PLEASE READ THIS MANUAL BEFORE USING YOUR SYSTEM, and always follow the instructions for safety and proper use. Save this manual for future reference.
About this manual

This manual applies to the ALIBI ALI-QVR5100 series embedded Digital Video Recorders (QVRs) with firmware version V4.20.xx.

Navigation in the firmware is represented by the expression: “Menu | Configuration | Alarm | Alarm Output”, which means:

a. Right click on the Live View display to open the pop-up menu, and then click the Menu entry (at the top of the list).

b. In the Menu window, click the Configuration icon.

c. In the Configuration window, click the Alarm entry in the left frame.

d. Click the Alarm Output tab at the top of the screen. This may also indicate a parameter on the screen.

To find the version of the firmware installed in your QVR, open the Menu | Configuration screen.

Some features described herein may apply to some QVRs but not to other models. For specific information about the features and capabilities of your ALIBI QVR, please contact your vendor.

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15505 Long Vista Drive, Suite 250, Austin, TX 78728
For Sales and Support, contact your distributor.

www.Observint.com
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SECTION 1
Systems Overview

Congratulations on purchasing your new Alibi QVR series recorder! Your system will accommodate Alibi HD-TVI, HD-CVI, HD-AHD, CVBS and IP cameras. Key features include:

General
- Connectable to HD-TVI, HD-CVI, HD-AHD, CVBS analog cameras and IP cameras
- Support ALIBI-C protocol for connecting camera over coax
- Each channel supports dual-stream. Main stream supports up to 1080p resolution and sub-stream supports up to 720p resolution. Support up to 1080p lite (960×1080) resolution when 1080p Lite mode is enabled
- Each channel can be configured as either an HD/CVBS or IP camera channel
- Independent configuration for each channel, including resolution, frame rate, bit rate, image quality, etc.
- Encoding for both video stream and video & audio stream; audio and video synchronization during composite stream encoding
- Support enabling H.264+ to ensure high video quality with lowered bitrate
- Supports H.264, H.264+, H.265, H.265+, H.265 PRO, and H.265 PRO+ codecs
- Platform Access supports Alibi Connect P2P service. Can delete recorders from Alibi Connect P2P accounts through the local GUI
- Watermark technology

Local Monitoring
- HDMI / VGA1 and HDMI2 outputs provided up to 4K (3840 × 2160) resolution at 30 Hz
- 1/4/6/8/9/16-split screen live view is supported. The display sequence of screens is adjustable
- Live view screen can be switched in group and manual switch and automatic cycle live view are also provided, the interval of automatic cycle can be adjusted
- Quick setting menu is provided for live view
- The selected live view channel can be shielded
- Motion detection, video-tampering detection, video exception alarm, video loss alarm and VCA alarm functions
- Privacy mask
- Several PTZ protocols supported; PTZ preset, patrol and pattern
- Zooming in/out by clicking the mouse and PTZ tracing by dragging mouse

HDD Management
- ALI-QVR5100 series recorders support 4 internal SATA hard disk drive (HDD). Each HDD can have a maximum storage capacity of 10TB
- 8 network disks (8 NAS disks, 8 IP SAN disks or n NAS disks + m IP SAN disks (n+m ≤ 8)) can be connected
- S.M.A.R.T. and bad sector detection reporting
- HDD Sleep function
SECTION 1: SYSTEM OVERVIEW

- HDD property: redundancy, read-only, read/write (R/W)
- HDD group management
- HDD quota management; different capacity can be assigned to different channels

Recording and Playback

- Allows any analog camera channel to be configured as a IP network camera channel
- QVR5100 series recorders support IP camera resolution up to 8MP when enhanced IP mode feature is enabled
- Holiday recording schedule configuration
- Cycle and non-cycle recording modes
- Normal and event video encoding parameters
- Multiple recording types: Manual, Continuous, Alarm, Motion, Motion | Alarm, Motion & Alarm, POS and Event
- 8 recording time periods with separated recording types
- Support Channel-Zero encoding
- Main stream and sub-stream configurable for simultaneous recording
- Pre-record and post-record for motion detection triggered recording, and pre-record time for schedule and manual recording
- Searching record files by events (alarm input/motion detection)
- Customization of tags, searching and playing back by tags
- Locking and unlocking of record files
- Local redundant recording
- Searching and playing back record files by camera number, recording type, start time, end time, etc.
- Smart playback to go through less effective information
- Main stream and sub-stream selectable for local/remote playback
- Zooming in for any area when playback
- Multi-channel reverse playback
- Supports pause, fast forward, slow forward, skip forward, and skip backward when playback, locating by dragging the mouse on the progress bar
- 4/8/16-channel synchronous playback

Backup

- Export data by a USB, and eSATA device
- Export video clips when playback
- Management and maintenance of backup devices.

Alarm and Exception

- Configurable arming time of alarm input/output
- Alarm for video loss, motion detection, video tampering, abnormal signal, video input/recording resolution mismatch, illegal login, network disconnected, IP address conflict, record exception, HDD error, and HDD full, etc.
- Alarm triggers full screen monitoring, audio alarm, notifying surveillance center, sending email and alarm output
SECTION 1: SYSTEM OVERVIEW

- VCA detection alarm (line crossing detection and intrusion detection) is supported
- Support coaxial alarm
- Automatic restore when system is abnormal

Other Local Functions

- Manual and automatic video quality diagnostics
- Local control by mouse
- Three-level user management: Administrator, Operator and Guest. Administrator can create operator and guest accounts and define their operating permission, which includes the permissions to access any channel
- Manually triggering and clearing of alarms
- Importing and exporting of configuration file of devices
- Retrieve camera type information automatically

Network Functions

- Supports Alibi Connect P2P remote connection
- 2 self-adaptive 10M/100M/1000M network interface
- IPv6 is supported
- TCP/IP protocol, PPPoE, DHCP, DNS, DDNS, NTP, SADP, SMTP, NFS, iSCSI, UPnP™ and HTTPS are supported
- TCP, UDP and RTP for unicast
- Auto/manual port mapping by UPnP™
- Remote search, playback, download, locking and unlocking the record files, and downloading files broken transfer resume
- Remote parameters setup; remote import/export of device parameters
- Remote viewing of the device status, system logs and alarm status
- Remote keyboard operation
- Remote HDD formatting and device upgrade
- Remote system restart and shutdown
- Remote access with smartphone app ALIBI™ Witness 2.0
- Firmware upgrade from remote server
- Support upgrading via remote FTP server
- RS-485 transparent channel transmission
- Alarm and exception information can be sent to the remote host
- Remotely start/stop recording
- Remotely start/stop alarm output
- Remote PTZ control
- Remote JPEG capture
- Two-way audio and voice broadcasting
- Embedded WEB server
1.1 **Soft keyboard**

One of two on-screen keyboards appears when you click in a field that accepts an entry, such as a password or name or a numerical value. A third keyboard which includes symbols can also be opened while in the numeric keyboard. The alphanumeric keyboard is shown in the following picture. Some control keys toggle their function when they are clicked. A numerical keyboard, shown beneath, appears for numerical entries such as an IP address.

![Soft keyboard - alphanumeric](image1)

![Soft keyboard - numeric](image2)

![Soft keyboard - symbols](image3)

A USB keyboard attached to the recorder has limited functionality. It can be useful for entering text and numbers.
1.2 Mouse control

A standard 3-button (left/right/scroll-wheel) USB mouse can also be used with this recorder. To use a USB mouse:

1. Plug USB mouse into the either the front panel or backpanel USB connector of the recorder.

2. The mouse will be automatically detected. If the mouse is not detected, the mouse may not be compatible with the recorder. Please refer to the recommended device list from your provider.

Using the mouse:

<table>
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<th>Effect</th>
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<tr>
<td>Right click</td>
<td><strong>Live view</strong>: Show menu. Menu: Exit current menu to upper level menu.</td>
</tr>
<tr>
<td>Left click</td>
<td><strong>Single click</strong>: Live view: Select channel and show the quick set menu. Menu: Select and enter.</td>
</tr>
<tr>
<td></td>
<td><strong>Double click</strong>: Live view: Switch between single-screen and multi-screen.</td>
</tr>
<tr>
<td></td>
<td><strong>Click and drag</strong>: PTZ control: pan, tilt and zoom. Tamper-proof, privacy mask and motion detection: Select target area. Digital zoom-in: Drag and select target area. Live view: Drag channel/time bar</td>
</tr>
<tr>
<td>Scroll wheel</td>
<td><strong>Scroll up</strong>: Live view: Previous screen. Menu: Previous item.</td>
</tr>
<tr>
<td></td>
<td><strong>Scroll down</strong>: Live view: Next screen. Menu: Next item.</td>
</tr>
</tbody>
</table>
SECTION 2
Basic System Setup

When the recorder is first powered on, or reset to its Factory default configuration, it is in an “Inactive” state, which means that it is not it doesn’t have an admin user password for the recorder or cameras, and it is not configured to record video or log system status messages. The initial configuration screen enables you to activate the recorder.

After activating the recorder and configuring its security options, a configuration Wizard will open. The Wizard helps you to easily configure the recorder for its basic settings, including date and time, network configuration, network cameras, HDD initialization, etc.

After completing system setup with the Wizard, the recorder will record video continuously from all cameras. Additional configuration setup will allow you to customize the system for your needs and operate more efficiently.

2.1 System activation

1. Power on the recorder. Normally, an Alibi logo splash screen appears within 2 minutes.

2. The following screen is used to activate the recorder.
SECTION 2: SYSTEM SETUP

In the screen above:

a. Click on the **Create New Password** field, and then enter a unique password using the pop-up virtual keyboard. Follow the guidelines in the **Note** at the bottom of the screen. Always use a password that will produce a “Strong” rating (green indicator in the status bar).

\[Image of the virtual keyboard\]

b. Enter the same New Password in the **Confirm New Password** field.

Select or deselect the check boxes to:

- **Reserved E-mail Settings**: This feature enables you to reset the admin password of recorder through scanning the QR code.
- **Export GUID**: This feature enables you to create a GUID file and save it to a flash drive for logging back into the recorder if you loose your **admin** password.
- **Enable Unlock Pattern**: This option allows you to login by dragging the mouse across a 3 x 3 matrix to quickly login to your admin account.
- **Security Question Configuration**: If you loose your password, this option enables you to login by responding correctly to security questions you setup.

\[Image of the check boxes\]

c. Enter a password in the **Create Channel Default Password** field. Follow the guidelines in the **Note** below this field.

3. Click the **OK** button to continue. If passwords were setup properly in the **Activation** menu, an **Note** window will appear showing the recorder is now “activated.” Leave the **Note** window open.
SECTION 2: SYSTEM SETUP

4. If you selected options for Reserve E-mail Setting, enter a valid email address in the pop-up window.

   a. Click OK. Your email address will be verified.

   b. In the Note window, click OK to continue.

5. If you selected the option in the Activation screen to Export GUID, use the instructions in this step to configure this feature. You can export the GUID file to an attached storage device. To copy it to a USB drive:

   a. Plug a flash drive into an unused USB port on the recorder, and then click the Refresh icon (see below).

   b. If a list of directories appear, click on the directory you prefer (in the window shown above, the first directory was selected). Options at the bottom of the screen to add a New Folder or Erase files.
SECTION 2: SYSTEM SETUP

c. Double-click on the directory where you want to save the GUID file, and then click the Export button. Allow the export operation to complete. You can set the mouse pointer over a file or directory entry to see the full filename.

d. After the export operation completes, remove the flash drive from the recorder and store it in a secure location.

6. Security Question Configuration: If you selected the Security Question Configuration option, the Security Question Configuration menu will open. Do the following:

a. Open the drop down list in the Question 1 field, and then select the question you want to use.

b. Enter your answer to Question 1 in the Answer 1 field.

c. Repeat the same setup for Question 2 and Question 3.

d. Remember or write down the exact answers you entered, and then save it in a secure location.

e. Click OK to save your configuration, and then click OK again to close the Note window.

7. If you selected the Enable Unlock Pattern option, do the following:

a. Drag the mouse over four of the dots in the matrix shown below to construct an “Unlock” pattern (see right window below).
b. Repeat the same pattern again to verify your choice. Use this pattern to unlock your recorder when requested.

### 2.2 Using the setup Wizard

#### 2.2.1 Data and Time Setup

During startup of a new recorder, the setup Wizard opens by default. Use the Wizard to select the essential configuration settings of your recorder. You can disable the automatic startup of this feature in the Configuration menu. See the **Menu | Configuration | General** menu for more information.

1. Next, the configuration Wizard **Date and Time Setup** menu will open. Since all recordings made by your surveillance system are time stamped, it is very important that the date and time is set precisely to produce valuable evidence from your recorder.

In the screen above:

a. Select the local **Time Zone** and **Date Format** using the drop down menus.
b. Click the **System Date** field, and then click on the current date.

c. Click the **System Time** field, and then use the graphical interface for setting the current time. You can also check the **Enable NTP** box, and then enter the appropriate parameters in the fields below it to configure the recorder retrieve the precise time and date information from a timeserver on the Internet.

d. Click **Next** to save your settings and continue.

### 2.2.2 Network Setup

In the **Network Setup** menu, select or enter the following parameters: Working Mode, IPv4 Address, IPv4 Gateway, MTU (valid range is value range of MTU is 500 ~ 9676) and DNS Server IP addresses. If the DHCP server is available, check the **Enable DHCP** box to automatically obtain an IP address and other network settings from the network DNS server.

1. Open the Working Mode drop-down list and select the option you prefer.
— **Net-Fault Tolerance:** Two NIC circuits use the same IP address. You can set the Main NIC to LAN1 or LAN2. In this configuration, if one network interface fails, the device will automatically enable the standby interface to ensure the system continues to run normally.

— **Multi-Address Mode:** The parameters of the two NIC circuits can be configured independently. You can select LAN1 or LAN2 under Main NIC for parameter settings. Select one NIC card as the default route. When the system connects with the extranet, the data will be forwarded through the default route.

2. Open the **Main NIC** drop-down list and select the primary network interface. The recorder includes two (2) NICs. Selecting the Main NIC depends on the Working Mode you selected above.

3. Check the **Enable Obtain** (DNS) select box to obtain the DNS Server Address address automatically.
4. Click **Next** to save your settings and continue.

### 2.2.3 Hard Disk

If any HDD listed shows a status other than **Normal** (such as, **Uninitialized**), it must be initialized (Init), which formats it to a usable condition.

---

**CAUTION**

The initialization process erases all data on the disk.
**SECTION 2: SYSTEM SETUP**

To Initialize an HDD

**NOTE:** Initializing an HDD erases all data from the HDD. Notice that in the example above, Hard Disk 2 has no free space.

1. Check the select box for the HDD(s) you want to initialize. In this example, Hard Disk 2 was checked.
2. Click the **Init** button.
3. In the **Initialize** pop-up window that opens, click **OK** to continue.
4. Wait for the operation to complete (this could last several minutes).
5. Click Next to continue.

### 2.2.4 Camera Setup

In the Wizard **4 Camera Setup** menu, you can select **Add** cameras discovered on the local network to your surveillance system. Most recorders have a limit of how many network cameras can be added to the system. You can also use the recorder to **Activate** cameras on the network. A camera must be activated before it can be added.
To activate a network camera with the recorder:

1. Click the **Search** button to discover the cameras attached to your local network (network to which the recorder is attached).

2. Scroll through the list of cameras found on the local network, and then check the select box for the cameras you want to activate.

3. Click the **Activate** button. Allow the operation to complete before continuing.

To add a network camera to the recorder:

1. Click the **Search** button to discover the cameras attached to your local network (network to which the recorder is attached).

2. Scroll through the list of cameras found on the local network, and then check the select box for the cameras you want to add. See above.

3. Click the **Add** button. Allow the operation to complete before continuing.

4. Click **Next** to continue.

### 2.2.5 Platform Access

**Platform Access** is used with the Alibi Witness 2 smartphone app to simplify access and control how others can access the system. To enable Platform Access for your recorder, check the **Enable** box (see the screen above). Then follow the on-screen instructions for activating this service. Refer to the Alibi Witness 2 user documentation for instructions on using the platform access feature. Refer to the ALIBI™ Witness 2.0 v3 User Guide available from your vendor for more information.
Platform Access setup can be deferred. Refer to “9.3.2 Platform Access setup” on page 170 for more information about platform access setup and use of this menu.

5. Click Next to continue.

### 2.2.6 Change Password and Ports

In the Wizard 6 Change Password and Ports menu, you can modify your admin password and change the Server, HTTP and RSTP port numbers. Alibi Support recommends that you change these port numbers for stronger security.
1. To change the password, check the New Admin Password box, and then follow the on screen instructions.

2. To change the port numbers, enter the new port numbers in the field provided.

3. To save your settings and exit the configuration Wizard, click Finish. Click Previous to return to another Wizard menu. After clicking Finish, the Live View window will open.

2.3 Basic camera setup

Use the Live View screen shown above to point your cameras at their surveillance targets.

2.4 Customize camera configurations

The Camera menu lists all cameras configured in the recorder, and shows the channel, name, timestamp, etc. of each. Using this menu, you can assign names to each camera for easy recognition, select areas for motion detection and privacy blocking, and configure alarm features (if supported by the camera). To customize the configuration settings of each camera, do the following:

1. Open the Menu screen. Right click on the live view menu, and then click the Menu icon in the upper left corner of the screen.
2.5 Basic camera setup

Use the Live View screen shown above to point your cameras at their surveillance targets.
2.6 Using the Camera menu

The Camera menu includes several submenus that allow you to add additional IP cameras to your system, configure individual analog cameras, control PTZ cameras, and other functions.

2.6.1 Convert analog channel to IP channel

Analog cameras are added to the recorder automatically when they camera video coax cable is attached to the channel BNC connectors on the back of the QVR. These analog camera channels can be used for network IP cameras instead by configuring the analog channel to an IP channel with the Camera Analog menu.

1. To open the Camera Analog menu, go to: **Menu | Camera | Camera | Analog**. See below.

![Camera Analog Menu](image)

2. To use a analog camera channel for an IP camera, click on the bullet point in the IP column for the channel you want to use, and then click **Apply**. In the example below, channel A10 is reassigned as an IP. Changes to the channel configuration take effect after the recorder is rebooted.
Note: When an analog camera channel is assigned as an IP channel, the Max. IP Camera Number is incriminated. See above.

3. If any 5MP analog camera is installed on a long coax line (greater than 2600 ft), click the **5MP Long Distance Transmission** configuration icon, select the cameras that require this option, and then click OK.

---

**NOTE**

* The QVR41xxH series recorders offer a **5MP Long Distance Transmission** option that provides extended range (see table below) by reducing the live view frame rate from 20 fps to 12 fps. The distance maximum depends on the transmission cable.

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Cable distance maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RG59 (75-4)</td>
</tr>
<tr>
<td>5MP without option</td>
<td>820 ft @ 20 fps</td>
</tr>
<tr>
<td>5MP with option</td>
<td>1640 ft @ 12 fps</td>
</tr>
</tbody>
</table>
2.6.2 Add IP cameras to the QVR

QVRs support a limited number of IP cameras in addition to analog cameras. To add an IP camera:

1. Open the IP Camera menu. Go to Menu | Camera | Camera | IP Camera.

2. Hover the mouse pointer over one of the camera icons, and then click the + icon that appears.
3. In the Add IP Camera (Custom) menu, click on the camera listed at the top of the menu that you want to add, and then enter the admin password for the camera in the Password field. You can also check the select box for Use Channel Default Password (may have been setup when the recorder was activated) if it applies.

4. Click Add to add camera you selected. When the camera is added, video from the camera will appear in the camera channel you selected earlier.

5. Click the tab at the bottom of the screen to see additional IP Network cameras you can add. In this tab, you can add and activate network IP cameras.
2.6.3 Activate network IP camera

The Activation process opens a menu to assign a password to the camera to a camera that has an Inactive Security status. Options in the menu enable you to define a new password, or check the select box for Use Channel Default Password and use that password. To activate a network Alibi IP camera:

1. Open the IP Camera menu. Go to Menu | Camera | Camera | IP Camera.

2. Click the Number of Unadded Online Device tab at the bottom of the right frame.
3. Check the select box for the inactive camera you want to add, and then click **Activate**.

4. In the **Activation** pop-up window, check the select box for **Use Channel Default Password**, or enter a strong password in the **Password** and **Confirm** fields. Click **OK**.

![Activation pop-up window](image1.png)

Note in the menu below, the device Security is **Active**, and the IP address is 192.168.1.64.

![Camera menu](image2.png)

5. Click the **Edit** icon for the camera you Activated (below left), enter a network IP address compatible with your local network, and then enter the admin password for the device (below right).

![Edit icon](image3.png)
6. Click **OK** to change the address.

7. To add the camera to the QVR for monitoring, see “2.6.2 Add IP cameras to the QVR” on page 22 for more information.

### 2.7 Customize camera configurations

**NOTE** Options shown in the menu for cameras may change based on the model of camera used.

The **Camera** menu lists all cameras configured in the recorder, and shows the channel, name, timestamp, etc. of each. Using this menu, you can assign names to each camera for easy recognition, select areas for motion detection and privacy blocking, and configure alarm features (if supported by the camera). To customize the configuration settings of each camera, do the following:

1. In the **Menu** screen, click the **Camera** icon.
1. In the **Camera** menu, click the link for **Display** in the left frame.

### 2.7.1 Camera OSD setup

You can configure the OSD Settings (On-Screen Display) settings for the camera, including date, time, day of week, camera name, etc. OSD options you select will be permanently embedded in the recorded video for your camera.
SECTION 2: SYSTEM SETUP

NOTE

- If you display the date and time, ensure the date and time setup in the recorder is exact so that the video recorded can be used as credible evidence if needed.
- Alibi IP cameras you manage with the recorder may be setup internally to show on-screen information, such as name and timestamp.

1. In the Display menu, click the expand-more icon on the OSD Settings line to open the OSD menu.

2. Open the Camera drop-down list and select the camera you want to configure. In the screen below, camera A1 Camera 01 is selected. You can enter a new name for the camera in the Camera Name field.

3. In the OSD menu, check the select boxes for the information you want to appear on the screen, such as camera name, date and/or week. Information you selected will appear in the text boxes shown in the video window.
   a. If you selected Display Name, enter the name of the camera in the Camera Name field near the top of the window.
   b. For other items you selected, open the drop down lists for the Date/Time Format, Display Mode and OSD Font as needed and select the best choice for your camera.
   c. Drag the text boxes to the best locations in the camera field of view.

4. Click Apply to save your settings.

5. Repeat sub-steps 2 through 4 above for each camera managed by the QVR.
2.7.2 Camera Image Settings

1. In the Display menu, click the expand-more icon on the Image Settings line.

2. In the Camera field drop down list, select the camera you want to configure. In the example above, [A1] Camera 01 is selected.

3. Click the expand icon for Image Settings.

4. Open the Mode drop-down list, and then select the option that best applies to the where the camera is installed. If you are configuring an IP camera, the only option is Custom.

5. Adjust the sliders for the Brightness, Contrast, Saturation, Hue, Sharpness and Denoising to produce the best image. If you are configuring an IP camera, options for Sharpness and Denoising are not available.

6. If you are configuring an IP camera, open the drop down lists for Enable Rotation, Mirror Mode and Scene Mode, then select best option for each for this camera installation.

7. Click Apply to save your settings for this camera.

8. Repeat sub-steps 2 through 7 above for each camera managed by the recorder.
2.7.3 Camera Exposure setup

1. If you are configuring an IP camera, In the Display menu, click the expand-more icon on the Exposure line.

2. In the Camera field drop down list, select the IP camera you want to configure. In the example above, [D1] Camera 01 is selected.

3. Open the Exposure Time drop down list, and select the optimal exposure time for the camera (1/100000 to 1 second). Larger exposure time produces a brighter image.

4. Click Apply to save your settings for this camera.

5. Repeat sub-steps 2 through 4 above for each IP camera managed by the QVR.

2.7.4 Camera Day/Night Switch

Use the camera Daylight Switch menu to control how an IP camera switches to day or night mode due to illumination in the field of view.

1. In the Display menu, click the expand-more icon on the Day/Night Switch line.
2. In the **Camera** field drop down list, select the camera you want to configure. In the example above, [D1] Camera 01 is selected.

3. Open the **Day/Night Switch** drop down list and select the best option for the camera. Options include: **Day**, **Night**, **Auto** or **Auto-Switch**. Depending on the option you select, related parameters will be presented. Configure the parameters before continuing. **NOTE**: The difference between **Auto** and **Auto-Switch** is described below.

   **Auto**: The camera automatically switches between day mode and night mode according to the illumination.

   **Sensitivity** ranges from 0 to 7. The higher the sensitivity, the more easily the camera triggers the mode switch.

   **Switch time** refers to the interval time between the day/night switch. You can set it from 5 sec to 120 sec.

   **Auto-Switch**: The camera switches the day mode and the night mode according to the start time and end time you set.

4. Click **Apply** to save your settings for this camera.

5. Repeat sub-steps 2 through 4 above for each IP camera managed by the QVR. Click **Copy** to apply the same settings to other cameras.

### 2.7.5 Camera Backlight setup

Backlight settings control is a feature for IP cameras to improve dynamic range. Use this feature when the surrounding illumination and the object have large differences in brightness, such as bright light from a window shining in behind your surveillance targets. Settings in this menu largely depend on the capabilities of the camera, and may require testing to find the best performance settings.
1. In the Display menu, click the expand-more icon on the Backlight line.

2. In the Camera field drop down list, select the IP camera you want to configure. In the example above, [D2] Camera 01 is selected.

3. Open the Wide Dynamic Range drop down list, and select one of the options. In the example above, ON and OFF are selectable.

4. Click Apply to save your settings for this camera.

5. Repeat sub-steps 2 through 4 above for each IP camera managed by the QVR.

2.7.6 Camera Image Enhancement

Use the camera Image Enhancement menu to optimize camera contrast. Finding optimal settings for these options may require testing.

1. In the Display menu, click the expand-more icon on the Image Enhancement line.
2. In the Camera field drop down list, select the camera you want to configure. In the example above, [D1] Camera 01 is selected.

3. Open the Digital Noise Reduction drop down list and select either Close or Normal Mode.
   a. If you selected Normal Mode, use the slider to adjust the Digital Noise Reduction to produce the best image.

4. Click Apply to save your settings for this camera.

5. Repeat sub-steps 2 through 4 above for each camera managed by the recorder.

**2.7.7 Camera Parameters Settings**

Settings in this parameter group are enabled when supported by the camera. These parameters include: 4 MP/5 MP signal switch defog level, night to day sensitivity, day to night sensitivity, IR light brightness, day/night mode, and WDR.

1. In the Display menu, click the expand-more icon on the Camera Parameters Settings line.
2. In the Camera field drop down list, select the camera you want to configure. In the example above, [D1] is selected.

3. Open the Camera Parameters Settings list, and then set the parameter options available to provide the best performance.

4. Click Apply to save your settings for this camera.

5. Repeat sub-steps 2 through 4 above for each camera managed by the recorder.

2.7.8 Camera Privacy Mask

Privacy masks are rectangular image blocks used to obscure parts of the field of view where privacy must be maintained, such as areas where sensitive information exists, house windows, etc. You can set up to four privacy masks in the video image.

1. In the Privacy Mask menu.
2. In the **Camera** field drop down list, select the camera you want to configure. In the example above, [A1] Camera 01 is selected.

3. In the video window, drag a rectangle across the area of the field of view where you want to apply a mask. In the image below, the mask was applied to the area over the window in the upper left corner. The color of the border surrounding the rectangle indicates the Area number. One mask in the image below has an yellow border, indicating Area 1, and another has a green border, indicating Area 2.

4. You can drag up to three more rectangles across the screen, each assigned to a different area number, for a maximum of four.

5. To clear a mask, click the **Clear Area** button with the color associated with the mask.

6. Click **Apply** to save your settings for this camera.

7. Repeat sub-steps 2 through 6 above for each camera managed by the DVR, if needed.
2.7.9 Camera Video Parameters for analog cameras

Use the Video Parameters Main Stream and Sub-Stream menus to control the video resolution of the camera and other transmission parameters. Parameter options depend on the capability of the camera. These menus, with the network bandwidth calculator available on AlibiSecurity.com/resources, can help you get the best performance from your security system network.

Main Stream Parameters for Analog Cameras

In the Main Stream Parameters menu, you can adjust camera parameters for both main stream Continuous recording and main stream Event recording. Refer to the Specifications for your camera(s) to see what options for main stream performance are available.

1. In the Camera menu, click on Video Parameters, and then click on Main Stream.

2. In the Camera field drop down list, select the camera you want to configure. In the example above, [A2] Camera 02 is selected.

3. In the Stream Type field, select either Video & Audio (if streaming with audio), or Video. This selection affects the bitrate requirement for the camera.

4. Adjust other parameters as needed for the camera performance you require. Notice that you can set different Frame Rates for Continuous and Event recording.

5. Click Apply to save your settings for this camera.
6. Repeat sub-steps 2 through 5 above for each analog camera managed by the DVR, if needed. Click Copy to to apply your settings to other analog cameras.

Sub-Streams for Analog Cameras

In the Sub-Stream menu, you can adjust network parameters for the camera sub-stream channel. Refer to the Specifications for your camera(s) to see what options for sub-stream performance are available. Sub-stream video is useful for remote login to the recorder and on networks where bandwidth is limited.

1. In the Camera menu, click on Video Parameters, and then click on Sub-Stream.

2. In the Camera field drop down list, select the camera you want to configure. In the example above, [A1] Camera 01 is selected.

3. In the Stream Type field, select either Video & Audio (if streaming with audio), or Video. This selection affects the bitrate requirement for the camera.

4. Adjust other parameters as needed for the camera performance you require.

5. Click Apply to save your settings for this camera.

6. Repeat sub-steps 2 through 6 above for each analog camera managed by the DVR, if needed. Click Copy to to apply your settings to other analog cameras.
2.7.10 Camera Video Parameters for IP cameras

Use the Video Parameters Main Stream and Sub-Stream menus to control the video resolution of the camera and other transmission parameters. Parameter options depend on the capability of the camera. These menus, with the network bandwidth calculator available on AlibiSecurity.com/resources, can help you get the best performance from your security system network.

Main Stream Parameters for IP cameras

In the Main Stream Parameters menu, you can adjust network parameters for both main stream Continuous recording and main stream Event recording. Refer to the Specifications for your camera(s) to see what options for main stream performance are available.

1. In the Camera menu, click on Video Parameters, and then click on Main Stream Parameters.

2. In the Camera field drop down list, select the camera you want to configure. In the example above, [D1] Camera 01 is selected.

3. In the Stream Type field, select either Video & Audio (if streaming with audio), or Video. This selection affects the bitrate requirement for the camera.

4. Adjust other parameters as needed for the camera performance you require. Notice that you can set different Frame Rates for Continuous and Event recording.

5. Click Apply to save your settings for this camera.
6. Repeat sub-steps 2 through 5 above for each IP camera managed by the DVR, if needed. Click **Copy to** to apply your settings to other IP cameras.

**Sub-Streams for IP cameras**

In the Sub-Stream menu, you can adjust network parameters for the camera sub-stream channel. Refer to the Specifications for your camera(s) to see what options for sub-stream performance are available. Sub-stream video is useful for remote login to the recorder and on networks where bandwidth is limited.

1. In the **Camera** menu, click on **Video Parameters**, and then click on **Sub-Stream**.

![Sub-Stream Menu](image)

2. In the Camera field drop down list, select the camera you want to configure. In the example above, [D1] Camera 01 is selected.

3. In the Stream Type field, select either **Video & Audio** (if streaming with audio), or **Video**. This selection affects the bitrate requirement for the camera.

4. Adjust other parameters as needed for the camera performance you require.

5. Click **Apply** to save your settings for this camera.

6. Repeat sub-steps 2 through 5 above for each IP camera managed by the DVR, if needed. Click **Copy to** to apply your settings to other IP cameras.
SECTION 3

Event setup

Use this section to configure your system to sense for and log information about what your security system is sensing, such as motion in the field of view, hard disk drive (HDD) full, etc. It also includes procedures for configuring Smart events (Video Content Analytic events), such as face detection, line crossing, intrusion detection, object removal, and other conditions determined by analyzing the video or audio stream. Smart events are features available in some cameras.

The default factory setup configuration sets up all camera channels to record continuously. Since this configuration may write excessive data on the disk, you can reconfigure your cameras to only write when necessary, such as when motion is detected in a specific area of the video frame.

To access the event setup menus:

1. Right click anywhere in the Live View screen to access the Live View header, if necessary, and then click the Menu icon.

2. In the Menu screen, click the Camera icon.
1. In the **Camera** menu, click the link for **Event** in the left frame.

The Event - Normal menu screen will open showing the Motion Detection menu.
3.1 Normal Event Setup

Normal Events include camera Motion Detection, Video Tampering, Video Loss, recorder/camera events including Alarm Input, and recorder Exception conditions. The recorder Alarm Output configuration is also included in this menu.

3.1.1 Camera Motion Detection

Use the Motion Detection feature to detect motion anywhere in the field of view and log a motion detection event. It can be configured to just sense for motion in parts of the field of view, sense for motion at only certain times of the week, and trigger the system to perform actions when motion is sensed. The default Motion Detection menu is shown below.

1. To use Motion Detection, open the Camera drop down list and then select the camera you want to configure. In the example above, [A1] Camera 01 is selected.

2. Click the Enable box to check it. See the screen above.

   NOTE: Defining a specific area where you want to detect for motion is more efficient for the recorder than searching for motion anywhere in the image.

3. To efficiently detect for motion in the field of view, select only the parts of the video image where motion is of interest. Some areas of the field of view may trigger false events, such as trees in the wind, etc. The grid shows where the camera will sense for motion:
   
   a. Click Clear to erase the grid.
   
   b. Drag the mouse pointer across a rectangular area of the video image where you want to detect for motion.
SECTION 3: EVENT SETUP

c. When you release the mouse button, a grid will appear in that area.

d. Repeat the previous sub-step to create setup other areas of video image where you want to sense for motion.

e. Click **Apply** to save your settings.

f. Adjust the **Sensitivity** slider as needed to detect the motion of objects moving through the zones. When motion is detected in a segment of the grid, the segment is filled with red. See the screen above.

**NOTE** Test your settings during broad conditions to ensure that motion in the field of view triggers an action. You may need to return to this menu later to adjust the **Sensitivity** slider to ensure it is working adequately.

g. Check the **False Alarm Filter** select box if available and needed. The False Alarm Filter can ignore movement from objects like rain, leaves and animals and direct the system to detect movement by relevant objects like people or vehicles.

h. Click **Apply** again to save your settings.

**Setup Arming Schedule**

4. Click the **Arming Schedule** icon to define the times when motion detection for this camera is sensed (armed). The blue segments in the schedule show when it is armed. By default, when this event is enabled, it is armed continuously.
You can change the Arming Schedule in either of two ways: using the Edit and using the graphical method. To use Edit:

a. Click the Edit button shown in the screen above. An edit menu will open.

b. Click Weekday, and then select the day of the week you want to edit. For each day of the week, you can define up to seven time segments.

c. Click the Start/End Time field. An adjustment bar will open.

d. In the adjustment bar, click the up and down carets to set the hour and minute to start arming, and the hour and minute to end arming for this segment. In the example above, the segment starts at 0600 (6:00 am) and ends at 1600 (4:00 pm).

e. Create additional segments for that day as needed. Segments cannot overlap.

f. Click Apply to save your settings.

g. Click Copy to copy this schedule to other days of the week. Follow the on-screen instructions to use this menu.

h. In the Edit menu, click OK to return to the Arming Schedule. Changes you saved will be reflected in the schedule.

**Arming Schedule “graphical” method**

The graphical editing method is used by clicking either Continuous or None, then dragging a box over the areas of the schedule when you want to either enable or disable arming. For example, to disable arming in an area of the schedule:
SECTION 3: EVENT SETUP

a. Click the **None** icon at the top of the Arming Schedule.

b. Using the mouse, drag a rectangle over the area of the schedule where you want to disable arming. The area you selected is shown by a red rectangle.

c. Release the mouse button. The part of the schedule you selected is now disarmed.

d. Click **Continuous** and repeat this method to restore area to the arming schedule, if needed.

**Linkage Action**

5. Click the **Linkage Action** tab.

6. In the **Linkage Action** menu, check the boxes for the actions you want to occur when event is detected.
SECTION 3: EVENT SETUP

7. Click **Apply** to save your settings. Click **Copy to** to apply these settings to other cameras.

8. Repeat steps 1 through 7 above for each camera on your surveillance system.

3.1.2 Camera Video Tampering

Video Tampering can log an alarm event when the camera lens, or part of the field of view, is covered. To use this feature:

1. Open the Video Tampering menu. Go to **Menu | Camera | Event | Normal Event | Video Tampering**.

2. Open the **Camera** drop-down list and select the camera you want to configure.

3. Click the **Enable** box to check it.

4. For IP cameras:
   a. Drag the mouse diagonally line across the area in the video image to form a rectangle over the area where you want to sense for Video Tampering.
b. To redraw the rectangle, click **Clear**, and then drag the rectangle.

5. Adjust the **Sensitivity** as needed to effectively sense for tampering. Options are 0, 1, 2.

6. Click **Apply** to save your settings.

7. Click the **Arming Schedule** tab. To configure the arming schedule, refer to the procedure in “3.1.1 Camera Motion Detection” on page 42.

8. Click the **Linkage Action** tab.

9. In the **Linkage Action** menu, check the boxes for the actions you want to occur when the event is detected.

10. Click **Apply** to save your settings.

11. Repeat steps 1 through 10 above for each camera on your surveillance system, and/or click **Copy to** to apply the same settings to other cameras.

### 3.1.3 Camera Video Loss

Video loss occurs when the video signal from the camera is no longer detected. This can result from many causes, such as a disconnected cable, hardware or cable failure, power loss, etc. To use this feature:

1. Open the Video Loss menu. Go to Go to **Menu | Camera | Event | Normal Event | Video Loss**.
2. Open the **Camera** drop-down list and select the camera you want to configure.

3. Click the **Enable** box to check it.

4. Click the **Arming Schedule** tab. To configure the arming schedule, refer to the procedure in “3.1.1 Camera Motion Detection” on page 42.

5. Click the **Linkage Action** tab.

6. In the **Linkage Action** menu, check the boxes for the actions you want to occur when the event is detected.

7. Click **Apply** to save your settings.

8. Repeat steps 1 through 7 above for each camera on your surveillance system, and/or click **Copy to** to apply the same settings to other cameras.
3.1.4 Alarm Input detection

The Alarm Input menu lists all alarm inputs supported by the recorder, plus all alarm inputs of the cameras attached to your surveillance system. An alarm input can generate a log event and trigger actions in the recorder, such as recording camera video or video capture. To configure alarm inputs:


   ![Alarm Input Menu Screenshot]

   The alarm inputs listed in the table above show three types of alarms associated with the system:
   - Local Alarms: Alarm inputs associated with the recorder.
   - SOFT alarms: Alarms associated with use of a software developer kit. These types are unused at this time.
   - Alarm inputs associated with the IP address of a device (camera) in the system. In the example above, 
     `192.168.0.13:8000<-1` represents the alarm input to the camera with IP address `192.168.0.13`.

Local Alarm setup

2. Click the icon in the Edit column of the alarm input you want to configure. In the pop-up menu shown below, Local<-1 (Alarm In 1 on the back of the recorder) was selected.
3. In the **Alarm Name** field, enter a common name for the alarm.

4. Open the **Type** field, and select either **N.O.** for a Normally Open alarm switch, or **N.C.** for a Normally Closed alarm switch.

5. Click the radial button for either **Nonuse** (disable) or **Input** (enabled) or **One Key Disarming**. By default, all inputs are in **Nonuse** mode. If you selected **Input**, Arming Schedule and Linkage Action option menu tabs will appear.

   **Input alarm**

   a. Click the **Arming Schedule** tab. To configure the arming schedule, refer to the procedure in “3.1.1 Camera Motion Detection” on page 42.

   b. Click **Apply**, and then click **Copy to** and use the on-screen menu to use the same schedule for other alarm inputs.
c. Click the **Linkage Action** tab. In the linkage action menu, check the boxes for the actions you want to perform when the input becomes active (N.C. switches open or N.O. switches close).

![Linkage Action Menu](image)

- Click **Apply**, and then click **Copy to** and use the on-screen menu to use the same linkage actions for other alarm inputs.

**One Key Disarming**

a. In the **One Key Disarming** popup window, select the linkage actions you want to perform with the alarm occurs.

![One Key Disarming](image)

- Click **Apply**, and then click **Copy to** and use the on-screen menu to use the same linkage actions for other alarm inputs.

6. Click the Close icon (×) in the upper right corner of the **Edit** screen to return to the **Alarm Input menu**.
7. Repeat steps 1 through 6 above for each alarm input on your surveillance system, and/or click Copy to to apply the same settings to other cameras.

**SOFT alarms**

SOFT alarms are setup similar to local alarms. These alarms are associated with the Software Developer Kit tools. They are unused at this time.

**Alarm inputs to devices in the system**

Alarm inputs to devices (identified by IP address) in the system are configured the same way Local alarms are configured, except that the One Key Disarming option is not available.

### 3.1.5 Alarm Output configuration

The Alarm Output menu lists all alarm outputs supported by the recorder, plus all alarm outputs of the cameras attached to your surveillance system. An alarm output can be used to activate an accessory attached to your surveillance system, such as a siren, light, door unlock relay, etc. To configure alarm outputs:

1. Open the Alarm Input menu. Go to **Menu | Camera | Event | Normal Event | Alarm Output**.

![Alarm Output Configuration](image)

2. Click the icon in the *Edit* column of the alarm output you want to configure. In the pop-up menu shown below, Local->1 (Alarm OUT 1 on the back of the recorder) was selected.
3. In the **Alarm Name** field, enter a common name for the alarm.

4. Open the **Dwell Time** drop down list, and then select the time the alarm will remain active after it is initiated. You can also select **Manually clear**.

5. Click the **Arming Schedule** tab. To configure the arming schedule, refer to the procedure in “3.1.1 Camera Motion Detection” on page 42.

6. Click **Apply**, and then click **Copy to** and use the on-screen menu to use the same schedule for other alarm outputs.

7. Test the alarm output functionality by clicking **Trigger** to activate the alarm, and then **Clear** to deactivate it.

8. Click the Close icon (×) in the upper right corner of the **Edit** screen to return to the Alarm Input menu.

9. Repeat steps 1 through 8 above for each alarm output on your surveillance system.

### 3.1.6 Exception reporting

The recorder monitors for and responds to certain system-related alarm conditions (exception types). Monitoring for and response to these exceptions are configurable using the Exception menu.

Exception types include:

- **HDD Full**: The HDD is full.
- **HDD Error**: Writing HDD error or unformatted HDD.
- **Network Disconnected**: Disconnected network cable.
- **IP Conflicted**: Duplicated IP address.
- **Illegal Login**: Incorrect user ID or password.
- **Input/Output Video Standard Mismatch**: Video standard (NTSC or PAL) between the camera input and recorder output do not match.
- **Record Exception**: No space exists for saving recorded files.
Responses to exception alarms include:

- **Audible Warning**: Trigger an audible beep when an alarm is detected.
- **Notify Surveillance Center**: Sends a push notifications to Alibi Witness 2.0, message to Alibi Central Management Software (ACMS) system.
- **Trigger Alarm Output**: Trigger an alarm output when exception is detected.
- **Send Email**: Send an email with alarm information to a user or users when an alarm is detected. Also sends a push notifications to Alibi Witness 2.0.

To configure exception alarms:

1. Open the Exception menu. Go to **Menu | Camera | Event | Normal Event | Exception**.

![Camera Configuration](image)

2. Check the **Enable Event Hint** box to use hint reporting. When this feature is enabled and an event or exception occurs, a hint is displayed on the live view image. And you can click on the hint icon to check the details. The event hints to be displayed is configurable:
   
a. Open the **Event Hint** drop down list, and deselect the event hints you don’t want to see. By default, all hints are enabled.

3. On the **Exception Type** line, open the drop down list and select the exception condition you want to monitor. If you select **All**, all exception conditions will be treated the way you configure the response. You can deselect the types of exceptions you don’t want to see reported.

4. Check the select boxes for the response options you want to use.

5. Click **Apply** to save your settings.
3.2 Smart Event Setup

Smart event detection uses the video or audio stream to sense for line crossing, face detection, intrusion detection, etc. These events are commonly referred to as VCA events, and are available on most Alibi professional grade cameras. The smart features that appear at the top of the Smart Event menu are the features supported by the camera selected at the top of the screen.

When VCA features are configured by a recorder, the settings are saved in the camera. When a VCA event occurs, the event information is sent immediately to the recorder and acted upon by recording live video, full screen monitoring, generating an audible alarm etc.

These recorders support the following VCA features:

- **Face Detection** - Detects when a face appears in the field of view.
- **Line crossing detection** - You can specify the endpoints of an virtual line in the video image and then detect if something crosses the line from one side to the other (side A to B), vice versa (side B to A) or either way. You can define 1 line crossing condition for each NS series IP cameras, and 4 line crossing conditions for each NP series IP cameras and TVI recorders with TVI cameras.
- **Intrusion detection** - You can create an virtual quadrangle in the video image, and then detect if something enters the space within the quadrangle. You can define 1 intrusion region for NS series IP cameras, and 4 intrusion regions for NP series IP cameras.
- **Region entrance detection** - Region entrance detection function detects people, vehicles or other objects which enter a pre-defined virtual region of the field of view.
- **Region exiting detection** - Region exiting detection detects people, vehicles or other objects which exit from a pre-defined virtual region of the field of view.
- **Unattended baggage detection** - Unattended baggage detection can detect when objects such as baggage, a purse, dangerous materials, etc. are left in the pre-defined area of the field of view.
- **Object removal detection** - Object removal detection detects when an object, such as an exhibit on display, is removed from the pre-defined area of the field of view.
- **Audio exception detection** - Audio exception detection detects when an abnormal sound, such as the sudden increase / decrease of the sound intensity, occurs in the surveillance area.
- **Defocus detection** - Defocus detection senses when image blur, caused by defocus of the lens, occurs.
- **Sudden scene change detection** - Scene change detection detects the change of surveillance environment affected by an external factor, such as the intentional rotation of the camera.

### 3.2.1 Camera Face Detection

The Face detection analytic detects when a face appears in the surveillance field of view. This feature is available on some IP cameras. To configure Face Detection in the camera:

1. Open the **Face Detection** menu:
   a. Go to **Menu | Camera | Event | Smart Event**
b. Open the drop down list on the camera line, then select the camera you want to configure.

c. If the Face Detection option appears in the list at the top of the screen, click on it to configure this feature.

\[\text{Image of a camera interface with options for configuration.}\]

2. Check the Save VCA Picture box to capture a live view image of the event (if available).

3. Click the Enable Face Detection box to check it.

4. Set the Sensitivity slider as needed to detect faces in the field of view. This adjustment may require some testing.

\textbf{Setup Arming Schedule}

5. Click the Arming Schedule icon to define the times when motion detection for this camera is sensed (armed). The blue segments in the schedule show when it is armed. By default, when this event is enabled, it is armed continuously.

\[\text{Image of the Arming Schedule interface with configured times.}\]

You can change the Arming Schedule in either of two ways: using the Edit tool and using the graphical method. To use Edit:

a. Click the Edit button shown in the screen above. An edit menu will open.
b. Click **Weekday**, and then select the day of the week you want to edit. For each day of the week, you can define up to seven time segments.

c. Click the **Start/End Time** field. An adjustment bar will open.

d. In the adjustment bar, click the up and down carets to set the hour and minute to start arming, and the hour and minute to end arming for this segment. In the example above, the segment starts at 0600 (6:00 am) and ends at 1600 (4:00 pm).

e. Create additional segments for that day as needed. Segments cannot overlap.

f. Click **Apply** to save your settings.

g. Click **Copy** to copy this schedule to other days of the week. Follow the on-screen instructions to use this menu.

h. In the Edit menu, click **OK** to return to the **Arming Schedule**. Changes you saved will be reflected in the schedule.

**Arming Schedule “graphical” method**

The graphical editing method is used by clicking either **Continuous** or **None**, then dragging a box over the areas of the schedule when you want to either enable or disable arming. For example, to disable arming in an area of the schedule:

a. Click the **None** icon at the top of the Arming Schedule.

b. Using the mouse, drag a rectangle over the area of the schedule where you want to disable arming. The area you selected is shown by a red rectangle.
c. Release the mouse button. The part of the schedule you selected is now disarmed.

d. Click Continuous and repeat this method to restore area to the arming schedule, if needed.

**Linkage Action**

6. Click the **Linkage Action** tab.

7. In the **Linkage Action** menu, check the boxes for the actions you want to occur when the event is detected.

8. Click **Apply** to save your settings.

9. Repeat steps 1 through 8 above for each camera on your surveillance system as needed.
3.2.2 Line Crossing detection

With Line Crossing detection you can specify the endpoints of a virtual line in the video image and then detect if something crosses the line from one side to the other (side A to B), vice versa (side B to A) or either way. You can define 1 virtual line for each NS series camera, and 4 virtual lines for each NP series IP camera. To use Line Crossing Detection:

1. Open the Line Crossing Detection menu:
   a. Go to Menu | Camera | Event | Smart Event.
   b. Open the drop down list on the camera line, then select the camera you want to configure.
   c. If the Line Crossing option appears in the list at the top of the screen, click on it to configure this feature.

2. Check the Save VCA Picture box to capture a live view image of the event (if available).

3. Click the Enable Line Crossing Detection box to check it (see above).
4. In the **Area Settings** tab:

a. Open the **Arming Area** drop down list and select a number to be associated with the virtual line you are creating. For NP series IP cameras you can select either 1, 2, 3 or 4.

b. Open the **Direction** drop down list, and select the direction of line crossing to sense for. After you create the virtual line, an arrow will appear across the line showing the direction it is configured to sense for.

c. Set the **Sensitivity** slider as needed to detect objects crossing the line. This adjustment may require some testing.

d. Click the **Draw Area** button. Then click a point in the video image to identify one endpoint of the virtual line, then click another point to represent the other endpoint of the line.

e. Click the **Stop Drawing** button. A line will appear on video image showing the Arming Area number and direction of crossing you configured it to sense for.

f. If the menu shows **Max Size** and **Min Size** buttons, you can set the maximum and minimum sizes of an object that will be recognized. To use this feature:

   i. Click the **Max Size** button.

   ii. Click a point in the video window to represent one end of a line showing the maximum size of an object to detect, and then click another point in the video window to represent the end point of a line representing the maximum size of an object to detect.

   iii. Click **Stop Drawing**. The maximum size of the object to detect will be represented by a red line. Longer objects will be ignored.
iv. Click the **Min Size** button.

v. Click a point in the video window to represent one end of a line showing the minimum size of an object to detect, and then click another point in the video window to represent the end point of a line representing the minimum size of an object to detect.

vi. Click **Stop Drawing**. The minimum size of the object to detect will be represented by a white line. Shorter objects will be ignored. (See above.)

g. Click **Apply** to save your settings.

h. For some cameras, you can create up to four virtual lines in the video channel. To create another virtual line for crossing detection, repeat sub-steps **a** through **g** above with a different **Arming Area** number.

5. Click the **Arming Schedule** tab. To configure the arming schedule, refer to **Setup Arming Schedule** in “3.2.1 Camera Face Detection” on page 55.

6. Click the **Linkage Action** tab.

7. In the **Linkage Action** menu, check the boxes for the actions you want to occur when the event is detected.

8. Click **Apply** to save your settings.

9. Repeat steps **1** through **8** above for each camera on your surveillance system as needed.

### 3.2.3 Camera Intrusion Detection

With camera Intrusion Detection, you can create up to four virtual quadrangles (planes) in the video image, and then detect if something enters the space within a plane. To use Intrusion Detection:

1. Open the **Intrusion Detection** menu:

   a. Go to **Menu | Camera | Event | Smart Event**

   b. Open the drop down list on the camera line, then select the camera you want to configure.
SECTION 3: EVENT SETUP

c. If the Intrusion option appears in the VCA list at the top of the screen, click on it to configure this feature.

2. Check the Save VCA Picture box to capture a live view image of the VCA event.

3. Click the Enable Intrusion Detection box to check it (see above).

4. In the Area Settings tab:

   a. Open the Virtual Plane drop down list and select a number to be associated with the virtual plane you are creating. For NP series IP cameras you can select either 1, 2, 3 or 4.

   b. Drag the Time Threshold slider left or right to set the minimum amount of time an object must be in the virtual plane to trigger an event.

   c. Set the Sensitivity slider as needed to detect objects entering the plane. This adjustment may require some testing.

   d. Click the Draw Area button. Click a point in the video image to identify one corner of the area, and then click three points in a circular fashion to set the other three corners of the area.

   e. Click the Stop Drawing button. A quadrilateral will appear on video image showing the Virtual Plane number you assigned.

   f. If the menu shows Max Size and Min Size buttons, you can set the maximum and minimum sizes of an object that will be recognized. To use this feature:

      i. Click the Max Size button.
Drag the mouse diagonally across the a portion of the video image, and then release the mouse button to form a rectangle representing the maximum size of an object to detect.

Click Stop Drawing. The maximum size of the object to detect will be represented by a red rectangle box. Larger objects will be ignored.

Click the Min Size button.

Drag the mouse diagonally across the a portion of the video image, and then release the mouse button to form a rectangle representing the minimum size of an object to detect.

Click Stop Drawing. The minimum size of the object to detect will be represented by a white line. Smaller objects will be ignored. (See above.)

Click Apply to save your settings.

To create another virtual line for crossing detection, repeat sub-steps a through g above with a different virtual plane number.

Click the Arming Schedule tab. To configure the arming schedule, refer to Setup Arming Schedule in “3.2.1 Camera Face Detection” on page 55.

Click the Linkage Action tab.

In the Linkage Action menu, check the boxes for the actions you want to occur when the event is detected.
8. Click **Apply** to save your settings.

9. Repeat steps 1 through 8 above for each camera on your surveillance system as needed.

### 3.2.4 Region Entrance Detection

Use Region Entrance detection to detect people, vehicles or other objects which enter a pre-defined virtual plane in the field of view. You can configure up to four virtual planes in on video channel. To use Region Entrance Detection:

1. Open the **Region Entrance Detection** menu:
   
   a. Go to **Menu | Camera | Event | Smart Event**

   b. Open the drop down list on the camera line, then select the camera you want to configure.

   c. If the Region Entrance option appears in the list at the top of the screen, click on it to configure this feature.

2. Check the **Save VCA Picture** box to capture a live view image of the event (if available).

3. Click the **Enable Region Entrance Detection** box to check it (see above).

4. In the **Area Settings** tab:
   
   a. Open the **Region** drop down list and select a number to be associated with the region you are creating. For NP series IP cameras you can select either 1, 2, 3 or 4.
b. Set the **Sensitivity** slider as needed to detect objects entering the region. This adjustment may require some testing.

c. Click the **Draw Region** button. Click a point in the video image to identify one corner of the region, and then click three points in a circular fashion to set the other three corners of the region.

d. Click the **Stop Drawing** button. A quadrilateral will appear on video image showing the region number you assigned.

![Region drawing interface](image)

```
---
```

e. Click **Apply** to save your settings.

f. To create another region, repeat sub-steps a through d above with a different region number. You can create up to four regions in the video channel.

5. Click the **Arming Schedule** tab. To configure the arming schedule, refer to **Setup Arming Schedule** in “3.2.1 Camera Face Detection” on page 55.

6. Click the **Linkage Action** tab.

![Linkage action interface](image)

```
---
```

7. In the **Linkage Action** menu, check the boxes for the actions you want to occur when the event is detected.

8. Click **Apply** to save your settings.

9. Repeat steps 1 through 8 above for each camera on your surveillance system as needed.
### 3.2.5 Camera Region Exiting Detection

Use Region exiting detection to detect people, vehicles or other objects which exit from a pre-defined regions of the field of view. You can configure up to four regions in on video channel. To use Region Exit Detection:

1. Open the **Region Exiting Detection** menu:
   a. Go to **Menu | Camera | Event | Smart Event**
   b. Open the drop down list on the camera line, then select the camera you want to configure.
   c. If the **Region Exit** option appears in the list at the top of the screen, click on it to configure this feature.

2. Check the **Save VCA Picture** box to capture a live view image of the event (if available).

3. Click the **Enable Region Exiting Detection** box to check it (see above).

4. In the **Area Settings** tab:
   a. Open the **Region** drop down list and select a number to be associated with the region you are creating. For NP series IP cameras you can select either 1, 2, 3 or 4.
   b. Set the **Sensitivity** slider as needed to detect objects leaving the region. This adjustment may require some testing.
   c. Click the **Draw Region** button. Click a point in the video image to identify one corner of the region, and then click three points in a circular fashion to set the other three corners of the region.
SECTION 3: EVENT SETUP

d. Click the **Stop Drawing** button. A quadrilateral will appear on video image showing the region number you assigned.

![Image of area settings with stop drawing button highlighted]

e. Click **Apply** to save your settings.

f. To create another region, repeat sub-steps a through d above with a different region number. You can create up to four regions in the video channel.

5. Click the **Arming Schedule** tab. To configure the arming schedule, refer to **Setup Arming Schedule** in “3.2.1 Camera Face Detection” on page 55.

6. Click the **Linkage Action** tab.

![Image of linkage action settings]

7. In the **Linkage Action** menu, check the boxes for the actions you want to occur when the event is detected.

8. Click **Apply** to save your settings.

9. Repeat steps 1 through 8 above for each camera on your surveillance system as needed.

### 3.2.6 Camera Unattended Baggage

Use Unattended baggage detection to detect when objects such as baggage, a purse, dangerous materials, etc. are left in the defined area of the field of view. To use Unattended Baggage detection:
1. Open the Unattended Baggage Detection menu:
   a. Go to Menu | Camera | Event | Smart Event.
   b. Open the drop down list on the camera line, then select the camera you want to configure.
   c. If the Unattended option appears in the list at the top of the screen, click on it to configure this feature.

2. Check the Save VCA Picture box to capture a live view image of the event (if available).

3. Click the Enable Unattended Baggage Detection box to check it (see above).

4. In the Area Settings tab:
   a. Open the Region drop down list and select a number to be associated with the region you are creating. You can select either 1, 2, 3 or 4.
   b. Use the Time Threshold slider to set the amount of time the object must stay in the region before an event is generated.
   c. Set the Sensitivity slider as needed to detect objects in the region. This adjustment may require some testing.
   d. Click the Draw Area button. Click a point in the video image to identify one corner of the area, and then click three points in a circular fashion to set the other three corners of the area.
   e. Click the Stop Drawing button. A quadrilateral will appear on video image showing the region number you assigned.
f. Click **Apply** to save your settings.

9. Some cameras all you to create up to four areas to monitor in the video channel. To create another area, repeat sub-steps a through f above with a different area number.

5. Click the **Arming Schedule** tab. To configure the arming schedule, refer to **Setup Arming Schedule** in “3.2.1 Camera Face Detection” on page 55.

6. Click the **Linkage Action** tab.

7. In the **Linkage Action** menu, check the boxes for the actions you want to occur when the event is detected.

8. Click **Apply** to save your settings.

9. Repeat steps 1 through 8 above for each camera on your surveillance system as needed.

### 3.2.7 Camera Object Removal Detection

Use Object removal detection to detects when an object, such as an exhibit on display, is removed from the pre-defined area of the field of view. To use Object Removal detection:

1. Open the **Object Removal Detection** menu:
SECTION 3: EVENT SETUP

a. Go to Menu | Camera | Event | Smart Event.

b. Open the drop down list on the camera line, then select the camera you want to configure.

c. If the Object Removal option appears in the list at the top of the screen, click on it to configure this feature.

2. Check the Save VCA Picture box to capture a live view image of the event (if available).

3. Click the Enable Object Removal Detection box to check it (see above).

4. In the Area Settings tab:

   a. Open the Arming Area drop down list and select a number to be associated with the area you are creating. For NP series IP cameras you can select either 1, 2, 3 or 4.

   b. Use the Time Threshold slider to set the amount of time the object is removed from the region before an event is generated.

   c. Set the Sensitivity slider as needed to detect objects removed from the region. This adjustment may require some testing.

   d. Click the Draw Area button. Click a point in the video image to identify one corner of the area, and then click three points in a circular fashion to set the other three corners of the area.

   e. Click the Stop Drawing button. A quadrilateral will appear on video image showing the region number you assigned.
f. Click **Apply** to save your settings.

g. To create another region, repeat sub-steps a through f above with a different region number. You can create up to four regions in the video channel.

5. Click the **Arming Schedule** tab. To configure the arming schedule, refer to **Setup Arming Schedule** in “3.2.1 Camera Face Detection” on page 55.

6. Click the **Linkage Action** tab.

7. In the **Linkage Action** menu, check the boxes for the actions you want to occur when the event is detected.

8. Click **Apply** to save your settings.

9. Repeat steps 1 through 8 above for each camera on your surveillance system as needed.

### 3.2.8 Camera Audio Exception Condition

Use Audio exception detection to detects when an abnormal sound, such as the sudden increase / decrease of the sound intensity, occurs in the surveillance area. A microphone must be attached to the camera you are configuring, and the camera channel must be configured for audio streaming. To configure Audio Exception:

1. Open the **Audio Exception Detection** menu:
SECTION 3: EVENT SETUP

a. Go to Menu | Camera | Event | Smart Event.

b. Open the drop down list on the camera line, then select the camera you want to configure.

c. If the Audio Exception option appears in the list at the top of the screen, click on it to configure this feature.

2. Check the Save VCA Picture box to capture a live view image of the event (if available).

3. In the Exception Detection tab:

   a. Click the Audio Loss Exception box to check it (see above) to use this feature.

   b. Click the Sudden Increase of Sound Intensity Detection button (see above) to use this feature, then:

      vii. Set the Sensitivity slider to set the high sound level minimum threshold (may require testing).

      viii. Set the Sound Intensity Threshold slider to set the minimum threshold (may require testing).

   c. Click the Sudden Decrease of Sound Intensity Detection button (see above) to use this feature, then:

      i. Set the Sensitivity slider to set the a low sound level maximum threshold (may require testing).

4. Click Apply to save your settings.

5. Click the Arming Schedule tab. To configure the arming schedule, refer to Setup Arming Schedule in “3.2.1 Camera Face Detection” on page 55.

6. Click the Linkage Action tab.
7. In the Linkage Action menu, check the boxes for the actions you want to occur when the event is detected.

8. Click Apply to save your settings.

9. Repeat steps 1 through 8 above for each camera on your surveillance system as needed.

### 3.2.9 Camera Defocus Detection

Use Defocus detection to sense when image blur, caused by defocus of the lens, occurs. To use camera Defocus Detection:

1. Open the Defocus Detection menu:
   a. Go to Menu | Camera | Event | Smart Event
   b. Open the drop down list on the camera line, then select the camera you want to configure.
   c. If the Defocus option appears in the list at the top of the screen, click on it to configure this feature.
2. Check the Save VCA Picture box to capture a live view image of the VCA event.

3. Click the Enable box to check it (see above).

4. Adjust the Sensitivity slider to set the amount of defocus threshold (may require testing).

5. Click the Arming Schedule tab. To configure the arming schedule, refer to Setup Arming Schedule in “3.2.1 Camera Face Detection” on page 55.

6. Click the Linkage Action tab.

7. In the Linkage Action menu, check the boxes for the actions you want to occur when the event is detected.

8. Click Apply to save your settings.

9. Repeat steps 1 through 8 above for each camera on your surveillance system as needed.

3.2.10 Camera Sudden Scene Change Detection

Use Scene change detection to detect the change of surveillance environment affected by an external factor, such as the intentional rotation of the camera. To use Sudden Scene Change Detection:

1. Open the Sudden Scene Change Detection menu:
   a. Go to Menu | Camera | Event | Smart Event.
   b. Open the drop down list on the camera line, then select the camera you want to configure.
   c. If the Sudden Scene option appears in the list at the top of the screen, click on it to configure this feature.
2. Check the **Save VCA Picture** box to capture a live view image of the event (if available).

3. Click the **Enable** box to check it (see above).

4. Adjust the **Sensitivity** slider to set the amount of scene change (may require testing).

5. Click the **Arming Schedule** tab. To configure the arming schedule, refer to **Setup Arming Schedule** in “3.2.1 Camera Face Detection” on page 55.

6. Click the **Linkage Action** tab.

7. In the **Linkage Action** menu, check the boxes for the actions you want to occur when the event is detected.

8. Click **Apply** to save your settings.

9. Repeat steps 1 through 8 above for each camera on your surveillance system as needed.
SECTION 4: STARTUP, SHUTDOWN, REBOOT

SECTION 4
Startup, Shutdown, Reboot

After the QVR and cameras are installed, the QVR system must be configured to function in the surveillance mode(s) that best serve your needs. This chapter includes the essential steps to get your system running, including configuring the QVR date and time, and setting up the LAN interface, cameras and recording modes. Advanced features, including remote access, video export, adding user names and setting user permissions, etc. are described in later sections of this manual.

4.1 Starting Up

Proper startup and shutdown procedures are essential for getting the most out of your QVR. To startup:

1. Check the power cable is plugged into a standard electrical outlet. It is HIGHLY recommended that an Uninterruptable Power Supply (UPS) be used in conjunction with the device.

2. Rock the POWER switch on the back panel to the on (“I”) position. The Power indicator LED on the front panel should turn green indicating that the unit is powered on.

3. After startup, the Power indicator LED remains lit. A splash screen will usually appear on the monitor within three minutes.

4. Typically, one of two login screens will appear, depending on how the system was activated:

   — If the unlock pattern was setup during system activation for an admin login, the unlock pattern screen will appear. In this screen swipe the unlock pattern across the matrix with the mouse to login as the admin user, or click Switch User and login with a username and password as shown below.

   ![Unlock Pattern Screen](image)

   — If an unlock pattern was not setup during system activation, or you chose to login as a user other than admin, a typical login screen will open. Enter your username and password, then click Login.
4.1.1 Lost password

If you cannot login to the recorder with a the admin user password, you may be able to reset the password in either of three ways:

- **By Reserved Email**: If you activated the recorder and entered a reserved email during the activation process (see “2.1 System activation” on page 6), you can receive a verification code for resetting the password through the email account. You must have Alibi Witness 2.0 installed on phone to use this method.

- **By GUID**: If you activated the recorder and saved the GUID file created by the recorder (see “2.1 System activation” on page 6), you can opt to reset your password using the GUID file.

- **By Security Question**: You can enter the answers you created to the security questions setup when the recorder was activated (see “2.1 System activation” on page 6) to reset the password.

The example shown here uses the Reserved Email method to reset the password. For the other methods, follow the on-screen instructions for resetting the password. To reset the password using your Reserved Email:

1. In the Welcome window, click Forgot Password?.
2. In the Password Reset Type pop-up window, select the method you want (can) use, and then click OK. In this example, Verify by Reserved Email was selected.

3. In the screen that opens, you can select either App Scan QR (default, requires Alibi Witness 2.0 smartphone app) or Export QR. Here we opted to use the app. Leave this screen open. Do not click OK yet.
4. Open the Alibi Witness 2.0 app on your smartphone, and then:

   a. Tap the More icon in the footer.

   

   

   b. In the More screen, tap Reset Device Password. A QR Code scan window will open.

   c. Position the QR code in the recorder menu (see above) in the QR code scan window on your smartphone (see third screen above). When the code is recognized, the screen on the right will open.

   d. In the screen above on the right, tap OK on your smartphone to continue. You will receive an email containing a verification code. See below.
5. Find the verification code in the email you received, and then enter it in the **Verification Code** field on the recorder menu (see below).

6. After entering the Verification Code, click **OK** to continue. A Reset Password menu will open.

7. Enter your new admin password in the **Password** and **Confirm** fields, and then click OK to continue. Ensure your password is **Strong** strength.
8. If additional instructions appear, follow the instructions to complete the password reset process.

**4.2 Shutdown**

To shut down the QVR:

1. Right click anywhere on the Live View desktop to open a control bar across the top of the screen. The control bar also appears over most configuration windows.

2. Click the **Power Off** icon in the upper right corner, and then click the **Shutdown** icon in the pop-up menu.
4.3 Reboot

In the Shutdown menu shown in “4.2 Shutdown” on page 81, you can also reboot the QVR.

1. Open the Shutdown menu by clicking **Power Off** icon.

2. In the **Shutdown** pop-up menu, click **Reboot**.

3. Allow the QVR to fully reboot.

4. Login to the QVR as described in “4.1 Starting Up” on page 76.
SECTION 5
Live View Screen

The Live View interface is the primary camera viewing and monitoring mode. It can be configured to present video from the cameras configured in the system singularly or in multi-screen mode. The Live View screen can be configured to display up to 64 channels at the same time with options to display 1, 4, 6, 8, 16 or more (depending on the QVR capacity) camera channels concurrently, or playback recorded video.

Each camera channel displayed on the Live View screen may contain one, two, or no status icons in the upper-right corner of the viewing frame.

The recorder can support up to three monitors if it provides both VGA, HDMI, and CVBS video out ports.

5.1 Live View utility display

Open the Live View utility display by right-clicking anywhere on the Live View display shown above. Right click on the screen again to return to the normal Live View display. In the Live View utility display, you can:

- Access the Menu
- Open the Events list and play video of events.
- Backup video from a camera channel
- Logout, Shutdown or Reboot the system
- Change the split screen configuration and assign camera channels to viewing frames
- Start and stop all-day continuous recording on all channels
- Start and stop all-day motion recording on all channels
5.1.1 Live View Header icons

Open Menu screen

In the screen shown above, click the **Menu icon** to open the firmware menu Menu icon display. Click on the icon in this window to open the configuration menus for that area of the system.
5.1.2 View Alarm and Exception information

Click the **Alarm and Exception** icon to open the list of recent alarms. To use this feature, the **Event Hint** option must be enabled and Event Hint Configuration must be setup to enable alarm types. To **Event Hint** hint and set the **Event Hint Configuration**, go to **Menu | Camera | Event | Normal Event | Exception**

Click on a tab, and then click the **Set** icon to select the kinds of alarms you want to list in the display. In the example below, the Basic Event tab was selected.

Click the **Play** icon in the list to watch recorded video associated with the alarm.
Setup Export Path and Export Status

Click the Export Status icon in the Live View header bar to show the status (percent complete) of the files you selected to download, setup a path to the download device, and select the video format for the video files you download. Files can be downloaded to a USB flash drive attached to a USB port on the recorder, or to an external device such as an FTP server or eSATA drive. To use this feature:

1. For downloads to a USB flash drive, insert a flash drive into an unused USB port on the recorder.

2. Click the Export Status icon in the window header. A popup window will open showing the download status of files selected for download.

3. In the Export Status popup menu, click the Settings icon. The Path Settings popup window will open.

4. In the Path Settings menu, click the Refresh icon, then open the Device field drop down list, and then select the USB flash drive. Select another available destination, if preferred.

5. Double click on the folder in the drive where you want to backup files (see above). Use the buttons on this menu to create a New Folder or Format the drive if necessary.

6. Click MP4 or AVI (for files in H.264 format only) to select the exported file format you prefer, and then click OK to set the path.

NOTE You can hover the mouse cursor over any shortened file or directory name to reveal the complete name.
Power Off

Click the Power Off icon to Logoff, Shutdown or Reboot the system. See “SECTION 4 Startup, Shutdown, Reboot” on page 76.

5.1.3 Live View Footer icons

Change split screen configuration

- Click the Split icon (see above) to show split configuration options for the Live View screen.
- By default, the camera channels will line up in order in the split screen form selected. To re-position a camera in the screen, click on the video frame to highlight it (will be surrounded with an orange border) and then double-click on the camera channel in the left frame. Video from the camera will appear in (move to) the selected video frame.

Page Select

If using a split screen layout that does not show all camera channels in the Live View window, you can click the Next (>) icon or the Previous (<) icons to open the next or previous groups of channels in the same layout. For instance, if you have a 16-channel recorder and selected a 2*2 split screen layout, you can only see four channels at a time. To see the next or previous groups of four channels, click the > or < icons.

Auto-switch, Stop Auto-Switch icon

If you have groups of cameras on different Live View pages (see Page Select above), click Auto-Switch to cycle through pages of different groups of camera Live View screens.

Start All-Day Continuous recording

Click the camera (continuous) icon in the footer to start or stop continuous recording on all channels.

Start All-Day Motion Detection recording

Click the camera (motion) icon in the footer to start or stop motion recording on all channels.
SECTION 5: LIVE VIEW SCREEN

Full Screen, Exit Full Screen

Move the mouse pointer to the lower right corner, and then click the icon to remove or restore the screen header, footer and channel list.

Aux Monitor

With system monitors connected to both the VGA and HDMI video outputs on the recorder, click the Aux Monitor icon to switch the configuration screen of your surveillance system from the VGA output to the HDMI video output, or v.v.s.a.

Trigger Alarm Out

Click this icon to select the alarm out device that will generate an alarm out signal. In the image shown below, the local alarm is generated by the recorder alarm out circuit, and the other options with IP addresses represent cameras monitored by the recorder that have alarm out circuitry.

![Trigger Alarm Out icon](image)

5.2 Setting monitor resolution

The recorder supports VGA monitor resolutions up to 1080p (1920*1080 pixels), and HDMI resolutions up to 4K (3840*2160 pixels). To set the monitor resolution:

1. Open the General Configuration menu. Click the Menu icon in the header, and then go to Configuration | General.
Use the screen above to select the **VGA/HDMI** (and HDMI2, if included) **Resolutions** for the VGA and HDMI monitor(s) you are using, and then click the **Apply** button at the bottom of the screen.

### 5.3 Live View settings

Live View settings can be customized according to differing needs. You can configure the screen frame split, placement of camera channels on the screen, dwell time for screen to be shown, mute or turning on the audio, the screen number for each channel, etc.

1. Open the **Live View Settings** menu. Click the **Menu** icon in the header, and then go to **Configuration** | **Live View** | **General**.

![Configuration settings menu](image)

Adjust the settings in the screen as needed:
SECTION 5: LIVE VIEW SCREEN

— **Video Output Interface**: Designates the output to configure the settings for. Option includes only VGA / HDMI and HDMI2 if supported by the recorder.

— **Live View Mode**: Designates the display mode (screen split) to be used for Live View. 1 * 1 is a single camera view. Other options are 2 * 2, 1 + 5, 1 + 7, 3 * 3, etc. Options depend on the number of channels supported by the recorder.

— **Dwell Time**: The time in seconds to dwell between switching channels when auto-switch is enabled in Live View.

— **Enable Audio Output**: Enables / disables audio output from the recorder Audio (line) Out jack.

— **Volume**: When Audio Output volume is enabled, use the slider to adjust the volume.

— **Event Output**: Designates the output to show event video. Option includes only CVBS/Channel-Zero, VGA/HDMI, HDMI2 (if supported). **NOTE**: If you configure a camera event with the full-screen monitoring linkage action, the Event Output screen will show full screen video of the camera channel when the event occurs for the duration set in Full Screen Monitoring Dwell Time.

— **Full Screen Monitoring Dwell Time**: The time in seconds to show alarm event screen.

2. After changing settings in the screen shown above, click **Apply**, and then click **Back**.

3. Open the Live View **View** screen. Go to **Menu | Configuration | Live View | View**.

4. To use this screen:
   a. Click the single- or multi-screen select icon for the screen split you prefer. In the example shown above, a 4-window (2*2) view is selected.
   b. Click a viewing screens (A1 .. Ax or D1 .. Dy), then double-click the camera in the list on the left that you what to show there. When the selection is made, label in the viewing screen changes to the camera channel number. You can also click an icon to Start or Stop Live view of all channels.
c. If you click the icon in the upper right corner of a viewing screen for an analog camera (A1 or A2 or A3 ...), the viewing screen number will change to a “+” symbol, and you can assign a network camera to that viewing position from the Live View display.

d. Click the Apply button to save your settings.

e. Right click on this menu to return to the Menu display.

5.4 Camera Live View icons

In the Live View mode, icons can appear in the upper-right of the screen for each channel, showing the status of the record and alarm in the channel, and toolbar icons appear at the bottom of the screen when you hover the mouse pointer over the video frame.

Some cameras may not highlight all toolbar icons.

5.4.1 Status icons

Status icons are defined in the table below.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Type</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Alarm Icon" /></td>
<td>Alarm</td>
<td>This icon appears in the upper right corner of the live video stream. It results from video loss, video tampering, motion detection, sensor alarm, etc.</td>
</tr>
<tr>
<td><img src="image" alt="Record Icon" /></td>
<td>Record</td>
<td>Manual record, schedule record, motion detection or alarm triggered record</td>
</tr>
</tbody>
</table>
## SECTION 5: LIVE VIEW SCREEN

<table>
<thead>
<tr>
<th>Icon Type</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record and Alarm</td>
<td>Both alarm and record status</td>
</tr>
<tr>
<td>Event / Exception</td>
<td>For the occurrence of motion detection, sensor alarm or exception information. This icon appears at the lower-left corner of the screen. Click on the icon to display the event / exception reason.</td>
</tr>
</tbody>
</table>

### 5.4.2 Toolbar icons

- **Capture**
  Click this icon to save an image of the current video frame.

- **Instant Playback**
  Click this icon to playback what was recorded in the previous five minutes. Nothing is played if a recording was not made at that time. This feature can be useful when used with the Start Record icon when previous wasn’t recorded for other reasons.

- **PTZ Control**
  Click the PTZ icon to enter PTZ mode (for use with PTZ cameras, fisheye cameras and varifocal cameras). See “SECTION 6 PTZ Controls” on page 102 for more information about using the PTZ features.
Digital Zoom icon

To use this feature, click on the icon to enter zoom mode. The video image will expand to full screen.

In digital zoom mode, you can position the mouse pointer anywhere on the video image, and then roll the mouse wheel forward and back to zoom in and out. Right-click on the image to return to the Live View window.

Image Settings

Use this feature to adjust the video quality of the video channel. See below. In the Mode the drop down lists, you can select either Standard, Indoor, Dim Light or Outdoor. These modes adjust the image settings to improve the video under those modes.

Click Restore Defaults to return to the factory settings.

Audio On/Off

Click on this icon to enable or disable the recorder Audio Out (line) signal and adjust the volume.
SECTION 5: LIVE VIEW SCREEN

Live View Strategy
Use this feature to select either Real-time, Balanced or Fluency enhancements to improve the video image.

Information
Click the Information icon to show the video stream statistics.

Start/stop Recording
Click the Start/Stop Recording icon to instantly record or stop recording video on the channel. This video can be played back in the video frame by clicking the Instant Playback icon (see below).

Switch to Sub/Main
Click the Switch to ... icon to change the stream to display in the video frame.

Enable/Disable POS
Click to Enable / Disable Point of Sale transaction information.

Show/Hide VCA Info
Click to Show/Hide information on the video image.

5.5 Channel-Zero Encoding
Use the Channel-Zero menu to configure the QVR for viewing multiple video channels simultaneously with a remote client. With this features you can decrease the bandwidth requirement without affecting the image quality. To use Channel-Zero Encoding:

1. Open the Channel-Zero Encoding menu. Go to Menu | Configuration | Live View | Channel-Zero
2. Check the box to **Enable Channel Zero Encoding**.

3. Configure the **Frame Rate**, **Max. Bitrate Mode** and **Max. Bitrate** as needed.

4. Click **Apply**.

After setting Channel-Zero Encoding, you can see up to 16 channels of live video on one screen of the remote client.

## 5.6 Adding network cameras

Each Alibi QVR with this firmware allows a specific number of network cameras to be added to the recorder in addition to the analog cameras that connect to the BNC connectors on the back of the recorder. Additionally, the recorder allows analog camera channels to be configured for IP network cameras.

### 5.6.1 Configure analog camera channels as IP camera channels

Any analog camera channel in the recorder can be configured to accommodate a IP network channel instead. For instance, an ALI-QVR4104H by default supports 4 analog cameras and 2 IP network cameras. The four analog channels can be configured as IP camera channels, with the recorder supporting no analog cameras and up to 6 IP network cameras.

In the example below using an ALI-QVR5116H, analog camera channel A9 was reconfigured to an IP channel. With this configuration, the recorder can support now up to 17 (16 + 1) analog cameras and up to 3 IP network cameras. To reconfigure the recorder for this capability:

1. Open the Analog camera menu. Go to **Menu | Camera | Analog**.
2. To configure analog channel A9 to an IP network camera channel, click the select bullet in the IP column for A9. Notice that the Max IP Camera Number below changes from 16 to 17.

3. Click Apply to save the new setting, and then click Yes in the pop-up Confirm window to reboot the recorder.
5.6.2 Add IP network camera to the QVR

See “2.6.2 Add IP cameras to the QVR” on page 22 for more information.

5.7 Live View Target Detection

In Live View mode, the target detection feature can detect a human motion / face / vehicle / human body and record a video clip of the event for the previous 5 seconds and the following 10 seconds. These clips can easily be replayed and saved to a flash device or external storage.

**NOTE** This feature may not work with some camera models supported by your recorder.

To use this feature:

1. Open the Live View utility display, and select the Target Detection tab in the left frame.
2. Check the select boxes for the types detection you want to perform: motion detection, vehicle detection (number plate recognition), face detection, and/or human body detection.

3. Check the icon for View Historical Analysis or View Real-time Analysis.

**5.7.1 Target Detection playback**

When a smart detection is found, a thumbnail image will appear in the left frame. Click the thumbnail you want to see. A playback window will open and begin playing the clip.
5.7.2 Playback download

To export the video clip to a flash drive:

1. Insert a flash drive into an unused USB port on the recorder.

2. Click the export icon in the pop-up window footer.
3. Open the **Device Name** drop down list, and then select the device where you want to save the clip.

4. If the device you selected has folders, double-click on the folder you want to save the clip in. You can create a new folder, or format the device if needed.

5. Select the **Backup Type** (format: **Default**, **MP4** or **AVI**) you want to save the file in.

6. Click **OK** to export the clip.

7. Click the **Export Status** icon in the upper right corner of the Live View screen to check the status of the download. In the example below, the download is complete (100%).

8. You can also click the **Settings** icon in the **Export Status** window, and then verify that the file now appears in the flash drive directory. See below.
SECTION 5: LIVE VIEW SCREEN

Settings
SECTION 6
PTZ Controls

PTZ controls are used to control the Pan, Tilt and Zoom features of PTZ cameras, and control the zoom, focus and iris of varifocal cameras. PTZ cameras can usually be configured to point at targets (called Presets), perform patrols (i.e., to move from Preset to Preset with a dwell time), and record and save patterns, a recording of the manually controlled motion of a camera. PTZ controls are also used with special features of non-PTZ cameras that have remotely controlled (motorized) zoom, focus and iris adjustments.

To open the PTZ Control screen, click the PTZ icon in the camera Quick-setting toolbar.

The PTZ Control screen includes features to control your camera manually, and configure it to automatically scan the important surveillance targets it is installed to monitor, and quickly move to those targets on command. PTZ cameras supported by this firmware usually include three types of movement commands that should be configured to use your camera most effectively:

- **Presets**: Presets are easily configurable instruction sets that move when called move the camera to point at a specific surveillance target. Presets include direction, zoom, iris and focus setting, and may include other settings.
• **Patrols**: Patrols are composed of a string of presets, with a dwell time associated with each preset. For instance, when a patrol is executed, it moves the camera to point at the surveillance target of the first preset in the string, for a configurable dwell time (for instance 10 seconds), then it calls the next preset in the string to moves the camera to that target and stay there for its dwell time, etc. You can configure up to four (4) presets, called Patrol1, Patrol2, etc with this firmware.

• **Pattern**: A Pattern is created by recording the movement of the camera. You can then call the pattern you recorded to repeat the movement. You can record only one pattern (Pattern1) with this firmware.

**NOTE** The presets, patrols and patterns you configure must be supported by the PTZ protocol of your camera.

### 6.1 PTZ Control screen

You can open the PTZ Control panel in the **Live View** by left clicking on the image from the PTZ camera, and then click the PTZ icon on the Quick Settings toolbar (see above).

In the screen shown above:

- Click the orange **OK** button to close the PTZ Control Wizard pop-up help window.
  - Check the **Do not show this** ... box to block this window when you open the PTZ Control screen.
  - You can drag your finger (for touch screens) or mouse across the screen as shown in the wizard to move the camera view after you close the help window:
    * Drag the image to move the camera view in that direction.
    * Click in the image to focus automatically.
    * Scroll the mouse up / down to zoom in / out.
    * Click the lower right corner icon to set the preset.
- Click the ✕ in the upper right corner or right click on the video window to return to the **Live View** screen.
6.1.1 Pointing the camera

You can point the camera at a surveillance target in three ways:

- Dragging your finger (for touch screens) or mouse cursor across the video window in the direction you want the camera to move.
- Clicking any one of the eight (8) direction buttons on the control panel GUI to point the camera in that direction. You can set the speed at which the camera pans or tilts by clicking one of the speed buttons on the outer (orange) ring of the GUI.
- By programming a Preset to point the camera at a specific target, then “Call”ing that preset.

6.1.2 PTZ Control panel

Use the PTZ control panel that appears in the right frame to control motion of the camera, configure and call Presets, Patrols and Patterns, and quickly set the zoom, focus and iris.

Feature of the PTZ control panel include:

- **Move direction speed buttons**: Click one of the seven (7) buttons to set the speed at which the camera moves when you click one of the eight (8) direction buttons.
- **Auto - continuous pan button**: Click to start / stop continuous pan to the right.
- **Open Aux Function, Patrol, Pattern control menus**: Click the tab to open the menu for that feature.
6.1.3 Zoom - Preset quick controls

Zoom - Preset quick control buttons are used to quickly zoom in or out, to set a preset and to OPEN and CLOSE thumbnail views of presets that are configured (see below) and quickly move the camera to that view.
6.2 Configuring PTZ settings

Follow the procedure to set the parameters for control of a PTZ camera installed in the system. Setup of the PTZ parameters should be done before you control the PTZ camera.

**NOTE** If PTZ cameras are controlled through the RS-485 interface, check that the PTZ and the recorder are connected and configured properly. Use the instructions with the controller, and the OSD menus in the camera to configure PTZ settings.

1. To control or setup controls for a PTZ camera, click on the camera you want to control in the Live View interface, and then click the PTZ icon in the quick setting toolbar.

2. Click **OK** to lose the PTZ Control Wizard.
6.2.1 Setting Presets

A Preset is a pre-configured setting of a PTZ camera that usually includes, its direction, zoom, iris setting and focus, and may include other settings. Follow the steps to set the Preset location which you want the PTZ camera to point to when an event takes place. A PTZ camera has up to 255 presets, numbered 1 .. 255.

**NOTE** Some Presets are factory set, and should not be changed. Refer to the documentation for your PTZ camera to see which Presets you can configure. Additionally, the presets, patrols and patterns you configure must be supported by the PTZ protocol you use.

1. Open the PTZ Control Screen.
2. Click OK in the PTZ Control Wizard to close it.
3. Use the inner ring buttons on the PTZ motion control GUI to point the camera at the field of view you want to create a preset for.
4. Click the Set Preset button in the Zoom - Preset quick controls panel.
5. Open the number field drop down list and select the number you want to use for the Preset (see above).
6. Click Apply.
7. Click Preset in the name field, and then use the virtual keyboard to enter a description for the preset you created. Click the Enter key in the lower right corner of the keyboard.
After saving your entry, the name will be shown in the thumbnail for Preset1.

**Call preset - move to a preset**

You can quickly move the camera to a preset you’ve created in two ways:

- Using **Open Preset**: Click the Open Preset icon in the Zoom - Preset quick controls panel, and then click on the Preset thumbnail you want to advance to.
- Using the **Set Preset** panel: Click the Set Preset icon in the Zoom - Preset quick controls panel, open the number field drop down list and select the number of the preset you want to advance to, and then click **Call**.

**6.2.2 Setting patrols**

Patrols can be set to position a PTZ camera to a Preset (KeyPoint) and hold it there for a set duration (in seconds) before moving on to another Preset number for a set duration. To create Preset positions for the camera, see “6.2.1 Setting Presets” on page 107. You can create up to 4 patrols, numbered 1 .. 4. To create a Patrol:

1. Click the **Patrol** tab in the PTZ Control Panel.
2. Open the drop down list in the Patrol field, and then select the patrol number you want to define (Patrol1 .. Patrol 4).
3. Click the **Set** icon.
4. Click the plus icon ( + ) to open the Keypoint menu. This menu is used to set a view in the patrol, with a specific duration.
In the KeyPoint menu:

a. Open the **Preset** drop down list, and select the first camera view you want the patrol to move to.

b. Open the **Speed** drop down list, and select the speed at which you want the camera to move there.

   i. Open the **Duration** drop down list, and use the slider to the right to select the number of seconds you want the camera to dwell on that preset. Click on that number in the **Duration** field.

c. Click **Apply**. An entry will appear in the Patrol Settings list for the KeyPoint you created.

d. Click the plus icon (+) to in the Patrol Settings menu to add an additional KeyPoint to the Patrol, and then repeat the sub-steps above with a different Preset to define the next camera view in the patrol.

5. When finished defining all the KeyPoints for the Patrol, click **Apply** in the Patrol Settings menu to save your settings.

6. Click **Cancel** to close the Patrol Settings menu.

**Editing a patrol**

In the Patrol Settings menu for the patrol you created:

1. Click the KeyPoint you want change.

   a. To change the Preset number:

      i. Click the Edit icon in the right column.

      ii. Open the **Preset** drop down list, then select the preset you want to assign to the KeyPoint.

      iii. Open the **Speed** drop down list, then select the speed at which you want to move to the preset.
iv. Open the Duration drop down list, and use the slider to the right to select the number of seconds you want the camera to dwell on that preset. Click on that number in the Duration field.

v. Click Apply in the KeyPoint menu.

b. To change the order of the KeyPoints:

   i. Click on the KeyPoint in the list you want to reposition.
   
   ii. Click the up arrow or down arrow icon to change the position in the list.
   
   iii. Click Apply in the KeyPoint menu.

2. Click Apply in the Patrol Settings menu.

3. Click Cancel to close the Patrol Settings menu.

**Call patrol**

To execute a Patrol you created:

1. Click the Patrol tab in the PTZ Control Panel.

2. Open the drop down list in the Patrol field, and then select the number of the patrol you created that you want to execute.

3. Click the Call icon. The patrol you selected will execute and repeat indefinitely.

4. To stop the Patrol, click the Stop icon.

**6.2.3 Setting a pattern**

A Pattern can be created by recording the movements of the camera. You can then call the pattern you recorded to repeat the movement. When recording the movements of the camera, you can Call the presets and patrols you created. Once Called, the pattern will execute continuously until it is stopped.

You can record only one pattern (Pattern 1). During the recording, an on-screen display shows how much memory allocated for the recording remains.

To define a pattern:

1. Click the Pattern tab in the PTZ Control Panel.

2. Click the Record icon.
3. Move the camera using manual controls and/or by calling presets you created. You can record the motion of the camera until 0% of recording memory is left.

4. Click the Stop icon to halt the recording.

**Editing the pattern**

To edit the pattern, re-record Pattern1.

**Call pattern**

To execute the pattern you created, open the Pattern tab, and then click the Call icon.

### 6.2.4 Configure Linear Scan

Use Linear Scan to scan the field of view back and forth along a linear path between a “left limit” point and a “right limit” point. To use this feature, you must first define the Left Limit and Right Limit:

1. With the camera still (not executing any patrols or scans), manually point the camera to the left limit of the linear scan you want to define.

2. Click the Left Limit button on the PTZ Control panel.

3. Then manually point the camera to the right limit of the linear scan you want to define.

4. Click the Right Limit button on the PTZ Control panel.

5. Click the Linear Scan button to start and stop the scan. When the scan is stopped, you can point the camera up or down, and then click Linear Scan to scan the view at that elevation between the left and right limits.
6.3 PTZ Parameter Settings

Use the PTZ Parameter Settings menu to configure the communication settings and camera protocol for a PTZ controller connected to the recorder across an RS-485 network. To configure these parameters:

1. Click the PTZ Parameters button in the PTZ Control panel.

2. In the menu, select the parameters as needed to match the controller and camera, and then click OK.
SECTION 7
Point of Sale Integration

With the recorder POS (Point of Sale) feature you can overlay cash register transaction data onto a live video display. Currently only QVR 5000 series and above recorders support the POS feature. For these recorders, 16-channel recorders support up to eight POS terminals, 32-channel recorders support 16 POS terminals, etc. The Alibi recorder supports only plain text and XML data through the remote listening port.

Setting up POS is a two step process, performed in two different recorder menus:

1. Assign POS data to a camera
2. Configure the POS interface

### 7.1 Assign POS data to a camera

Do the following:

1. Open the POS Overlay menu. Go to **Menu | Configuration | POS | Overlay Channel**.

2. To add an existing camera to a POS system, hover the mouse over a camera thumbnail, then click the Edit icon. See above.
Notice in the mapping shown above, channel D3 is assigned to pos 3, etc., by default. This indicates that data from POS assigned to POS 3 will be shown over the image in Channel D3. You can change this configuration, if needed, by selecting the POS identifier, and then selecting the channel to assign data to.

3. If changes were made in the screen above, click Apply to save the setting.

### 7.2 Configure the POS interface

Do the following:

1. Open the POS Overlay menu. Go to Menu | Configuration | POS.
2. Open the Select POS name drop down list, and then select the POS overlay you want to configure (see above). In this example, POS 3 is selected.

3. Check the Enable box to select this feature.

4. Select the Event Linkage tab, if not selected.

   a. In the Normal Linkage column, select the actions you want to occur when POS data is available. For instance, if you want the monitor to expand to full screen when data is available, check the Full Screen Monitoring box.

   b. In the Trigger Alarm Output column, select the output alarms you want to activate when POS data is available. Click Apply to save the settings.

   c. In the Trigger Channel column, elect one or more camera channels which will start to record/capture or expand to full-screen monitoring when the POS data available. Click Apply to save the settings.
SECTION 7: POINT OF SALE INTEGRATION

d. If you setup an Email account in the recorder, you can send an event email to up to 3 receivers.

5. Click the **Arming Schedule** tab, and then click the **Edit** button. In this tab you can define up to eight periods for each day when POS data is used. The periods must not overlap.

![Arming Schedule Tab](image)

a. Click the down arrow in the **Mon** field (see above) to setup the schedule for a different day, and/or click **Copy** to copy the Arming Schedule you setup in the window to other days of the week.

b. Click **Apply** to save the settings.

6. Return to the **Modify POS** menu.

7. Click a **Privacy Settings** field in the lower right corner of the **Modify POS** menu. **POS Privacy Information Filtering** allows you to hide additional information when a transaction takes place.

![Privacy Settings Fields](image)

a. Click an entry field, and then enter the label of the data you want to hide.
For example, a credit card number, except for the last 4 digits, is blocked by a POS system by default when sending data to the recorder. To block the entire number, enter CardNum in a privacy field shown above. The CC number shown in the report will then appear as ************. More information about this feature will be provided.

8. In the POS menu (see below) do the following:

   a. Open the POS Protocol drop-down list, and select either Universal Protocol, EPSON, AVE or NUCLEUS whichever matches the register.

   b. Open the Connection Type drop down list, and then select the way the recorder is connected to the POS terminal.

   c. If you selected Universal Protocol, click the Basic button to the right and then click Custom to view the communication tags options. Set the tags as needed for compatibility with your register. NOTE: Clicking the Advanced button changes the label to Basic.

   d. If you selected EPSON, no additional parameters are needed.
SECTION 7: POINT OF SALE INTEGRATION

e. If you selected AVE, click the Custom button to the right to open the AVE Custom Settings window, and then select the Rule from the drop down list, and the Address to match the configuration of the register. The default Rule is VSI-ADD at address 0.

f. If you selected NUCLEUS, a restart is required. Follow the on-screen instructions to restart the recorder.

NOTE: NUCLEUS will set some POS configuration parameters to their default values.

g. If the Connection type is TCP Reception, click the Parameters button, and then set the Port number and Remote IP Address to match the register. The default port number is 10012. The actual port number you must use depends on the register being integrated. The pcAmerica register used in this example requires port 4201.

h. Open the Character Encoding drop down list and select the option that is compatible with the register. Refer to the your register documentation for the appropriate setting. NOTE: Alibi recorders support only plain text messages from the register.
i. Select the **Overlay Mode**, **Font Size**, **Overlay Time** and **Delay Time** you prefer.

j. Check the **Overlay POS in Live View** box if you want messages from the register to appear over the camera image in Live View mode.

k. Click on the **Font Color** you prefer for the overlay messages.

9. Click **Apply** to save your settings.

10. Click anywhere inside the Live View window, and then reposition or resize the message box as needed.
11. Click the **Get Text** button at the bottom of the window (see below) to start retrieving messages from the register. The **Get Text** button changes to a **Stop Getting** button.

12. Verify that when transactions occur at the POS terminal, overlay text appears in the Live View image and the field below it.

13. Click the **Stop Getting** button to disable this test feature.
7.3 Playback POS recordings

When the POS setup is configured to record video when messages are received from the register, you can use Custom Playback - POS Event search features to find the video coupled with message strings received from the register. In the example below, a search is made for register events where “water” was purchased.

To playback video with specific POS register messages, go the following:

1. Open the Playback menu. Go to Menu | Playback.
2. Click the Custom Search button, and search for POS Events.
3. Configure the search screen as needed, and then click the Search button. See “8.5.5 Custom Playback” on page 139 for more information.
4. Click the Search button. Results of the search will appear in the right panel.
5. Select the search result you want to play, and then click the Play icon associated with the search result.
SECTION 7: POINT OF SALE INTEGRATION
SECTION 8
Record, Playback and Video Backup

After the initial setup of your recorder using the Wizard, the Menus interface enables you to refine your configuration settings and expand the functionality of the system. To use most menus, the user must log into the recorder system, either locally or remotely, with administrative privileges.

8.1 Configuring record settings

8.1.1 Setting camera video parameters

Video parameter values provided in these menus are dependent on the capabilities of the camera model.

1. Open the camera main stream parameters menu to configure the encoding parameters. Go to Menu | Camera | Video Parameters | Main Stream Parameters.

The Main Stream refers to the primary stream that affects data recorded to the hard disk drive. It directly determines the recording quality and image size. Main stream recording can provide a higher quality video with higher resolution and frame rate than sub-stream recording. Parameters are described as:

- **Frame Rate** (FPS - Frames Per Second): refers to how many frames are captured each second. A higher frame rate is advantageous when there is movement in the video stream, since it maintains a higher image quality throughout.

- **Resolution**: Image resolution is a measure of how much detail a digital image can hold: the greater the resolution, the greater the level of detail. Resolution can be specified as the number of pixels-columns (width) by the number of pixels-rows (height), e.g., 1024×768.

- **Bitrate**: The bit rate (in kbit/s or Mbit/s) is often referred to as speed, but actually defines the number of bits/time unit and not distance/time unit.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

— Enable H.264+ (or H.265+) Mode: The H.264+ (or H.265+) mode helps to ensure high video quality with a lower bitrate. It reduces the network bandwidth requirement and HDD storage space.

2. In the menu shown above:
   a. Open the Camera drop down list, and then select the camera you want to configure.
   b. Adjust the main stream parameters as needed.
   c. Click Apply.
   d. Click the Copy to button to copy your settings to other cameras on your system. Follow the on-screen menu to perform the copy.
   e. Click Apply when finished.

3. Open the camera sub-stream parameters menu to configure the encoding parameters. Go to Menu | Camera | Video Parameters | Sub-stream.

   The Sub-stream refers to the secondary stream that affects data recorded to the hard disk drive. It directly determines the recording quality and image size where sub-stream video is recorded or displayed, especially on smartphone live video streaming. Sub-stream recording can provide a nominal quality video with a lower resolution and frame rate requiring less network bandwidth than main stream recording. Parameters are described above:

4. In the Sub-stream menu shown above:
   a. Open the Camera drop down list, and then select the camera you want to configure.
   b. Adjust the main stream parameters as needed.
   c. Click Apply.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

d. Click the **Copy to** button to copy your settings to other cameras on your system. Follow the on-screen menu to perform the copy.

e. Click **Apply** when finished.

5. Repeat steps 1 through 4 above for each camera on your surveillance system.

### 8.2 Configuring Record schedule

The record schedule can be used to automatically start and stop recording at preset times. Initially, cameras are configured to record either continuously or using motion detection. Managing the record schedule for each camera can save space on the HDD and help the recorder operate more efficiently.

You can setup a record schedule in either of two ways: graphically, where you apply recording modes to sections of the week array (Monday through Sunday × 0 through 24 hours) and by using the Edit menu to more accurately define what mode of recording occurs and when. You can intermix the graphical method and edit method to configure any camera, and you can define up to 56 different recording segments during a week. The weekly schedule you setup will repeat every week unless changed.

**NOTE**

The recording schedule you setup will repeat every week indefinitely unless it is changed. You can also set up a special recording schedule for Holidays, and a separate image capture schedule.

1. Open the Record Schedule menu. Go to **Menu | Storage | Schedule | Record**. The schedule shown below is setup to record on motion detection only throughout the week.

2. To configure the Record schedule:

   a. Open the **Camera No**, drop-down list to select the camera you want to configure.

   b. Check the **Enable Schedule** box.
c. Click the Advanced button.

In the Advanced Parameters menu:

i. Check the Record Audio box if applicable.

ii. Set the Pre-Record and Post-Record times using the drop down lists. These parameters set the number of seconds of video before and after an event occurs what will be saved in storage.

iii. Open the Steam Type drop down list to select the video stream you want to record. You can select Dual, but that requires more bandwidth and storage space.

iv. Set the Video/Picture Expired Time (day) parameter as needed. This parameter sets the expired time for a recorded file to be kept in the HDD. When the deadline is reached, the file will be deleted. If you set the expired time to “0,” the file will not be deleted. The retention time for a file is determined in consideration of the capacity of the HDD.

v. Click OK to save your settings.

8.2.1 Setting the Recording Schedule graphically

To graphically configure the recording schedule, simply click the recording mode you want to apply, and then drag a rectangle across the areas of the array you want to change. Each segment of the array represents 30 minutes. To graphically change the recording schedule:

1. Click on the recording mode buttons above the array to change the mode in the rectangle. Mode buttons include:

   **Continuous**: scheduled recording.
   **Event**: recording triggered by all event triggered alarm.
   **Motion**: recording triggered by motion detection.
   **Alarm**: recording triggered by alarm.
   **M/A**: recording triggered by either motion detection or alarm.
   **M&A**: recording triggered by motion detection and alarm.
   **POS**: recording triggered by Point of Sale (POS) and alarm. Appears when POS is supported by the recorder.

   In this example, Event (purple code) recording was selected.
2. Use the mouse to drag a rectangle across the area of the schedule you want to change (see above). A red rectangle will show the area you selected. In this example, the period from 7 AM to 6 PM, Monday through Sunday was selected. When you release the mouse button, the recording mode there will change.

3. Repeat steps 1 and 2 above for each recording mode you want to apply, and for each camera.

### 8.2.2 Setting the Recording Schedule using Edit

You can use the edit method to define up to 8 recording periods for each day of the week (56 maximum). A schedule you setup for one day of the week can be copied to any other day of the week. Each time segment in **Edit** is 15 minutes in length.

**NOTE** You can define up to eight recording time periods for each day, each with a specified recording type. Recording time periods cannot overlap with each other.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

To setup a recording schedule using Edit:

1. In the Record Schedule menu, click the Edit button.

   ![Edit menu](image)

   In the Edit menu:

   a. Open the Weekday drop down list, and select the day you want to configure.

   b. To schedule all-day recording, check the box for All Day recording, and then open the Type drop-down list to the right to select the recording mode.

   ![Edit window](image)

   **NOTE** Alarm triggered recording is available for only some cameras models supported by the Alibi recorder. Consult your vendor support organization for more information.

   c. To setup specific start and end times, click the time field on the first Start/End Time line to open a time setting popup window.

      i. Use the up/down arrow buttons for each time file to set the hour and minute value start time and end time of the recording period you are configuring. In the example above, 05:00-24:00 was selected.

      ![Edit window](image)

      ii. Open the Type field drop down list to select the type of recording mode you want to apply during that period. See above.

      iii. Click Apply to save your settings.

      iv. To set additional recording mode segments, repeat the method above for the additional 7 time segments for the day you selected as needed.
v. Click **Apply** to save your settings.

vi. Click the **Copy to** button at the bottom of the window to select other days of the week and copy that schedule to them. In the **Copy to** menu, Monday is day 1 and Sunday is day 7.

![Copy to Menu](image)

vii. Click **OK** to close the **Copy to** menu.

viii. Click **Apply** to save your settings.

ix. Repeat the steps above in the **Edit** menu for each day of the week, or use the graphical method.

d. Click **OK** to close the **Edit** menu.

2. Click **Apply** in the Recording Schedule menu.

3. Repeat the steps above for each camera.

### 8.3 Configuring Capture Schedule

The capture schedule can be used to automatically start and stop image capture at preset times. Initially, cameras are not configured to images. Managing the capture schedule for each camera can save space on the HDD and help the recorder operate more efficiently. Configuring the capture schedule is identical to configuring the record schedule. Refer to “8.2 Configuring Record schedule” on page 125. To open the capture schedule, go to **Menu | Storage | Schedule | Capture**.
8.4 Defining Holidays

You can create a recording schedule for holidays only after specifying which days are holidays. Holidays can be specified by day (of the year), week or month. When these holidays occur, the Holiday recording schedule will be performed instead of the normal Monday through Sunday recording schedule setup using the procedure above in “8.2 Configuring Record schedule” on page 125.

To specify which days are holidays and create a recording schedule for these days, do the following:

1. Open the Record Holiday menu. Go to Menu | Storage | Holiday.

2. Click on the Edit icon for the first entry in the list. You can define up to 31 different holidays periods.
3. In the **Edit** window, click the **Enable** box to check it.

4. Click on the **Holiday Name** field, and then enter a common name for the holiday.

5. Open the **Mode** drop down list and select either **By Date**, **By Week** or **By Month**. Depending on your selection, the **Start Date** and **End Date** fields will adjust accordingly.

6. Edit the **Start Date** and **End Date** fields as needed. A Holiday can be a single day or range of days. In the window below, a New Years Day holiday was specified.

7. Click **Apply** to save your setting, and then click **OK**. The Holiday Settings window will show the holidays you created.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

8. Repeat steps 2 through 7 above for other holidays you want to identify.

9. Open the Record Schedule window. Go to Menu | Storage | Schedule | Record.

10. Click the Edit button, and then setup a schedule for Holiday recording.

11. Use the procedure in “8.2 Configuring Record schedule” on page 125 to setup a recording schedule for Holidays.

8.5 Playback

You can playback recorded video files instantly, or in several ways through the Playback menus.

When playing back recordings with the Playback menu, you can tag files for identification and easy retrieval.

Multi-channel playback supports 4 channels at up to 8 MP resolution and 16 channels at up to 1080p resolution.
8.5.1 Instant playback by channel

In Live View mode, click the channel you want to playback, then click the **Instant Playback** icon on the **Quick Setting** toolbar. A play control bar will appear in the same video frame, and video of the previous 5 minutes will play. In the instant playback mode, only recordings made during the previous minutes on the channel are played.

![Instant playback](image1)

To cancel instant playback mode, right click on the video frame.

**NOTE** In Live View mode, you can click the **Start/Stop Manual Record** icon to instantly record a video clip.
8.5.2 Using the Playback screen

Use the Playback screen to find and replay video recordings. You can synchronously playback up to 16 video streams at a time. Three playback modes are available:

- **Normal**: Normal playback shows and plays back all video clips recorded from the selected camera on the selected day.
- **Smart**: Smart playback is useful with continuous video recordings for quickly finding recorded video that has object motion, object line crossing or object intrusion in any part the video frame. You can select the kind of motion to find and mark it anywhere in the frame. The recorder will make search recorded video to show video clips that match your search criteria. This mode only allows single channel playback.
- **Custom**: Custom mode is used to search for video clips recorded as a result of a specific alarm or event.

**Playback screen**

![Playback screen diagram]
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

Notes:

- **Legend**: Legend defines the type of video clips marked on the timeline.

- **Play Controls**: Use the Play Control buttons to speed up, slow down, reverse, etc. The Speed icon shows the speed factor.

- **Show sub-periods**: Use this feature to divide play long video files into 4 segments and play them concurrently in a 2×2 split window (four frames) within the video playback window. For instance, if you are playing a video file that is 2 hours long, the file will be divided into four 30 minute segments, and each segment will play concurrently in one of the 4 frames.

- **Smart playback strategy** opens a popup window for setting the playback speed of normal video separate from the playback speed of Smart search video. You can skip normal video during playback.

- **Timeline**: Marks on the timeline indicate video clips. Color of the marks is defined in the Legend. You can drag the timeline left or right to reposition it at the play head, and use the Timeline Width GUI to expand and contract time span of the line.

- **Switch to sub-stream**: Click this icon to switch between main stream video and sub-stream video.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

Time panel - calendar

Click <, > to change month
Day selected - double-click to search for and play video
Click to Setup Custom Search Parameters
Mark shows video recorded on this day

8.5.3 Normal Playback

Normal playback shows and plays back all video clips recorded from the selected camera on the selected day.

1. Open the Playback screen. Go to Menu | Playback.

2. In the Playback screen, check the box for the camera channel(s) you want to playback.

3. In the Time frame, the current day is identified. The recorder will search for available video in the selected month and mark each day that has recorded video available. In the screen below, the mark on the date shows video was recorded.
4. Click the Play icon in play controls to watch the recording. Other marks will appear on the timeline if other video recordings are available.

### 8.5.4 Smart Playback

Smart playback is useful with continuous video recordings for quickly finding recorded video that has object motion, object line crossing or object intrusion in any part the video frame. You can select the kind of motion to find and mark it anywhere in the frame. The recorder will make search recorded video to show video clips that match your search criteria. This mode only allows single channel playback.

1. Open the Playback screen. Go to Menu | Playback.
2. Check the select box for a camera in the left frame.

3. In the Time menu, click on a date when video was recorded.

4. Use the play controls in the Playback screen to start playing recorded video from the camera.

5. Click the Smart button.

6. Move the cursor into the video frame. Icons will appear at the bottom of the video window.

7. Select one of the icons for Smart search: Line crossing, Intrusion detection or Motion detection.
8. Determine where in the video window you want to perform a Smart search, and then:
   - For **Line crossing**, click a point in the video window to set one end of the line, and then click a point to set the other end of the line.
   - For **Intrusion detection**, click a point in the video window to set one corner of a quadrilateral, and then click three other points in a circular fashion to set the other corners of the quadrilateral.
   - For **Motion detection**, drag a diagonal line across an area of the screen where you want to search for motion. A grid pattern will form.

9. After establishing the search pattern, the recorder will automatically search for video that matches your search criteria, and begin playing.
   - To **use the same detection method in another area** of the video, just reapply the pattern in a different area. The recorded will automatically re-search the video for motion in that area, and begin playing video.
   - To **change to another search method**, while video is playing, right click the mouse to stop video playback, and then reopen the smart search options toolbar. Click the **Clear** icon, and then click the icon for the new search you want to make. The recorded will automatically re-search the video for motion in that area, and begin playing video.

10. Right click anywhere to return to the *Menu* screen.

### 8.5.5 Custom Playback

Custom mode is used to search for video clips recorded as a result of a specific alarm or event. An example of using Custom Playback is shown below. Use this example as a model for other using Custom Playback. To use this feature:

1. Open the Playback screen. Go to *Menu* | *Playback*.
2. Check the select box for the camera in the left frame whose video you want to search.

3. Click the **Custom Search** button in the lower left corner.

4. In the **Custom Search** menu, open the **Time** drop down list and select the time span you want to search. You can also click the calendar icons in the start and end time fields to select other time spans.

5. Open the Event Type drop down list, and then select the type of event you want to search for. In this example, **Intrusion** was selected.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

6. You can also open the **File status** drop down list and search for only locked or unlocked files.

7. After selecting your search criteria, click the **Search** button at the bottom of the screen.
Thumbnails of the search results will appear in the window. You can also click the tab at the top of the window to reset your search criteria.

8. Click the **Play** icon on the thumbnail of the video you want to watch. The Playback screen will open to play the video clip. Custom Search results are indicated by red marks on the timeline.
Export Custom Search result

You can export (backup) a Custom search result(s) from the results window. To export a video file from the Playback screen shown above:

1. Click the Custom Search button in the lower left corner.

2. Click on the thumbnail for the file you want to export. When selected, the thumbnail will be shaded, and a check mark will appear in the upper left corner.

3. To export to a flash drive, insert a USB flash drive into an unused port on the recorder, and then click the Export button in the upper right corner.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

4. In the Export popup menu, select the options you want to save, and then click OK.

5. In the Export Path Settings window, click the Refresh icon, and then double click on the directory in the media where you want to save the file. Open the Device N... drop down list to select another destination, if preferred.

6. Select the Backup Type (file format) you want to export.

7. Click OK to export the file (see above).

Play Sub-periods

Use this feature to divide play long video files into 4 segments and play them concurrently in a 2×2 split window (four frames) within the video playback window. For instance, if you are playing a video file that is 2 hours long, the file will be divided into four 30 minute segments, and each segment will play concurrently in one of the 4 frames.

1. Open the Playback screen. Go to Menu | Playback.
2. Check the select box for a camera in the left frame.

3. In the **Time** menu, click on a date when video was recorded.

4. Use the play controls in the **Playback** screen to start playing recorded video from the camera.
5. Click the Sub-Periods icon.

6. Click the Back icon (see above) to exit Sub-periods mode.

** Thumbnails view **

You can quickly open a thumbnails view of the video clips during Playback. This feature is valuable in quickly finding a video of interest. To use the thumbnails view:

1. Open the Playback window and play video from your camera.
2. Hover your mouse cursor over a file mark on the timeline. Thumbnails will appear for video clips in the vicinity.

3. Click on the thumbnail of interest to play it in the playback window.

**Tagging files**

While watching a video file in Playback, you can click the Tag icon to associate it with a tag (label). Then, you can search for and retrieve the file later using its Tag.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

1. Open the Playback screen to play video recorded from a camera, and then find a section of video you want to Tag.

2. Move the mouse cursor into the video window to open the popup toolbar. Click the Tag icon (see above).

3. In the Add Tag popup window, enter a name for the Tag you want to use.

4. Click OK to close the window.
5. After tagging, the timeline shows a white marks where tags exists.

Custom search for tag

You can perform a custom search and find the file with the Tag you assigned. To perform the search:

1. Open the Playback screen. Go to **Menu | Playback**.

2. Check the select box for a camera that produced video that was tagged.

3. Click the **Custom Search** button in the lower left corner, and then enter the Tag name you are searching for in the Tag field.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

4. In the date fields, enter the date range spanning when the tag was created.

5. Click the Search button at the bottom of the window. The search result will appear in the screen.

6. Click the Play icon in the result thumbnail to play the file in the Playback screen.

External file

You can play an external file that was saved to some attached device such as a USB flash drive. To play a video file on a USB flash drive:

1. Open the Playback screen. Go to Menu | Playback.
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2. Insert a USB flash drive with the file you want to play into an unused USB port on the recorder.

3. Click the **External File** icon.

4. Click the **Refresh** button at the bottom of the left frame.

5. Open the **Device** drop down list and select the USB drive containing the file. See above.

6. Open the **File Type** drop down list, and select the format of the file you want to play.
SECTION 8: RECORD, PLAYBACK AND VIDEO BACKUP

7. Double click on the directory on the Device where the file is located, and the click the Play icon associated with the file.

8. Use the playback controls as needed, and click the Back icon to return to the Normal playback window.

8.6 File Management - search and export

You can use the File Management menus to search for and export files recorded or captured from your cameras.
8.6.1 File Management - All Files

The example shown here can be applied to most search and export needs.

In the procedure below, the camera on channel D2 was previously configured to detect Line Crossing events. Video from these events 12/6/19 were found using the File Management - All Files menu. A video resulting from the search was selected and exported to a USB flash drive for backup. To perform this procedure:

1. Open the File Management menu. Go to Menu | File Management | All Files.

2. Select the time span across which you want to search. The menu provides two methods:

   a. Open the Time option drop down list, and select the period back from the current day to search.
b. Or, use the Custom (calendar) feature to select the start date and time. Click the calendar icon shown below to open the calendar menu, click on the date for start (or end), and then set the time in GUI at the bottom. Click **OK** to select your settings.

![Calendar Menu](image)

(Insert image of calendar menu showing custom date selection)

c. Repeat the sub-step above to set the end date and time.

3. Open the Camera drop down list and select the camera(s) you want to use in the search. In the menu below, only camera channel D1 was selected.

![Camera List](image)

(Insert image of camera list showing channel D1 selected)

4. In this example, skip the Tag option since we are not searching for a tagged file.

5. Next, open the Event Type drop down list and select **Line Crossing** the event we are looking for.
6. Notice that the File Status for the search will look at all files. If the file was locked or unlocked, should select that option. For this example, we’ll select All.

7. Click the **Search** button at the bottom of the screen. Search results are shown in thumbnails.
8. Click on the thumbnail for the file you are searching for to select it (see above). When the file is selected, a check mark appears in the upper left corner of the thumbnail, and the thumbnail is shadowed. To watch the video of the file, click the Play icon in the thumbnail.

![File Management](image)

9. To export the file that is selected (checked) and write it to a USB flash drive, insert a flash drive into an unused port on the recorder, click on the file in the list you want to export, and then click the Export button.

![File Management](image)

10. In the Export popup window, select the options you want to export. Select Player to export a video player with the video file and log.
11. In the Export Path Settings window:

   a. Click the Refresh icon to update the Device list. Open the Device N... drop down list to select another destination, if preferred.

   b. Double click on the directory in the media where you want to save the file. The directory will open. You can hover the mouse cursor over the directory entry to show the full name.

   c. Click OK to export the file(s). The Path Settings window will close.

12. Check the export status to verify that the file completed the exporting.
13. Remove the USB flash drive from the recorder.

14. Plug the USB drive into a computer, and then open the directory where the file was saved.

15. Play the file to ensure it is what you need. VLC Media Player was use to play this file (see below).

8.6.2 File Management - Human Files

Use the File Management Human Files menu to search for human pictures and videos. Search and export methods for these types of files are very similar to those for File Management - All Files. See “8.6.1 File Management - All Files” on page 153 for more information. The camera you use must support this feature. The File Management - Human Files menu is shown below.
1. Open the **Custom** drop-down list, and select one of the preset time frames, if needed.

2. Open the **Camera** drop-down list, and then check the select box(es) for the camera(s) that recorded the video or pictures you want to search. You can also check or uncheck the select box in front of (All) **Camera** to select or deselect all cameras. In the example below, Camera D3 was selected.

3. Next, click the calendar icons in the start and end time span fields to configure what recorded video from the camera(s) to search. See “8.6.1 File Management - All Files” on page 153 for more information.
4. Click the **Search** button at the bottom of the menu. Results from the search are listed on the screen.

5. In the results list, click the appropriate button in the upper right corner to list both video and picture files, or either. The example above shows **All** (both). Notice also, item 8 in the list has a timestamp that is included in the item 7 video clip.

6. To play the video clip, click the icon in the **View** column of the video file you want to play. In the example below, the View icon for item 7 (video file) was clicked.
7. To see a picture, click the icon in the View column of the picture file you want to play.

   a. Click the X icon in the upper right corner to close the image and return to the results screen.

**Export image**

8. To select files to export, click on the files in the list to highlight them. In the example here, 7 and 8 are highlighted.

9. Insert a USB flash drive into an unused port on the recorder. You can also save the file to other storage, if available.
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10. Click the Export button the upper right corner of the screen.

a. In the pop-up window, select Video and log and/or Player.

b. Click OK.

c. Click the Refresh button (see above), and then open the Device Name drop-down list to select your storage device. A list of files and directories on the device will appear on the window.

d. Double click on the folder where you want to save the file. You can also create a New Folder, and Format the drive if needed. NOTE: Formatting erases all information on the disk.

e. Click on the backup file format you want to save the video file as. In the example above, MP4 was selected.
11. Click **OK** to export the file(s).

12. Click the **Export Status** icon on the right end of the screen header to verify the download is complete before disconnecting the storage device. Status of the last file exported is at the top of the list. In the example below, both files are 100% downloaded.

### 8.6.3 File Management - Vehicle Files

Use the File Management Vehicle Files menu to search for vehicles and licence plates. Search and export methods for these types of pictures are very similar to those for **File Management - All Files**. See "8.6.2 File Management - Human Files" on page 158 for more information. The camera you use must support this feature. The **File Management - Vehicle Files** menu is shown below.
SECTION 9
System Configuration

9.1 Configuration General menu.

1. See the Menu | Configuration | General.

2. In the screen above, set the options you prefer:
   - **Language**: At this time, English is the only available option.
   - **Time Zone**: Open the drop down list and select the time zone you prefer to use.
   - **Date format**: Open the drop down list and select the date format you prefer to use.
   - **System Date**: Click the icon and then select the year, month and day.
   - **System Time**: Click the icon and then select the hour, minute and second, and then click Apply. **NOTE**: If you opted to update the system time, while using the setup wizard, with an NTP server the time should already be accurate.
   - **Device Name**: Click in the field and use the virtual keyboard to enter a new Device Name, if needed.
   - **Device Number**: Click in the field and use the virtual keyboard to enter a new Device Number, if needed. This number is used in RS-232, RS-485, and other networks to identify the recorder. This number should be a unique device number on those networks.
   - **Auto Log out**: Open the drop down list and then select the time span you prefer. Auto Log Out is the length of time of inactivity the administrative menu system stays open before reverting to the Live View display. The Never option can be useful during system setup.
   - **Menu Output Mode**: Selects the primary video display output for the firmware menu system. Options are Auto, VGA and HDMI.
   - **Enable Wizard**: Check the select box (default) to start the Wizard when the recorder starts.
   - **Enable Password**: Check the select box (default) to require a password to open the menu system.
SECTION 9: SYSTEM CONFIGURATION

— **VGA / HDMI Resolutions**: Open the drop down lists and select the resolutions used by the VGA and HDMI monitors you connected.

— **CVBS Output Brightness**: Use to adjust the brightness of the CVBS signal.

— **Output Standard**: Select either NTSC or PAL.

— **Mouse Pointer Speed**: Drag the slider to set your preferred speed between slow and fast.

— **DST Mode**: Select Auto to use the default values, or Manual to set the DST Start Time, End Time and Bias when local settings differ from normal settings.

— **Enhanced VCA Mode**:
  * If enhanced VCA mode is enabled, full-channel line crossing detection and intrusion detection, and 2 channel sudden scene change detection are supported, but 2K/4K output and 4 MP/5 MP/8 MP signal input are not supported; if enhanced VCA mode is disabled, 2 channel line crossing detection and intrusion detection, and 2 channel sudden scene change detection are supported, and 2K/4K output and 4 MP/5 MP/8 MP signal input are also supported.
  * **Enhanced VCA mode conflicts with the 2K/4K output and 4 MP/5 MP/8 MP signal input**;
  * If enhanced VCA mode is enabled, full-channel line crossing detection and intrusion detection, and 2 channel sudden scene change detection are supported, but 2K/4K output and 4 MP/5 MP/8 MP signal input are not supported.
  * If enhanced VCA mode is disabled, 2 channel line crossing detection and intrusion detection, and 2 channel sudden scene change detection are supported, and 2K/4K output and 4 MP/5 MP/8 MP signal input are also supported.

— **Enhanced IP Mode** feature. When enabled:
  - QVR5116H supports 16 additional IP channels (up to 16 analog channels, 32 cameras total)
  - QVR5132H supports 16 additional IP channels (up to 32 analog channels, 48 cameras total)

3. If any parameter is changed, click **Apply** to save your settings.

### 9.2 User Accounts

User accounts are created to control access to the system both at the recorder and when logging into the recorder from a remote computer. Each account has a User Name, Password, and a selection of permissions granted to the user.

By default, one user, named **admin**, is provided. The **admin** user is granted all permissions with the system, and can create, modify, and delete other users.

The recorder supports up to 32 user accounts.

#### 9.2.1 Adding a user account

1. Log into the recorder as an administrator.

2. Open the User manu. Go to **Menu | Configuration | User**.

### 9.2 User Accounts

User accounts are created to control access to the system both at the recorder and when logging into the recorder from a remote computer. Each account has a User Name, Password, and a selection of permissions granted to the user.

By default, one user, named **admin**, is provided. The **admin** user is granted all permissions with the system, and can create, modify, and delete other users.

The recorder supports up to 32 user accounts.

#### 9.2.1 Adding a user account

1. Log into the recorder as an administrator.

2. Open the User manu. Go to **Menu | Configuration | User**.
3. Click Add to open the Add User menu.

4. In the Confirm Permission popup window, enter your administrator user password, and then click Next.

5. In the Add User menu, enter the information for new user, including User Name, Password, Password and Confirm password, Level and User's MAC Address (optional). Ensure that the menu shows that the password you selected is a “Strong” password.

6. Click OK to continue.
7. Set the user **Level** to Operator or Guest. Different **Levels** have different operating permission.
   - **Operator**: The Operator user level has permission of Two-way Audio in Remote Configuration and all operating permission in Camera Configuration by default.
   - **Guest**: The Guest user has no permission of Two-way Audio in Remote Configuration and only has the local / remote playback in the Camera Configuration by default.

8. **User’s MAC Address**: The MAC address of the remote PC which logs onto the recorder. If this option is configured and enabled, a remote user with this MAC address only can access the recorder.

9. Click the **OK** to save the settings and close the **Add User** menu. The added new user will be displayed on the list. See the screen shown below.
10. Click the **Permission** icon for the user you created (user **Joe**). The Permission lists initially show the default permissions for the user level you selected during the User Add.

11. Check the select boxes for the additional permissions you want to assign.

   **Local Configuration options:**
   
   - **Local Log Search**: Searching and viewing logs and system information of recorder.
   - **Local Parameters Settings**: Configuring parameters, restoring factory default parameters and importing / exporting configuration files.
   - **Local Camera Management**: Use for adding, deleting and editing of IP cameras.
   - **Local Advanced Operation**: Operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I / O alarm output.
   - **Local Shutdown Reboot**: Shutting down or rebooting the recorder.

12. Click **Apply** and then click the **Remote Configuration** tab.
SECTION 9: SYSTEM CONFIGURATION

Remote Configuration options

13. Check the select boxes for the additional permissions you want to assign.

- **Remote Log Search**: Remotely viewing logs that are saved on the recorder.
- **Remote Parameters Settings**: Remotely configuring parameters, restoring factory default parameters and importing / exporting configuration files.
- **Remote Camera Management**: Remote adding, deleting and editing of the IP cameras.
- **Remote Serial Port Control**: Reserved for future expansion.
- **Remote Video Output Control**: Sending remote button control signal.
- **Two-Way Audio**: Enable two-way audio between the remote client and the recorder.
- **Remote Alarm Control**: Remotely arming (notify alarm and exception message to the remote client) and controlling the alarm output.
- **Remote Advanced Operation**: Remotely operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I / O alarm output.
- **Remote Shutdown / Reboot**: Remotely shutting down or rebooting the recorder.

14. Click **Apply** and then click the **Camera Configuration** tab.
15. In the Camera Configuration tab, open the **Camera Permissions** drop down list, select the permission you want to allow, and then check the select boxes for the camera you want to grant the permission for.

**Camera Configuration**
- **Remote Live View**: Remotely viewing live video of the selected camera(s).
- **Local Manual Operation**: Locally starting / stopping manual recording, picture capturing and alarm output of the selected camera(s).
- **Remote Manual Operation**: Remotely starting / stopping manual recording, picture capturing and alarm output of the selected camera(s).
- **Local Playback**: Locally playing back recorded files of the selected camera(s).
- **Remote Playback**: Remotely playing back recorded files of the selected camera(s).
- **Local PTZ Control**: Locally controlling PTZ movement of the selected camera(s).
- **Remote PTZ Control**: Remotely controlling PTZ movement of the selected camera(s).
- **Local Video Export**: Locally exporting recorded files of the selected camera(s).

16. Click **Apply** to save your settings for the permission you selected, and the repeat the above step for other permissions, as needed.

17. Click **OK** to save your settings and exit the **Permission** menus.

### 9.2.2 Live View Permissions on Lock screen

You can control which camera channels can be viewed when the Live View screen is locked. By default, all users can see all channels. To change this configuration:

1. In the Menu display, click the **Configuration** icon, and then click **User** in the left frame. You can delete any user account except the **admin** user.

2. Click the **Live View Permission on Lock Screen** link at the top of the screen.
3. In the **Local Live View** menu, select only the channels available for all users to view, and then click **Apply**.

4. In the **Local Live View** menu, check or uncheck the channels you want to grant or restrict, and then click **OK**.
SECTION 9: SYSTEM CONFIGURATION

NOTE
When the an Operator or Guest user has no local live view permission for specific camera(s), the live view permission for those camera(s) on the lock screen (previous user logged out) cannot be configured (live view not allowed by default).

5. Click Yes in the popup window to continue.

9.2.3 Editing a user account

1. In the Menu display, click the Configuration icon, and then click User in the left frame. You can delete any user account except the admin user.

2. Click the entry for the user to be edited. When the item is selected, it is highlighted.

3. Click Modify.

4. Edit the Edit User pop-up menu as needed. You can edit the user information, including user name, password, user level and MAC address:

a. To change the password, click Modify to the right of the Password field, then enter the new password in the Password and Confirm fields.

b. In the User Level drop-down list, select either Operator and Guest.

c. Modify other parameters as needed.

5. Click OK to save the settings and exit the menu.

6. Click the Permission icon on the user line to change the specific permissions for the User Level you granted. See “9.2.1 Adding a user account” on page 165 for more information.
9.2.4 Modify admin user

You can change the admin user password, unlock pattern, reserved email and some other security settings. You must log into the recorder as an admin user to change admin settings.

1. In the Menu display, click the Configuration icon, and then click User in the left frame.

2. Click the entry for the admin user to be edited. When the item is selected, it is highlighted.

3. Click Modify.

4. In the admin Edit User menu, change the settings as needed. See “9.2.3 Editing a user account” on page 172 for more information.

5. Click OK to close the menu and continue.
9.2.5 Deleting a user account

1. In the Menu display, click the Configuration icon, and then click User in the left frame. You can delete any user account except the admin user account.

2. Click the entry for the user to be deleted from the list. When the item is selected, it is highlighted.

3. Click the Delete icon to delete the selected user.

4. Click Yes on the confirmation popup window.

9.3 RS-232 setup

Use the RS-232 menu to configure the communication settings of the RS-232 port on the back of the recorder. The settings for this port must match the settings of your RS-232 network. To configure the S-232 port:

2. Open the drop-down lists for each parameter, and then select the option that matches your RS-232 network.

3. Click **Apply** to save your settings.

### 9.4 System Service options

System Service options enables you to control remote access to the different streaming protocols in the system.

#### 9.4.1 System Service

Use the System Service menu to enable/disable remote streaming and/or connectivity features.

1. To open the System Service menu, go to **Menu | Configuration | System Service | System Service**.

2. Uncheck the box(es) next to the protocols to disable those features.
SECTION 9: SYSTEM CONFIGURATION

3. Open the RTSP Authentication Type and HTTP Authentication Type drop down lists, and select either digest or digest&basic as required by the remote client.

4. Enable ISAPI: ISAPI (IP Surveillance Application Interface Programming) is an HTTP-based application programming interface that enables the TOE (Target of Evaluation) to communicate with IP media devices.

5. Enable HTTP: Enable HTTP protocol and choose HTTP authentication type between digest and digest & basic.

6. Enable IP Camera Occupation Detection: When this function is enabled, the recorder will detect whether an IP camera is already connected to another device or client.

7. Enable SDK Service: SDK protocol is used.
8. **Enable Enhanced SDK Service**: Enable SDK over TLS (Transport Layer Security) protocol. If you enable Enhanced SDK Service, you should select the Server Certificate. Communication between the device and the client software is secured by using TLS protocol.

9. Click **Apply** to save the new settings.

**9.4.2 ONVIF**

ONVIF enables the recorder to be discovered and added to other VMS clients as an ONVIF device. Access to the device is controlled by user authentication.

1. To open the ONVIF menu, go to **Menu | Configuration | System Service | ONVIF**.

2. To enable the **ONVIF** feature, check the select box, and click **Apply**.

3. To create users who can access the device, click the **Add** button, and follow the menu to register a **User Name** and **Password**.
SECTION 9: SYSTEM CONFIGURATION

9.4.3 Address Filter

Use the Alarm Filter to allow or forbid the remote connection of devices by their IP address or MAC address. To use this feature:

1. To open the Address Filter menu, go to Menu | Configuration | System Service | Address Filter.

2. Click the Enable box to check it.

3. Click on the select bullet for the Restriction Mode you want to use: IP Address or MAC Address filtering.
4. Click on the select bullet for the **Restriction Type** you want to use: Allow or Forbid.

5. On the **Restriction List** line:
   a. Click the **Add** button.
   b. In the pop-up window, enter the Restriction Mode address you selected for the device.
   c. Click **OK** to close the popup window.
   d. To change the entry you made, check the select box of the entry, click the **Edit** button, change the entry as needed, and then click OK to close the window.
   e. Repeat this step to enter additional address.

6. Click **Apply** to save your settings.
SECTION 10
Network Settings

10.1 Configuring General Settings

Network settings must be properly configured before you connect the QVR to cameras on network, or access it remotely. By default, the QVR will use DHCP (Dynamic Host Configuration Processor) to acquire network settings from the network’s Domain Name Server (DNS). Since with DHCP, the IPV4 (IP address) of the QVR can change, it is preferable to use a fixed IP address for easy access through your local network.

1. Open the Network General settings menu. Go to: Menu | Configuration | Network | TCP/IP | TCP/IP.

2. Open the Working Mode drop-down list and select the option you prefer.
   - **Net-Fault Tolerance**: Two NIC circuits use the same IP address. You can set the Main NIC to LAN1 or LAN2. In this configuration, if one network interface fails, the device will automatically enable the standby interface to ensure the system continues to run normally.
   - **Multi-Address Mode**: The parameters of the two NIC circuits can be configured independently. You can select LAN1 .. LAN2 under Main NIC for parameter settings. Select one NIC card as the default route. When the system connects with the extranet, the data will be forwarded through the default route.

3. Open the Main NIC drop-down list and select the primary network interface. The recorder includes two (2) NICs. Selecting the Main NIC depends on the Working Mode you selected above.

4. Check the **Enable Obtain** (DNS) select box to obtain the DNS Server Address address automatically.
10.1.1 Change DHCP option

By default, the DHCP option is enabled. When DHCP is enabled and the network is running a DHCP server, the QVR will automatically acquire compatible network settings and will show these settings in the menu above. These settings are dynamic and can change over time. It is preferable, however, to have unchanging, or static, network settings to simplify remote logins. To change from dynamic network settings (using DHCP) to static network settings, do the following:

1. Uncheck the Enable DHCP select box.

2. Keep the network settings provided by DHCP, or-
   - Enter the following network parameters (NOTE: These settings must be compatible with the other devices on your network):
     - IPV4 Address
     - IPV4 Subnet Mask
     - IPV4 Default Gateway
     - MTU range (500 .. 1500)
     - Preferred and Alternate DNS server addresses.

3. Click Apply to save your settings.

10.2 Configuring DDNS Access

You can configure your QVR to use DDNS Access (or Dynamic DNS, DDNS). DDNS is especially useful for access to your QVR from outside the local network (i.e., the Internet), and you use DHCP to configure your QVR network settings. To configure the QVR to use DDNS:
1. Open the Network Settings menu. Go to: Menu | Configuration | Network / TCP/IP | DDNS.

2. Click the DDNS tab.

3. Check the Enable select box.

4. Open the DDNS Type drop down list and select one of three options: DynDNS, PeanutHull and NO-IP.

   — DynDNS:

     i. Enter Server Address for DynDNS (members.dyndns.org).
ii. In the Device Domain Name text field, enter the domain obtained from the DynDNS website.

iii. Enter the User Name and Password registered in the DynDNS website.

iv. Click Apply to save your settings.

— PeanutHull:

i. Open the DDNS Type drop down list and select PeanutHull.

ii. Enter the User Name and Password registered in the PeanutHull website.

iii. Click Apply to save your settings.

— NO-IP:

i. Open the DDNS Type drop down list and select NO-IP.
SECTION 10: NETWORK SETTINGS

1. **In a browser window, go to the URL:** HTTP://alibiddns.com

2. **In this website,** create a **Domain Name,** **User Name** and **Password** for the recorder. Record these for use later.

3. **In the recorder DDNS menu,** open the **DDNS Type** drop-down list and select **NO-IP.**

4. **Enter Server Address** for **NO-IP** (dynupdate.no-ip.com).

5. **In the Device Domain Name, User Name and Password fields,** enter the information setup at the alibiddns.com website.

6. **Click Apply to save your settings.**

### 10.3 Configuring NTP Server

A Network Time Protocol (NTP) Server can be configured on your QVR to ensure the accuracy of system date/time.

1. **Open the Network NTP settings menu.** Go to: *Menu | Configuration | Network | NTP.*
2. Check the Enable NTP box to enable this feature.

3. Select the following NTP settings:
   - **Interval**: Interval in minutes between the two synchronizing actions with an NTP server.
     **NOTE**: The synchronization time interval can be set from 1 to 10080 minutes. The default value is 60 min. If the QVR is connected to a public network, use an NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the QVR is setup in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.
   - **NTP Server**: IP address of NTP server
   - **NTP Port**: Port of NTP server

4. Click **Apply** to save your settings and close the menu.

**10.4 SNMP**

Configure SNMP settings to receive device status and parameter information.

Download SNMP software to receive device information via the SNMP port. By setting the trap address and port, the device is allowed to send alarm events and exception messages to the surveillance center.

1. Open the SNMP menu. Go to **Menu | Configuration | Network | Advanced | SNMP**.

2. Check the **Enable** box to use this feature.

3. Configure the SNMP settings as needed.
   a. Set the Trap Address to the SNMP host IP address.
   b. Set the Trap Port to the Port of the SNMP host.
SECTION 10: NETWORK SETTINGS

4. Click **Apply** to save your settings. A **Confirm** pop-up window will open.

5. Click **Yes** to confirm the choice and close the window. Save your settings.

10.5 Configuring Multicast

Using the multicast function, more than 64 cameras are connectable. A multicast address spans the Class-D IP range of 224.0.0.0 to 239.255.255.255. We recommend that you use the IP address range from 239.252.0.0 to 239.255.255.255.

1. Enter the Network More Settings interface. Go to: **Menu | Configuration | Network | Advanced | More Settings**.

2. Set the Multicast IP address. When adding a device to the Network Video Surveillance Software, the multicast address must be the same as the QVR’s multicast IP.

3. Click **Apply** to save your settings and close the menu.
10.6 Configuring RTSP

The RTSP (Real Time Streaming Protocol) is a network control protocol designed for use in communication systems to control streaming media servers.

1. Open the Network More Settings menu. Go to: Menu | Configuration | Network | Advanced | More Settings.

2. In the menu shown above, enter the RTSP port number. The default RTSP port is 1050.

3. Click Apply to save your settings and close the menu.

10.6.1 Configuring Server and HTTP Ports

You can change the server and HTTP ports in the Network Settings menu. The default server port is 8000 and the default HTTP port is 80.

1. Open the Network More Settings menu. Go to: Menu | Configuration | Network | Advanced | More Settings.
2. Enter a new Server Port number and HTTP Port number in the appropriate fields. The default Server Port is 8000 and the HTTP Port is 80.

**NOTE** The Server Port number must be in the range 2000 .. 65535. It is used for remote client software access. The HTTP port is used for remote IE access.

3. Click **Apply** to save your settings and close the menu.

### 10.6.2 Configuring Email

The system can be configured to send an Email notification to up to three designated users when an alarm event is detected, an alarm or motion event is detected or the administrator password is changed.

Before configuring the Email settings, the recorder must be connected to a local area network (LAN) that maintains an SMTP mail server. The network must also be connected to either an intranet or the Internet depending on the location of the e-mail accounts to which you want to send notification.

1. Open the Network Settings menu. Go to **Menu | Configuration | Network | TCP/IP**.

2. Set the IPv4 Address, IPv4 Subnet Mask, IPv4 Gateway and the Preferred DNS Server in the Network Settings menu.
3. Click **Apply** to save your settings and close the menu.

4. Open the Email Settings menu. Go to **Menu | Configuration | Network | Advanced**.

5. Click the **Email** tab to open the email settings menu.

6. Configure the following Email settings:
   
   — **Enable Server Authentication** (optional): Check the checkbox to enable the server authentication feature.
SECTION 10: NETWORK SETTINGS

— User Name: The user account of sender’s Email for SMTP server authentication.
— Password: The password of sender’s Email for SMTP server authentication.
— SMTP Server: The SMTP Server IP address or host name (e.g., smtp.263xmail.com).
— SMTP Port No.: The SMTP port. The default TCP/IP port used for SMTP is 25.
— Enable SSL / TLS (optional): Click the checkbox to enable SSL / TLS if required by the SMTP server.
— Sender: The name of sender.
— Sender’s Address: The Email address of sender.
— Select Receivers: Select the receiver. Up to 3 receivers can be configured.
— Receiver: The name of user to be notified.
— Receiver’s Address: The Email address of user to be notified.
— Enable Attached Pictures: Check the Enable Attached Picture box if you want to send email with attached alarm images. The interval is the time of two adjacent alarm images. You can also set SMTP port and enable SSL / TLS here.
— Interval: The interval refers to the time between two actions of sending attached pictures.
— Test: Click this button to send a test message to verify that the SMTP server can be reached.

7. Click **Apply** to save your settings.

8. Click the **Test** button to test your Email settings. The corresponding **Note** message box will pop up.
10.6.3 Platform Access setup

Alibi Connect access platform can be used for Alibi Witness 2.0 smartphone app access by creating a direct peer-to-peer connection. This connection can be used to watch live video from the device, play back and download recordings, perform many configuration tasks, receive push notifications, and other features. These procedures must be performed by a user with Administrator credentials on this recorder.

1. Open the Platform Access menu. Go to **Menu | Configuration | Network | Advanced | Platform Access**.

![Platform Access Menu](image)

2. To use the Alibi Connect access platform, check the Enable box, and then click **Apply**. A Terms of Service window will open.

3. In the **Service Terms** window shown below:

![Service Terms](image)

   a. Scan the QR code to open the **Terms of Service** for using this feature. Read the agreement thoroughly.
SECTION 10: NETWORK SETTINGS

b. If you agree with the ToS, check the box in the middle paragraph to acknowledge it, and then click **OK** to return to the Platform access menu.

c. In the Verification Code field, enter a unique identifier for your system, and then click **OK** to return to the Platform Access menu. The Verification Code should contain 6 to 12 characters with letters (a to z, A to Z) and numbers (0 .. 9) and is case sensitive. The code **123456** was entered here.

4. In the screen above, check the Enable Screen Encryption box to use this feature, if you prefer to do so, and then click **Apply** to continue.

10.6.4 Alibi Witness 2 smartphone app setup - add device

Access to the Alibi Connect cloud service with a smartphone requires the (free) Alibi Witness 2.0 ver 3 or later app. This app is available through Google Play and iTunes. If you already have the app installed on your smartphone, check for the latest version, and update your phone if possible. To install or update the app on your phone, follow the instructions from Google Play or iTunes.

Alibi Cloud account setup

The Alibi Connect service is provided free by your vendor. But to use it, you must first create an account. Then, you can add devices to Alibi Witness for mobile monitoring. To create an account:

1. Open the Alibi Witness app, and then tap the **LOGIN** icon. The screen shown here appears after installation of Alibi Witness 2.0 version 3.

2. Tap Register in the Alibi Connect login screen.
3. Tap either Register by **Mobile Phone Number** or **Register by Email Address**. I chose here to register by mobile phone number.

4. In the **Region** screen (see above right), scroll down to find your country, and then select it.

5. For **Register by Mobile Phone Number**, enter your mobile phone number in this field, and then tap **Get Verification Code**. A text message containing a verification code will be sent to your phone. The code will remain valid for 30 minutes.

6. Enter the verification code sent to you in the field shown on the Verification screen, and then tap **Next**.

7. In the Account Settings screen:
   
a. Enter your preferred **Account Name**. The Account Name must be at least six characters, and cannot contain a forward slash, backslash, colon, asterisk, question mark, quotation mark, less or greater than symbols or vertical bar. (/ \ : * ? " < > |).
b. Enter your preferred **Password**. Passwords should have at least eight characters and include upper and lower case letters, numbers and special characters. The Home window will open with an Add Device icon.

c. Tap **Finish**. The Home window will open with an **Add Device** icon.

**To add a device to Alibi Witness 2.0 with Alibi Connect cloud.**

1. Open your Alibi Witness 2 ver. 3 (or later) smartphone app, and go to the My Device list.

2. In the upper right corner of the screen (see below left), tap the **Add** icon, and then in the list that opens, tap **Scan QR Code**.

3. In the Scan QR Code screen, position the window over the QR code in the Platform Access menu (see above center).

4. When the QR code is recognized, the **Results** screen will open. Tap **Next** to continue.

5. In the **Select Device Type** screen (see above right), tap the icon for the device type you are adding.

6. Tap **Connected and Next** in the next screen that opens.
7. In the **Enable Alibi Witness 2.0 Service** screen, tap the link **Alibi Witness 2.0 Terms of Service**. Read the ToS carefully, (you probably already did that) and then return to this screen.

8. Check the select box for **Read and Agree** (see above right), and then tap **Next** to continue.

9. In the Adding Completed screen (Congratulations!) tap **Next**.

10. Enter the device admin user password in the **Verify Device** screen (see above center), and then click **OK**.

11. Enter the Verification Code you created for the device in the **Create Verification Code** screen (see below left ), and then tap **Next**.

12. Use the **Edit Alias** screen to enter a descriptive name for the device, and/or tap **Save** to continue.
13. In the My Device list (see above center), notice that the recorder is now listed. You can tap the expand icon for the recorder to show the channel list, and then tap a channel to open a thumbnail of the camera video. Double tap the thumbnail to open the video channel in the Play window (see above right).

### 10.6.5 Alibi Connect Cloud Unbind device

Platform Access Unbind provides a way to unlink a device from the Alibi Connect Cloud Service from the console of the device. To use this feature:

1. Open the Platform Access menu. Go to **Menu | Configuration | Network | Advanced | Platform Access**.

![Configuration Menu](image)

2. In the menu shown above, click the **Unbind** button. The **Confirm Permission** pop-up window will open.

![Confirm Permission](image)

3. Enter the Admin user password in the **Confirm** field, and then click **Next** to continue. See above. The updated status will appear in a **Note** pop-up window.
10.7 Cloud Storage

Use the Cloud Storage feature to upload video from a camera to a OneDrive, GoggleDrive, or DropBox account. Only sub-stream video can be uploaded to cloud storage. To use any of these Cloud Types, you must have an account setup in advance. Although this is option is provided, Alibi Connect (see above) may provide better service for your performance. To use this feature:

1. Open the Storage Record menu. Go to Menu | Storage | Record.
SECTION 10: NETWORK SETTINGS

2. In the Record menu, click the Advanced button to open the Advanced Parameters window. Ensure that the stream type parameter selected is either Sub-Stream or Dual Stream. Notice in the screen above, the recording mode is setup for Event recording.

3. For the camera you want upload video from, setup some type of event recording, such as Motion Detection.

4. Open the Cloud Storage menu. Go to Menu | Storage | Cloud Storage.

5. Open the Cloud Type drop down list, and select the storage environment where you want to upload files.
SECTION 10: NETWORK SETTINGS

6. For this example, DropBox is selected.

7. Use a QR code scanner (on a smartphone) to scan the QR code in the menu.

8. For DropBox, tap Sign In with Google.

9. Follow the on-screen instructions to enter the email address and password for your account.

10. The next screen that opens is shown below. Tap Allow for the recorder to access files and folders in your dropbox.
SECTION 10: NETWORK SETTINGS

11. In the screen above on the right, copy the code shown in the box. Enter this code in the **Authorization Code** field in Cloud Storage menu.

12. Open the Camera drop down list, and select the camera from which you want to send video to the cloud.

13. For this example, check the **Enable Event Upload** checkbox. See above.

14. Click **Apply** to save your settings, or click **Copy to** to use these settings for other cameras. It may require 60 seconds or more to completely setup the configuration. When the setup is complete, the **Status** on the Cloud Storage menu will show **Online**. Uploaded files will be accessible through your cloud account.
10.8 Configuring NAT

Use the NAT feature to change the HTTP, RTSP, Server and HTTPS port numbers from their default values. This may be necessary for added security or when port conflicts exist in the local network.

1. Open the Network NAT menu. Go to: **Menu | Configuration | Network | TCP/IP | NAT.**
2. Check the **Enable** box to enable port changes in this menu.

3. Open the **Mapping Type** drop down list, and then select either:
   - **Auto**: This option automatically sets the **External Port** numbers for the recorder. The **Ports** (internal network ports) used by the recorder for HTTP (80), RTSP (1050), Server (8000) and HTTPS (443) remain at their default values. The new external port numbers will appear on this display. Use these ports numbers when establishing a connection to the recorder from outside the local network.
   - **Manual**: This option allows you to change the **External Port** numbers by clicking the icon in the **Edit** column for the HTTP, RTSP, Server and/or HTTPS ports. The Ports (internal ports) remain unchanged.

4. If settings in this menu were changed, click **Refresh**, and then click **Apply** to save the changes.
SECTION 11
System Maintenance

The Maintenance menus provide several displays that report system device information, log information, and network traffic. Features also include the export and import of the system configuration file, firmware upgrade, and factory reset.

11.1 System Information

The System Information displays include status reports of the recorder, cameras, record settings, the network and the HDDs. The configuration settings shown on these displays can only be changed in other areas of the menu system.

1. Open the Device Information display for the recorder. Go to Menu | Maintenance | System Info | Device Info.

To view information about other components of the system, click the appropriate link in the left frame.

11.2 Search Log Information, Log Export

System log information is continuously generated and saved in log records. System logs include the following types of entries:

- **Alarms** events - Start / stop motion detection, start / stop tamper detection etc.
- **Exception** conditions - Video loss, illegal login, HDD full / error, IP camera disconnected, network disconnected, etc.
- **Operation** events - power on, login, local operation logout, etc.
- **Information** events - Start / stop recording, local / network HDD information, HDD S.M.A.R.T., etc.

System logs can be searched and sorted for specific entries, and archived for use later. You can also search for video clips through system logs.

11.2.1 Log Search

1. Open the Log Information screen. Go to Menu | Maintenance | Log Information.
2. Click on the left **Time** field, and then use the GUI to select the beginning date and time to search for log entries. Similarly, click the right **Time** field and select the end date and time to search for log entries.

3. Open the **Major Type** drop down list, and select the major type alarms you want to search for. In the example below, **All** was selected. Each major alarm type has its own set of minor type alarms.

4. In the **Minor Type** list (see above), check the select boxes for the specific alarms you want to find.
5. Click **Search**. The search criterion specified was All Major Type alarms and all Minor Type alarms on 11/7/19.

In the search results list, multiple pages of log entries might be presented here. Use the icons in the lower left corner to navigate between pages. Up to 1000 alarm entries can be displayed from a search.

6. To view more information about a specific log entry.
   — Double click on the alarm entry.

7. If the log entry includes an icon in the **Play** column, video is associated with the entry. Click the icon to watch the video.
11.2.2 Log Export

You can export log information resulting from a search (see “11.2.1 Log Search” on page 203) to a backup device such as a USB storage device. The exported file is in .txt format and readable with an ASCII text viewer such as Microsoft® Windows® Notepad or Wordpad. The filename, prefixed with the timestamp, in the format YYYYMMDDHHMMSSlogBack.txt. To export the log file:

1. Perform a Log Info search for information you want to save. In this example, we’ll search for all Exception alarms between 1/1/20 and 1/8/20 inclusive.
2. Click **Search**.

3. To export the search result to a flash drive, insert the flash drive into any unused USB port on the QVR, and then click **Export**.

4. In the **System Log Export** window, hover the mouse over the directory entry (see left window below) in the list to see the directory name. Double click on the directory in the flash drive where you want to save the search results (see right window below) to select the directory.
5. Click the **Export** button to save the search data. The export status is shown (see left window below). You can hover the mouse over an entry in the folder to see the file name.

6. Click **OK**, and then click **Back**. Disconnect the flash drive from the recorder.

### 11.3 Export system configuration

You can export the recorder configuration, then import the file later to restore the earlier configuration if needed. Use this procedure to backup your system settings whenever the configuration is changed. The configuration backup file is a binary file with a timestamp in the format `devCg_<code>_YYYYMMDDHHMMSS.bin`. You must be logged into the recorder as the system administrator to perform this procedure.

1. Plug an USB storage device, such as a USB flash drive or USB disk drive, into recorder’s USB port.
2. Open the **Import / Export** menu. Go to **Menu | Maintenance | Import/Export**.
3. Click **Refresh** if necessary to locate the flash drive. The name list shows the folders available on the flash drive.

4. Locate the folder where you want to save the configuration file, and double click on it to open it. You can hover the mouse over the directory entry in the list to see the directory name (see above).

5. Double click on the directory in the flash drive where you want to save the configuration file (see below).

6. Click the **Export** button (see callout above). In the popup Export Encryption window, enter your administrator password, and then click **OK** to perform the export.

7. A **Note** popup window will show the export status.

8. You can hover the mouse over the file to see the filename.
SECTION 11: SYSTEM MAINTENANCE

11.4 Import system configuration

You can import a system configuration file you saved earlier to restore your recorder to that state. See “11.3 Export system configuration” on page 208 for more information. The procedure below uses the configuration file created above to restore the system. You must be logged into the recorder as the system administrator to perform this procedure.

1. If the configuration file you saved is on a flash drive, insert the flash drive into an unused USB port on your recorder.

2. Locate the file on the flash drive and select (highlight) it.

3. Click the Import button (see above). In the popup Import Encryption window, enter your administrator password, and then click OK to perform the export.
4. After the configuration file is imported, a system reboot is required. Follow the on-screen instructions to complete the procedure.

11.5 Upgrade Firmware

You can upgrade the firmware through a local device, FTP server, or from the cloud when Platform Access is on. You should check the current Firmware version before upgrading your recorder firmware.

1. To check the current firmware version, open the System information display. Go to **Menu | Maintenance | System Info | Device Info**.

2. Find the firmware version of your recorder on the **Device Information** screen. If a newer version exists, you can install it from a local flash drive or from a server.

11.5.1 Local Upgrade - from flash drive

You can upgrade the firmware in your recorder from a local device such as a flash drive:

1. Insert a flash drive with newer recorder recorder firmware into an unused USB port of your recorder.
SECTION 11: SYSTEM MAINTENANCE

2. Open the Local Upgrade menu. Go to **Menu | Maintenance | Upgrade | Local Upgrade**.

   ![Local Upgrade Menu]

3. Click the **Refresh** button (located at the upper right corner of the menu), and then navigate to the folder that contains the new firmware.

4. Click the firmware file you want to load. The firmware file normally has the file name extension **.dav**.

   ![File Selection]

5. Click the **Upgrade** button, the follow the on-screen instructions for completing the upgrade. The upgrade may require a reboot of the recorder.

6. Allow the upgrade operation to complete before continuing.
7. Open the **Menu | Maintenance | Device** menu and verify that the firmware you installed is shown.

11.5.2 **Online Upgrade**

Use Online Upgrade to acquire the firmware upgrade file from the web. Online Upgrade also compares the firmware version in the recorder with the latest version available. To use this feature:

1. Open the Online Upgrade menu. Go to **Menu | Maintenance | Upgrade | Online Upgrade**.

2. Slide the switch to the right to **Download Latest Upgrade Package Automatically**.
11.5.3 Upgrade from FTP server

If an FTP server contains the firmware upgrade file and the recorder has network access to that device, you can upgrade directly from that location. To upgrade from and FTP server, do the following:

1. Open the Upgrade FTP menu. Go to Menu | Maintenance | Upgrade | FTP.

![Upgrade FTP menu](image)

2. Click in the FTP Server Address field to open the virtual keyboard, and then enter the IP address of the server.

3. Click the Upgrade button at the bottom of the window, and follow the on-screen instructions to complete the upgrade.

11.6 Default - restore QVR

The default options enable you to revert the configuration to its original settings in one of three ways. A reboot is often required to complete the operation. To restore the device to a default configuration:

1. Open the Default options menu. Go to Menu | Maintenance | Default.

![Default options menu](image)

2. Click one of the following options:
   - **Restore Defaults**: Restore all parameters, except the network (including IP address, subnet mask, gateway, MTU, NIC working mode, default route, server port, etc.) and user account parameters, to the factory default settings.
   - **Factory Defaults**: Restore all parameters to the factory default settings.
   - **Restore to Inactive**: Restore the device to inactive status.

3. Follow the on-screen instructions to complete the restore operation.
11.7 Net Detect

11.7.1 Checking Network Traffic

You can see real-time information of your recorder network traffic, such as linking status, MTU, sending / receiving rate, etc. The traffic data is refreshed every 1 second.

1. Open the Network Traffic menu. Go to **Menu | Maintenance | Network | Traffic**.

11.7.2 Testing Network Delay and Packet Loss

The Network Delay, Packet Loss test checks the recorder’s ability to send data to an online device and have it returned. The recorder reports the delay time and the packet loss rate.

1. Open the Network Traffic menu. Go to **Menu | Maintenance | Network | Detection**.
SECTION 11: SYSTEM MAINTENANCE

2. Click on the Destination Address field, and then enter the destination IP address in the field. In the screen above, the address **192.168.0.199** was entered.

3. Click the **Test** button to begin the test for network delay and packet loss. The testing result appears in the window. If the testing failed, the error message box will open.

![Result](image)

### 11.7.3 Exporting Network Packet

By connecting the recorder to network, the captured network data packet can be exported to a USB device such as a flash drive, HDD, DVD-R/W and other local USB backup devices.

1. Open the Network Traffic menu. Go to **Menu | Maintenance | Network | Network Detection**.
SECTION 11: SYSTEM MAINTENANCE

2. Insert a USB device such as a flash drive, HDD, DVD-R / W and other local USB backup devices into a USB port on the recorder, and then click Refresh.

3. Select the backup device from the Device Name drop down list. USB Flash Disk 1-1 was selected. See above.

**Note:** Click the Refresh button again if the connected local backup device cannot be displayed. When it fails to detect the backup device, verify that it is compatible with the recorder. Format the backup device if the format is incorrect.

4. Click the Export button to start the export.

5. When the export is complete, a Note window will open showing the export status. Click OK.
11.7.4 Checking the network status

If problems are detected during export operation, check the network configuration. Go to:

Menu | Maintenance | System Info | Network.

11.7.5 Checking Network Statistics

Use the following procedure to view real time network status of your recorder.

2. Click Stat to open the network status report.
Use this display to check the bandwidth of the IP Camera, bandwidth of Remote Live View, bandwidth of Remote Playback, bandwidth of Net Receive Idle and bandwidth of Net Send Idle. Click the Refresh button to show the current status.

11.7.6 HDD - S.M.A.R.T. testing and monitoring

The HDD Detect feature provides two methods of monitoring the HDD: display of S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) data, and Bad Sector Detection. These methods can be used to assure the normal functioning of the disk, and anticipate failures.


2. To execute a self-evaluation test on an HDD:
   a. On the HDD line, open the drop down list to select the HDD you want to test.
   b. On the Self-Test Type line, open the drop down list to select the type of test to execute. You can choose either Short Test, Expanded Test or Conveyance Test. Testing of large HDDs can take hours to complete.
   c. Click the Self Test button to execute the test. Allow the test to complete before continuing. The result of the test is shown on the Self-evaluation line.
3. Examine the S.M.A.R.T. data provided for the HDD. Check to ensure that the data in the value and Worst column does not exceed the data in the Threshold column.

**NOTE** S.M.A.R.T. data provided by each HDD manufacturer is usually different. Refer to the manufacturer’s website for S.M.A.R.T. data definitions.

### 11.7.7 HDD - Bad Sector Detection

1. Open the Bad Sector Detection menu. Open the Menu screen, and then click the **Maintenance** icon.
2. In the left frame, click **HDD Operation** to open the options list, and then click **Bad Sector Detection**.
3. At the top of the menu, open the HDD No. drop down list and select the HDD you want to test.
4. Check the select bullet for either **All Detection** or **Key Area Detection**.
5. Click the **Self Test** button to begin the test. Bad sectors are identified in the array as red colored cells.
6. You can:
   - Click Pause to temporarily stop the scan, and click Cancel to end the scan.
   - Click Error info to see the detailed damage information.

### 11.8 HDD Disk Clone

The Disk Clone feature is used to copy an internal HDD to a writable storage device connected to the eSATA port. eSATA ports are provided on Alibi 5100 Series QVRs. The capacities of the source drive (internal HDD) and the eSATA storage device must be the same.

**WARNING**

- When cloning an internal HDD source drive to the eSATA storage device, no data can be written to the source drive.
- The cloning operation for a typical internal HDD can take several hours.

To use this feature:

1. Open the HDD Clone menu. Go to **Menu | Maintenance | HDD Operation | HDD Clone.**
2. Attach a destination storage device to the eSATA connector on the recorder back panel.

3. In the Disk Clone menu, check the select box for the internal HDD you want to clone. In the screen above, the select box for HDD 1 is checked.

4. Open the eSATA drop-down list, and then select the eSATA port where the destination storage device is attached.

5. Click Clone.

6. Allow the operation to complete before continuing.
SECTION 12
Managing HDDs

QVR storage (HDDs) is highly configurable. You can simply save data to the internal HDD(s) in the chassis, or add network based NAS or IP SAN devices to the system and save recordings and other data there. You can also define where data for each camera or groups of cameras is saved, and have 16 different storage groups. Before an HDD is used by the QVR, it must be initialized by the recorder. Preconfigured HDD(s) are already initialized.

If you add an internal HDD to the recorder, or replace an HDD in the recorder, it must be initialized before it can be used. See “12.1 Initializing HDDs” on page 223 for more information.

12.1 Initializing HDDs

An HDD must be initialized before it can be used by the recorder to store data. Pre-installed HDDs are initialized by your vendor. Check the status of the HDD installed in the recorder to assure it is functioning normally.

1. Open the HDD Storage Device menu. Go to Menu | Storage | Storage Device.

2. Check the status of the HDD. If the status is:
   - Normal or Sleeping - The HDD is working normally.
   - Uninitialized or Abnormal - Initialize the HDD before continuing. Check the select box of the HDD to initialize, then click the Init button at the bottom of the screen.
   - Failed - If the HDD failed during or after initialization, replace the HDD.
3. If the Status is Uninitialized, Abnormal, or you installed a new HDD in your recorder chassis, select the HDD in the window then click the Init button to initialize it for use. Allow the initialization procedure to complete before continuing.

12.1.1 Repair Database

Repair Database will rebuild all databases existing on the HDD you select. While this operation is in progress, no search and playback functions are available. Existing data is not affected. To use this feature:

1. Open the HDD Storage Device menu. Go to Menu | Storage | Storage Device.

2. Check the select box for the HDD you want to repair, and then click the Repair Database button.

3. Click OK in the Confirm window to initiate the operation.
12.2 Adding network HDDs to the system

Additional file storage can be added to your recorder using up to 8 NAS disks, or up to 7 NAS disks with 1 IP SAN disk. Currently, 8TB is the maximum drive size supported for each disk. The NAS device must support NFS and Unix / Linux file formats. To configure this storage:

1. Open the HDD Information interface. Go to Menu | Storage | Storage Device.
2. Click the Add button at the top of the screen to open the Custom Add menu.

![Image of Custom Add menu]

3. In the NetHDD drop down list, select the NetHDD ID (NetHDD 1 .. NetHDD 8) you want to add.
4. In the Type drop down list select either NAS or IP SAN.
5. Configure the device type you selected.

12.2.1 For a NAS disk

Currently, 8TB is the maximum drive size supported for NAS disks.

1. Click the NetHDD IP Address field to open a virtual keyboard and enter the IP address of the storage device.
2. Click the Search button to search for available NAS disks.

3. Select the NAS disk directory from the list shown, or manually enter the directory in the text field of NetHDD Directory.

4. In the Directory list, select the directory you want to use, and then click OK to add the disk to your system. The NAS will appear in the HDD Information menu.

12.2.2 For an IP SAN disk:

Configuring an IP SAN NetHDD is similar to configuring a NAS. See “12.2.1 For a NAS disk” on page 225 for more information.

1. In the Add NetHDD window, click the Type field, then select IP SAN.

2. Enter the NetHDD IP address in the text field.
3. Click **Search** to discover the available IP SAN disk directories on the network.

4. Select the IP SAN disk directory from the list shown.
   a. Select the directory you want to use, and then click **OK** to add the disk to your system. The IP SAN disk will be added to the Storage Device list.

   **NOTE** In the **Storage Device** list, if the added NetHDD is uninitialized, select it and click the **Init** button for initialization. Initializing an storage device erases all data saved on the disk.

5. Add additional disks as needed up to a maximum of 8 NAS, or 7 NAS and 1 IP SAN. Note that HDDs added to the system may need to be initialized before use. See “11.7.6 HDD - S.M.A.R.T. testing and monitoring” on page 219 for more information.

### 12.3 Configuring the HDD Partition / Group mode

By default, all cameras will record to the one partition(s) of the internal HDD(s). However, the recorder can be configured to allocate space in one of two modes:

- **Partition** mode: Each camera can be allocated its own recording space on a storage device (HDD).
- **Group** mode: Groups of cameras can each be allocated recording space on a storage device or devices. Configuring the HDD for Group recording mode requires an recorder reboot. You must have at least two HDDs (including internal and NAS / IP San HDDs added to the system) to configure Group mode.

#### 12.3.1 Partition Mode recording

In Partition Mode recording, each camera can be allocated its own recording space on a storage device (HDD).

1. Go to **Menu | Storage | Storage Device**.
SECTION 12: MANAGING HDDs

2. Click Storage Mode in the left frame to check the storage mode of the HDD. If you prefer to use Partition mode, do the following:

   a. Open the Camera drop down list and select the camera for which you want to allocate storage space.
   b. Edit the Max. Record Capacity and the Max. Picture Capacity values to specify the space allocated to each. In the above screen, the Max. Record Capacity was set to 140GB, and the Max. Picture Capacity was set to 6GB.
   c. Click Apply to save the settings.
   d. Repeat sub-steps a through c above for other cameras monitored by the recorder.

12.3.2 Group Mode recording

In Group Mode recording, groups of cameras can each be allocated recording space on a storage device or devices. Configuring the HDD(s) for Group recording mode requires an recorder reboot. You must have at least two HDDs (including internal and NAS / IP San HDDS added to the system) to configure 2 Groups, etc. Additional HDDs can be assigned to other groups or used as redundancy for existing groups. Additionally, an HDD use to record data can be reconfigured to read–only.

In the following example, the HDDs will be configured for Group Mode, with camera channel A1 assigned to Group 1 on HDD 1, and camera channel A2 assigned to Group 2 on HDD 2. To change to Group mode from Partition Mode (default), do the following:
1. In the **Menu | Storage | Storage Device** menu (see above), check the select box for the HDD you want to configure.

2. Click the **Storage Mode** Link in the left frame.

3. In the **Mode** select field, select **Group**.

4. Open the **Record on HDD Group** drop down list, and select the HDD you want to use for this group.

5. Check the box(es) for the camera(s) you want to add to the group. Analog cameras were selected here.

6. Click **Apply**. Since you are changing from Partition to Group, a reboot the system is required. In the Confirm box, click **Yes**, and then allow the system to fully reboot before continuing.
7. After the reboot is complete, go to Menu | Storage | Storage Device menu and drag the scroll bar at the bottom of the menu to the right end. Notice that in this window, an icon now appears for each HDD in the Edit column.

8. To setup Group 2, click the Edit icon for HDD 2.
9. In the **Group** section, click the select box for Group 2, and then click **OK**.

10. In the confirm pop-up window shown above, click **Yes** to continue.

11. Click **Storage Mode**.

12. On the **Record on HDD Group** line, open the drop-down list and select 2 (HDD 2 for group 2).

13. Select the cameras you want to use in assign to Group 2. In the example shown above, all IP cameras (D1 .. D32) were selected.

14. Click **Apply** to save your settings.

15. To create an additional group(s), repeat steps 7 through 14 above.
Additional HDDs

For each additional HDD on your system, click its Edit icon in the Storage Device screen. You can:

- Create a new group for cameras not assigned to existing groups (see procedure above)
- Assign the HDD as a:
  - Read / write (R/W) drive for an existing group
  - Redundancy drive for an existing group
  - Read-only drive

12.3.3 Change from Group Mode recording to Partition Mode

To change from Group Mode recording to Partition Mode recording:

1. Open the Storage Mode menu.

2. Click the Partition Mode select box.
3. In the screen above, set the capacities you prefer.

4. Click **Apply**, and follow the prompt to reboot your system.

### 12.4 Advanced Storage features

Use the Advanced menu to control extra features of the Storage system.

1. To open the Storage Advanced menu, go to **Menu | Storage | Advanced**.

2. Check the features you prefer to use:
   - **Overwrite**: Select Enable or Disable. If enabled, the oldest video clips will be overwritten with the newest clips when the backup device is full. If disabled, the backup device will discontinue writing and a Drive Full status will be generated.
   - **eSATA**: Select the device connected to the eSATA port on the backpanel (SATA HDD or CD/DVD-RW).
   - **Enable HDD sleeping**: HDD(s) run at reduced power mode when not busy.
   - **H 264+/H.265+ for All the Analog Cameras**: Select this option for improved performance if all analog cameras support these encoding methods.
   - **Enable Send HDD Information**: Sends email with HDD Info and status.

3. Click **Apply** to save your settings.
SECTION 13
RAID Arrays

13.1 Creating a RAID array

RAID (redundant array of independent disks) is a storage technology that combines multiple disk drive components into a single logical unit. A RAID array stores data over multiple hard disk drives to provide enough redundancy so that data can be recovered if one disk fails. The recorder supports RAID types 0, 1, 5, 6 and 10. When a RAID array is created, all data on the HDDs is lost, and the system must be restarted. RAID is featured on some multi-HDD recorders.

**NOTE**

RAID configurations require higher processor usage, which lowers the overall system performance.

The recorder provides two ways for creating the virtual disk, including one-touch configuration, for creating a RAID 5 array, and manual configuration, where you can select a different RAID level and specify the HDD configuration.

- The recorder supports creating at most 8 virtual disks.
- At least 2 HDDs must be installed for RAID 0.
- At least 2 HDDs must be installed for RAID 1.
- At least 3 HDDs must be installed for RAID 5. If you install 4 HDDs or above for one-touch configuration, a hot spare disk will be set as default.

**NOTE**

- At least 4 HDDs must be installed for RAID 6.
- 4 / 6 / 8 HDDs must be installed for RAID 10.
- By default, one-touch configuration creates one array and one virtual disk. If the capacity of the array created by one-touch configuration is larger than 16TB, two arrays and two virtual disks will be created.
- By default, one-touch configuration adopts “foreground” initialization (recommended) to initialize the virtual disk. By using foreground initialization, the virtual disk can be used only after the initialization is complete.

When or after creating the RAID array, you can designate an additional HDD to be a Hot Spare drive. If an HDD in the array fails (array Degraded), the Hot Spare is used to automatically rebuild the array with the Hot Spare HDD replacing the failed drive in the array, and with data that was on the failed HDD written to Hot Spare the from the functional drives in the array. The size of the Hot Spare drive must be equal to or larger than the largest capacity drive in the array.

1. With a system without a RAID array, or with HDDs installed in the chassis that are not configured for RAID, open the **Menu** | **Storage** | **Storage Device** display. Verify that the drives you want to configure for RAID have “**Functional**” **Status**.
2. Open the Advanced menu. Go to **Menu | Storage | Advanced**.

3. Check the select box to **Enable RAID**, and then click **Apply**

4. In the **Confirm** pop-up window, click **YES** to reboot the system.

5. After the recorder reboots, open the **Menu | Storage | RAID | Physical Disk** display again.
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6. Click the Create button.

7. In the pop-up window:
   a. Enter an Array Name. In the example here, RAID array is named RAID5.
   b. Open the RAID Level drop-down list, and then click the kind of RAID you want to create.
   c. Open the Initialization Type field and select one of the following:
      * Background: The background initialization can synchronize the disks, and detect and repair bad sectors. During the background initialization, the virtual disk is allowed to be used.
      * Foreground (recommended): During foreground initialization, the RAID is initialized totally and bad disk sectors can be detected and repaired. The virtual disk can be used only after the initialization completes.

NOTE If you click One-touch Config, a RAID 5 array will be created.
• **Fast**: The fast initialization usually takes short time and only initializes part of the RAID. It cannot detect a bad sector.

d. Check the boxes for the drives that will become part of the array. For RAID 5 configurations, a minimum of three HDDs are needed. In this example, drives 1, 2 and 3 were selected. Drive 4 will be designated later as the Hot Spare.

e. Open the **Menu | Storage | RAID | Array** display to view the **Task** field (far right column). Hover the cursor over the task field for the array to see the progress of the array creation. Allow the RAID initialization to complete before continuing. See below.

When the array creation is finished, the **Task** field shows **None**.

13.1.1 Installing a Hot Spare disk

To install a hot spare:

1. Select a disk with the same or larger capacity as the largest HDD in the RAID configuration. Install the HDD in the recorder (see the Quick Start Guide provided with your recorder).

2. Insert the spare HDD into the chassis. In the example below, the spare HDD was installed in bay 4. The status of the HDD is shown on the **MENU | Storage | RAID | Physical Disks** display.
NOTE After installing a spare HDD in the chassis, it may need to be initialized before it can be used. Check the status of the disk in the display above to ensure it is functional.

3. For the HDD you installed, check the select box in the **Hot Spare** column. Click the select box in the Hot Spare column for the spare disk that was installed. The **Array** field will show the HDD as **Global**, and the **Type** field will show it as **Hot Spare**.

4. To remove a Hot Spare HDD, click the “×” icon in the Hot Spare column for it.

### 13.2 Rebuilding a RAID array

The Status of an array can be any of the following:

- **Functional**: There is no disk loss in the array.
- **Degraded**: The number of lost disks has exceeded the limit. When the virtual disk is in Degraded status, you can restore it to Functional status by rebuilding the array.
- **Offline**: All other conditions. When the Status is neither Degraded nor Functional, it is considered Offline.

The Status of the array is shown in the **MENU | Storage | Raid | Array** display.
Arrays are automatically rebuilt when the array status is Degraded and a Hot Spare HDD is installed in the system.

### 13.2.1 Array Rebuilding process

When the chassis is configured with a Hot Spare disk and the array is in **Degraded** status, the system will automatically rebuild the array using the Hot Spare disk. To prepare for automatic rebuilding of the array, the system was configured as shown below, with a Global Hot Spare disk installed in physical slot 4.

When an array is being rebuilt, open the in the **MENU | Storage | Raid | Array** display. The **Status** field shows **Degraded**, and the **Task** field shows **Rebuild**.

**CAUTION**

Allow the rebuilding task to complete before powering off the system. Depending on the size of the HDDs, this process can last several hours.
SECTION 14
Smart Analysis

14.2.1 Counting

Counting is used to determine the number of objects entering or leaving a designated area in the field of view. The data can be displayed in a line graph across daily, weekly, monthly or annual time range.

**NOTE** The IP camera used for counting must include a microSD card for data accumulation.

To use Counting:

1. Configure the camera for any of the following VCA features:
   - Region Entrance Detection
   - Region Exiting Detection

2. Open the VCA Search Face Search menu. Go to: **Menu | Smart Analysis | Counting**.

3. Open the **Camera** drop down list, and then select the camera you want to search.

4. On the table header, select either **Daily**, **Weekly**, **Monthly** or **Annual** report.

5. Click the **Date/Time** icon, and then select the day for which to generate a report. For reports spanning several days, this date represents the last day of the period.

6. Click **Export** to save the statistics report in Microsoft® Excel® format.
14.2.2 Heat map

The Heat Map feature presents a graphical representation of heat data represented by colors. A red color block indicates the most welcome area, and blue color block (0, 0, 255) indicates the less-popular area. Heat map is normally used to analyze the visit times and dwell time of customers in an designated area of the field of view. The heat map function must be supported by the IP camera and the corresponding configuration must be set.

1. Configure a camera for a PIR Alarm.

2. Open the VCA Search Face Search menu. Go to: Menu | Smart Analysis | Heat Map.

3. Open the Camera drop down list, and then select the camera you configured for PIR alarm detection.

4. Open the Report Type drop down list, and then select the time span for which you want to count alarms. You can select either Daily Report, Weekly Report, Monthly Report or Annual Report.

5. Click the Statistics Time field, and then select the day for which to generate a report. For reports spanning several days, this date represents the last day of the period.

6. Click the Counting button to start counting across the report type you selected.

7. Click Export to save the statistics report in Microsoft® Excel® format.
SECTION 15
Remote Access

If your QVR is connected to a local network (LAN), you can access it from another computer on the LAN through Microsoft® Internet Explorer® (IE, only). IE must be run in Administrator mode.

When connecting to the QVR, you must enter a User Name and Password. Note that some user permissions disallow remote access and/or features of this access method.

When logging into the QVR from a remote computer for the first time, you must install a plug-in program named WebComponents. The procedure for installing the program using Internet Explorer 11 is shown below. Subsequent log ins do not require you to reinstall WebComponents.

15.1 Start Microsoft IE in Administrator mode

Microsoft® IE is used to access your recorder remotely. IE must run in Administrator mode to use all features available through a remote login to the camera. To run IE in Windows 10 as an Administrator:

1. Find Microsoft IE in the Start menu. Usually this is found in the Windows Accessories group.

2. Right click on the Internet Explorer shortcut, and then select More | Run as administrator.

15.2 Login and install WebComponents plug-in

To use all the features of the recorder web interface, you must install the WebComponents plug-in. If this plug-in is already installed, skip to “15.3 Login to the recorder” on page 245.
To login to the camera from a computer on the same LAN:

1. Open the IE browser on your computer and enter the IP address of the recorder in the URL field. If your computer is on the same network (local LAN) as the recorder, enter the local IP address of the recorder in the URL field. In the example below, the IP address of the recorder is 192.168.0.11.

2. In the login window, enter **admin** for the **User Name** and the password you created in the **Password** field (see above), then click **Login**.

3. If this is the first time you are logging into a camera, you may see a message in the following screen to install a plug-in. If this appears, click on the message to install the plug-in follow the sub-steps below. Otherwise, skip to the next sub-section.
SECTION 15: REMOTE ACCESS

a. In the pop-up window at the bottom of the screen, click **Save**.

b. The pop-up window will change to that shown below. Click **View downloads**.

c. In the View Downloads window, click **Actions**.
d. When the **Windows Defender SmartScreen** opens, close IE, click the More Option, and then click Run Anyway.

![Image of Windows Defender SmartScreen]

e. After WebComponents completes installation, a Setup window (see above, right) will appear. Click Finish to close the window and return to the initial login screen.

![Image of Setup window]

f. After WebComponents completes installation, a Setup window (see above) will appear. Click Finish to close the window.

### 15.3 Login to the recorder

Use this procedure to login to the recorder when the WebComponents plug-in is installed.

1. Open IE in Administrative Mode. See “15.1 Start Microsoft IE in Administrator mode” on page 242 for more information.

2. Enter the IP address of the recorder in the URL field. If your computer is on the same network (local LAN) as the recorder, enter the local IP address of the recorder in the URL field. In the example below, the IP address of the recorder is 192.168.0.11.
3. In the login window, enter *admin* for the **User Name** and the password you created in the **Password** field (see above), then click **Login**. The Live View screen will open.
15.4 Live View screen

The Live View window initially appears in a multi-screen configuration with no live view images shown. The display lists only the cameras configured in the QVR. In this tab, you can change the viewing screen layout by clicking the multi-screen select button and selecting the icon for a 1 screen a 2 x 2 layout, or other layouts depending on how many channels the recorder supports.
SECTION 15: REMOTE ACCESS

For **PTZ controls**, refer to “6.1 PTZ Control screen” on page 103.

To view video from a camera in the Live View screen:

- Click a viewing frame to select it. When selected, the frame is surrounded by a bright box.
- Double click the camera channel you want to see.

- To expand the image to full frame, double click the image in the viewing frame. To return to normal viewing mode, press **ESC** (keyboard escape key).
15.5 Playback screen

Open the Playback screen by clicking **Playback** in the screen header. The Playback screen allows you to review video recorded from one camera or several cameras concurrently. Also, video can be downloaded to your local computer.
To playback recorded video:

1. Click the multi-screen mode button to select the number of viewing frames you need to display. You can select either a 1, 2 x 2, or 3 x 3 frame pattern, depending on the number of channels in the QVR you are using.

2. In the left frame, click the camera channel you want to play recorded video from. In the example above, Camera 03 was selected.

3. Select the Stream Type you prefer from the drop-down list.

4. In the right frame, click the date when the video was recorded, then click the Search button. In the example above, January 8, 2020 was selected.

5. At the bottom of the screen, drag the timeline left or right to find when video was recorded for the camera selected. The condition that caused video to be recorded is indicated by a colored band on the timeline. The color legend is shown at the lower right corner of the window.

6. Click the Play icon on the toolbar to begin playing video.
15.5.1 Download recording

To Download recorded video:

1. In the Playback window, determine the timestamp(s) of the video clips you want to download.

2. Click the Download icon.

3. In the Search Conditions column (see above), select the Camera, File Type (what initiated for recording), Stream, and the Start Time and End Time range that includes the timestamp(s) of the video clip(s) you want to download, and then click the Search button.

4. In the File List, find the file(s) that include the timestamp(s) of the video clip(s) you want to download. Check the select box(es) for those files.

5. Click the Download button at the top of the window. Download status is shown in the Progress column. Downloaded files are saved in the location shown on the Configuration | Local screen (see “15.7.1 Local Configuration” on page 252). Allow the download to complete before closing the Download window.

15.6 Picture screen

The picture screen functions nearly identical to the video download screen (see “15.5 Playback screen” on page 249) except that it offers only Download by File.
15.7 Configuration screen

Open the Configuration screen by clicking Configuration in the screen header. The Configuration menu enables you to view the QVR configuration and make configuration changes. The User Name you use to login to the QVR must have administrative privileges to change the QVR configuration.

Options in the configuration menu are identical to those in the embedded QVR Menu system. For more information on how to use these options, refer to the QVR Menu descriptions in previous sections of this manual. After making configuration changes click Save or Apply to retain the changes.

15.7.1 Local Configuration

The Local configuration menu is used to set the Live View parameters, and define the location where Recordings and Pictures are stored on the local computer (computer you use to remotely log into the QVR).

To open the Local Configuration screen, go to: Configuration | Local.
15.7.2 Log information

Open the Log screen by clicking Configuration | Maintenance | Log.

To retrieve log information in the Log screen:

1. Select the Major Type and Minor Type alarms from the drop down lists.
2. Click the calendar icons in the Start Time and End Time fields to set the search period.
3. Click the **Search** button. The Log List can contain up to 2000 entries across 20 pages. Use the controls at the bottom of the list to move to other pages in the result list.

### 15.7.3 Basic recorder information

Open the Basic Information screen by clicking **Configuration | System | System Settings | Basic Information**.

The Basic Information screen shows the device Model, serial number and firmware versions installed in the QVR. In this screen you can also change the default **Device Name** and **Device No**.
APPENDIX A  Glossary

**Dual Stream**: Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the QVR, with the main stream having a maximum resolution of 1080p and the sub-stream having a maximum resolution of 960H (WD1).

**HDD**: Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.

**DHCP**: Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.

**HTTP**: Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network.

**PPPoE**: PPPoE, Point-to-Point Protocol over Ethernet, is a network protocol for encapsulating Point-to-Point Protocol (PPP) frames inside Ethernet frames. It is used mainly with ADSL services where individual users connect to the ADSL transceiver (modem) over Ethernet and in plain Metro Ethernet networks.

**DDNS**: Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.

**Hybrid DVR**: A hybrid DVR is a combination of a DVR and NVR.

**NTP**: Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.

**NTSC**: Acronym for National Television System Committee. NTSC is an analog television standard used in such countries as the United States and Japan. Each frame of an NTSC signal contains 525 scan lines at 60 Hz.

**DVR**: Acronym for Digital Video Recorder. An DVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.

**PAL**: Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast television systems in large parts of the world. PAL signal contains 625 scan lines at 50 Hz.

**PTZ**: Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.

**USB**: Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.