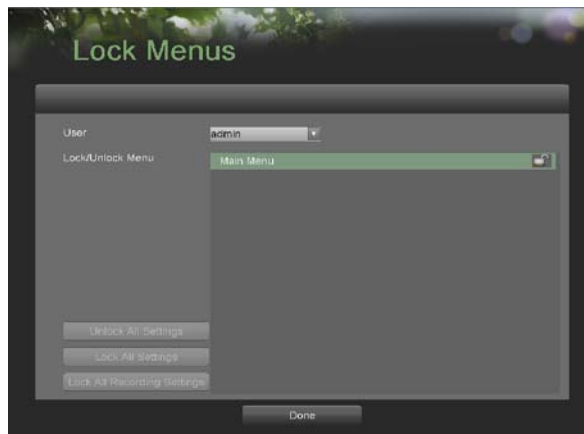

Figure 63. Lock Menus Menu

Figure 64. Lock Menus Menu

2. If you select Administrator(see Figure 68),there is only Main menu you can choose to lock/unlock.
3. If you select other users(see Figure 69),select the menus you would like to lock/unlock by selecting the Lock iconbeside the menu's name in the list on the right. You may also choose to lockand unlock all settings or just recording settings by clicking on the correspondingbuttons (Unlock All Settings, Lock All Settings, Lock All RecordingSettings).
4. Once a system menu is locked, access to that menu will only be granted afterthe correct Admin password is entered.
5. Click the Done button to save settings and to return to the previous menu.

Note: In the Lock/Unlock Menu list, you can't modify menus if they appear dark grey.

Note: Lock Menus menu is available when current user is Administrator.