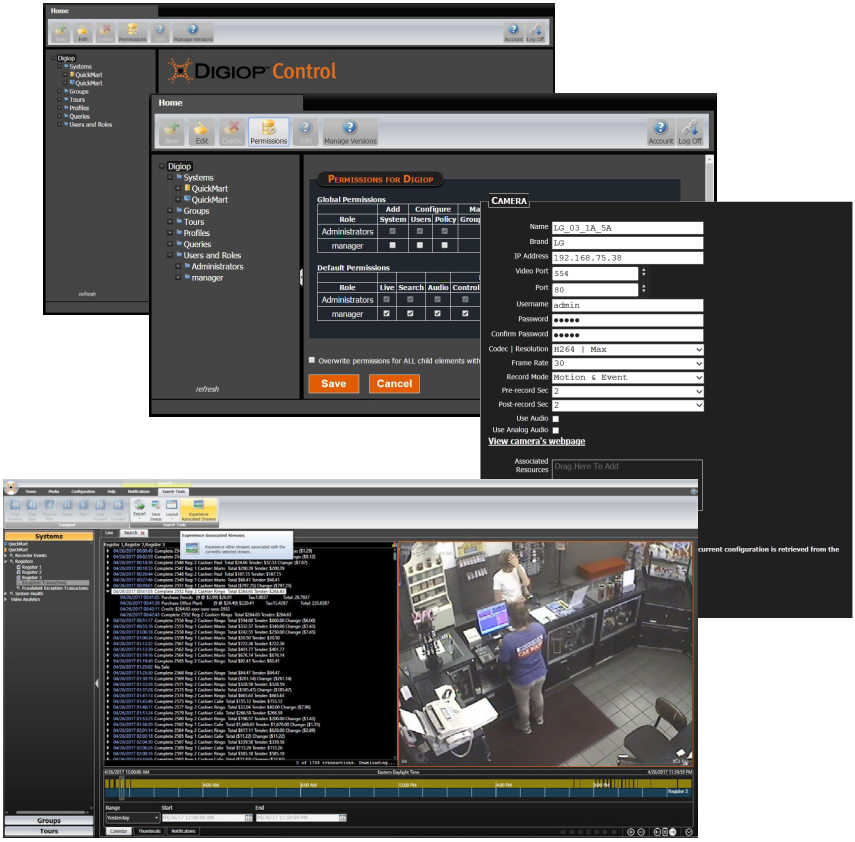
DIGIOP®
Intelligence Inspired

DIGIOP® Elements Full User Manual



Please read this manual before using your server, and always follow the instructions for safety and proper use. Save this manual for future reference.

Revision History

Date	Reason for Change
7/18/2011	Initial release.
1/31/2012	Includes V8.1 features.
10/30/2012	Includes V8.5 features.
5/16/2013	Includes V8.6 features.
9/20/13	Includes V8.7 features.
4/28/14	Includes V8.8 features.
6/9/15	Includes V9.0 features.
1/26/16	Includes V9.1 features.
11/21/16	Includes V9.2 features.
4/25/17	Includes V9.4 features.
8/13/18	Includes V9.6 features. Combine Control and Connect Manuals.
3/28/19	Includes V19.3 features.

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SECTION 1
System Overview

DIGIOP® Elements is a ground breaking Video-Enhanced Intelligence Platform that provides a single, user-friendly interface to the critical video and data intelligence you rely on to effectively manage your business.

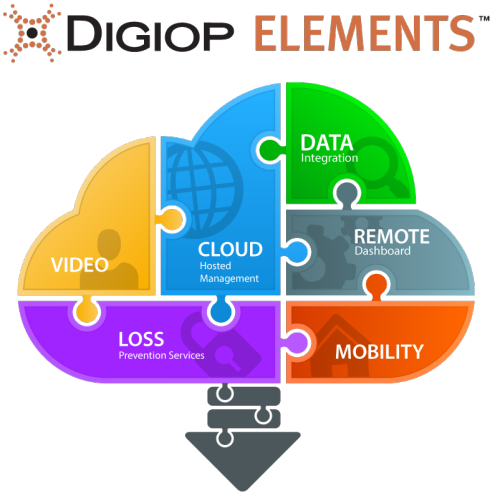
DIGIOP® extends the value of surveillance video beyond the traditional benefits of loss prevention and risk management, by combining raw video with information from back-office systems and video analytics. The result is an integrated dashboard that provides your functional leaders (management, operations, merchandising, marketing, and IT) with an accurate real-time and recorded view of the performance of the business.

DIGIOP® Elements is an extensible video recording platform that provides real-time recording of analog and IP cameras. DIGIOP includes DIGIOP Control, an easy to use administration portal, and DIGIOP Connect, a user friendly dashboard that displays video and data on a single interface. You can also gain real-time management of video and data by adding DIGIOP Data to your video management solution.

- **DIGIOP® Control**
  - A web-based administration portal for DIGIOP Server that enables you to configure your systems and manage permissions.
  - DIGIOP® Control allows you to easily manage your single- or multi-site system. It includes: add and configure cameras and data devices, establish global and local level permissions for systems, cameras, and data streams.

- **DIGIOP® Connect**
  - Provides a unified dashboard that displays both video and data intelligence in a single user-friendly dashboard.
  - Provides search tools including thumbnail search, timeline search, replay search, digital zoom, and tours, allowing you to quickly locate, save and export video and data.

- **DIGIOP® Data**
  - DIGIOP® Data integrates external data with video recorded by DIGIOP®. This information can be displayed and retrieved with DIGIOP® Connect.
  - DIGIOP® Data can integrate video with retail Point-of-Sale (POS), Video Analytics, System Health and many other data sources to expand the potential of your system.



Locally Hosted and Cloud Managed (DIGIOP ELEMENTS™) Systems

The DIGIOP® server can be managed either locally or managed remotely by the DIGIOP ELEMENTS™ cloud. Locally managed systems retain all system configuration data and recordings on the local DIGIOP Server. These systems can be isolated on a private network and require no Internet access.

DIGIOP ELEMENTS™ cloud management provides businesses with a cloud-hosted infrastructure for remote access to business data. DIGIOP ELEMENTS™ offers a secure, hosted portal – (*elements.digiop.com*) for video and data management that allows administrators to configure systems, cameras, devices, data streams, users, roles and permissions across single or multi-site enterprises from anywhere an administrator has access to the cloud. All settings are accessed using private login credentials and all recorded video and data that is captured using DIGIOP Server software remain on the local server hard drive behind the user's firewall.

Additionally, with DIGIOP ELEMENTS™ all system settings and configurations are retained on *elements.digiop.com*. This option allows for quicker replacement and reconfiguration of settings if a system failure was to occur. Some special features of DIGIOP ELEMENTS™ include:

- Global management and access from anywhere
- Simplifies single and multi-site deployments
- Push server level updates directly to your servers
- Centralized remote management of multiple user roles and permissions
- System settings are saved to the DIGIOP hosted portal
- Failover capability in the event of local hardware failure
- Reduced client configuration time

Single Server

- Configure permissions across single or multi-site enterprises
- All system configurations and profiles are stored in the cloud

Multiple Servers/Multiple Locations

- Centralized configuration of systems, devices and users
- Only one log in needed for access to the full enterprise

Remote Management

- Establish global and local level permissions across one or multiple servers
- Push update feature – push server level updates directly to the NVR
- Access and configure all systems with a single log in credential

To request a DIGIOP ELEMENTS™ Customer Name, please contact your sales representative.

1.1 About this Document

This document includes a user interface description of the DIGIOP® Control admin portal. DIGIOP® Control is used to manage IP and analog cameras, user accounts and data streams, and create groups, tours and user profiles for monitoring surveillance cameras and data. DIGIOP® Control is used concurrently with DIGIOP® Connect, which provides a local or remote view of live and recorded video and data streams.

SECTION 2
DIGIOP® Installation and Initial Setup

If you purchased a factory pre-configured DIGIOP® system, DIGIOP® Server and DIGIOP® Connect were preinstalled on your system for you. Skip to "2.3 DIGIOP® Connect Installation" on page 7. If you are installing the DIGIOP® applications on your system, continue with "2.1 Getting Ready" on page 4.

NOTE *If DIGIOP® Connect will be installed on the same machine where the DIGIOP® server will be installed, install and setup the DIGIOP® server first.*

2.1 Getting Ready

1. Before installing DIGIOP®, ensure that your server hardware and any remote PCs for DIGIOP® Connect meet the following requirements.
   - **CPU**: Intel® Core™ i3 or equivalent processor (i7 recommended)
   - **RAM**: 4GB RAM (8GB or more recommended)
   - **HDD**: 250GB, 7200 RPM (add additional HDDs for more storage space)
   - **Video Card**: 256MB (or better)
   - **OS**: Microsoft® Windows® 10 with 64-bit OS (recommended)
     Microsoft® Windows® 7 / 8 / 8.1, Server 2012, and Server 2016 are also supported

   DIGIOP® is capable of operating on systems with lower specifications, but performance is highly dependent upon number of cameras, camera resolution, and recorded frame rates. Contact us to determine the optimal specifications for your project.

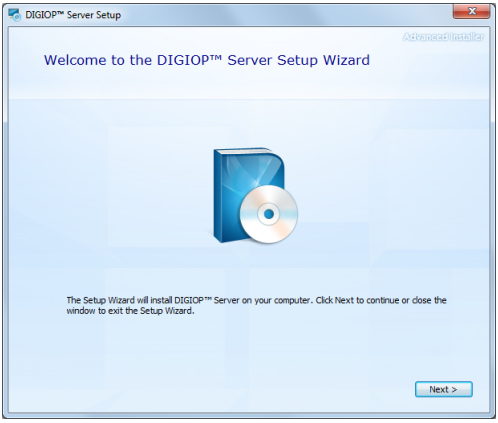
2. Ensure that your server computer has:
   - The latest operating system updates installed
   - The latest hardware drivers installed
   - The computer system clock set correctly for both the time and time zone

NOTE *Windows 8 / 8.1 / 10: An Internet connection is needed during the initial installation of DIGIOP Server to access Windows Updates and install* ***.NET Framework 3.5****.*
Server 2012 / 2016: Before installing DIGIOP Server, you must first go to the ***Add a Role or Feature Wizard*** *and add* ***.NET Framework 3.5*** *and* ***Desktop Experience****. An Internet connection is needed during this step to access Windows Updates and install* ***.NET Framework 3.5****. You can then start the DIGIOP Server Installer.*

2.2 DIGIOP® Server Installation

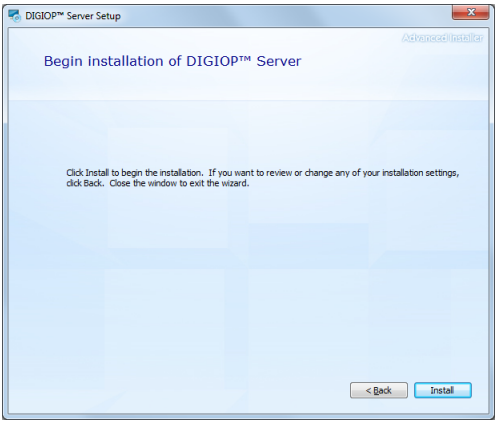
1. There are two installation file types. Copy the preferred DIGIOP Server installation file to your computer:
   - **DigiopServer_Web.exe** (Web Installer, recommended)
   - **DigiopServer_Full.exe** (Full Installer, available if system does not have access to the Internet)

2. Double click on the DIGIOP® application to open the installer. After extracting the main application files, the installer will open the DIGIOP® Server Setup Wizard. Click **Next** to continue.

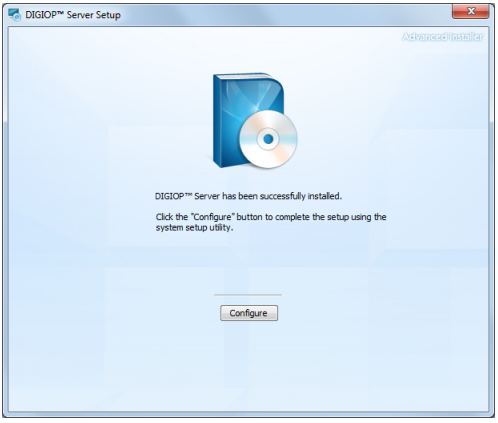


3. The End-User License Agreement page will appear. Read the EULA, select **I accept the terms of the agreement**, and click **Next.**

4. In the **Begin installation of DIGIOP Server** screen, click **Install** to continue.



5. During installation, follow any on-screen instructions to continue. When complete, the window below will open.



2.3 DIGIOP® Connect Installation

There are two installation file types. Copy the appropriate DIGIOP® Connect installation file to your computer:

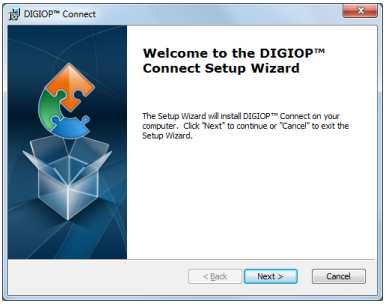
- ***DIGIOP_Connect_x64InstallerFull.exe*** (for 64-bit operating systems, recommended)
- ***DIGIOP_Connect_x86InstallerFull.exe*** (for 32-bit OS legacy systems)

2.3.1 Installing DIGIOP® Connect with an Installation File

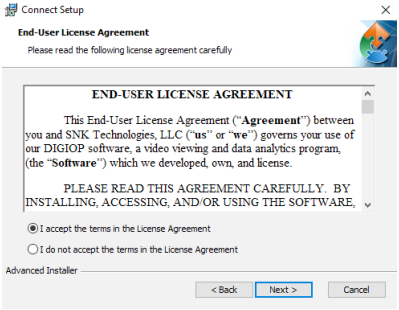
During the installation process, the DIGIOP® Connect installer may download and install prerequisite programs from the Internet.

1. Double click the installer file to begin the installation. The installer will first check for prerequisites, and then install additional software if needed before opening the Setup wizard. The prerequisite program(s) it installs depends on what is already installed on your computer.

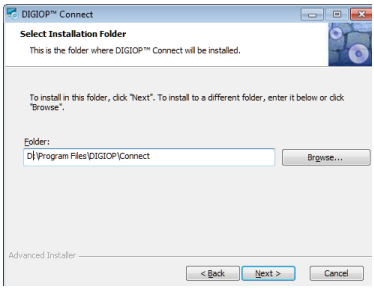
2. When the installer opens the Connect Setup Wizard, click **Next** to continue.



3. Review the End-User License Agreement, mark the "I accept the terms in the License Agreement", then click **Next**.

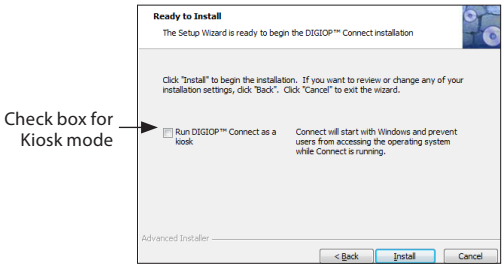


4. In the **Select Installation Folder** window, browse to the install location, then click **Next**.

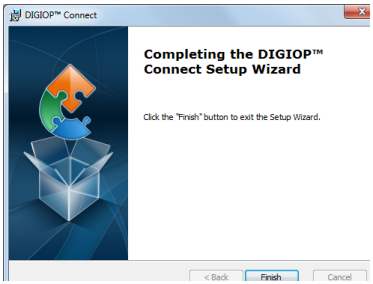


5. In the **Ready to Install** window, click **Install**, or if you prefer DIGIOP® Connect to be in Kiosk mode, select the checkbox for **Kiosk** mode and then click **Install**. See the following Note for more details on Kiosk mode.

NOTE ***Kiosk*** *mode opens the application automatically in full-screen view mode after a Windows user logs into the system. DIGIOP users who login to Connect without the administrator permission can logout of Connect, but cannot close the application or access the Windows desktop. Users with administrator permissions in DIGIOP can logout and close the application, and then access the Windows desktop. Most installations will NOT use Kiosk mode (default).*



6. When the **Completing the DIGIOP® Connect Setup Wizard** screen appears, click **Finish** to close the wizard.



2.3.2 Initial Check for Software Updates

If the computer with DIGIOP® Connect has access to the Internet, Connect will check for updates after login by default. Updated software ensures that you have the most recent enhancements for the DIGIOP® Connect software. The automatic update feature can be disabled (see below).

To update the initial installation of DIGIOP® Connect software

1. Launch DIGIOP® Connect by double clicking the desktop icon or opening it from the Start menu. The DIGIOP® Connect login window will open.

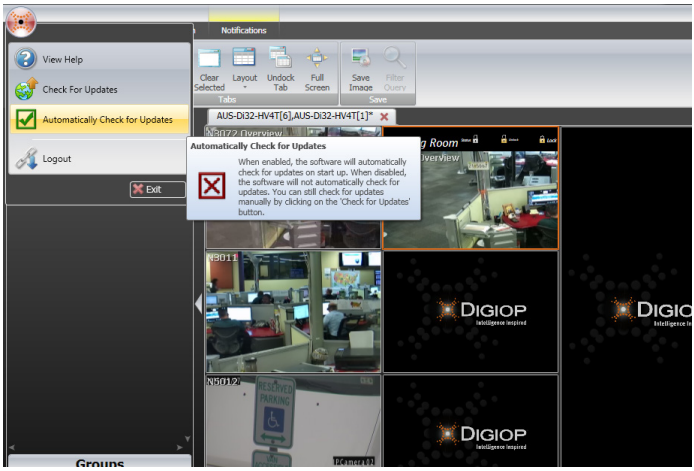
2. If you configured your DIGIOP® server as a DIGIOP ELEMENTS™ hosted system, enter your assigned **Username**, **Password** and **Customer** name in the appropriate fields, and then click **Login**. If a newer version of DIGIOP® Connect is available, follow the on-screen instructions to install it.

3. If your DIGIOP® system is NOT configured as a DIGIOP ELEMENTS™ system, refer to the section on logins for the appropriate login method.

2.3.3 Automatic Software Updates

Automatic DIGIOP® Connect software updates are enabled by default. Each time the software is launched, it checks for newer versions of the software, and updates itself automatically. To perform this check whenever DIGIOP® Connect is launched, skip this procedure as it is enabled by default. To disable this feature, do the following:

1. After logging into DIGIOP® Connect, click the icon in the upper left corner of the DIGIOP® Connect window.



2. In the drop-down window, if the option **Automatically Check for Updates** is checked, click it to disable the option. The checkbox will be replaced by an X-box icon.

NOTE *If the option to **Automatically Check for Updates** is disabled, it is highly recommended to manually check for updates periodically. To manually check for updates, click the **Check for Updates** option in the drop-down list.*

2.3.4 Manual Check for Software Updates

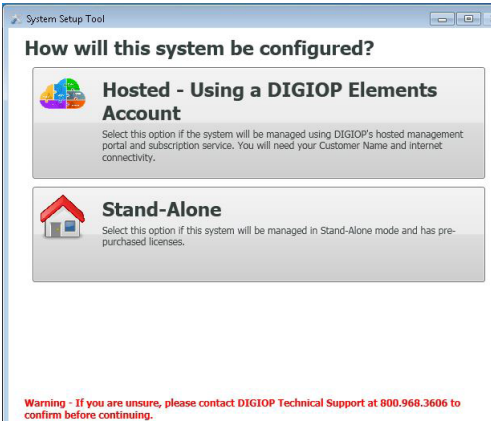
You can check for software updates at any time after logging into DIGIOP® Connect. You must have access to the Internet from your computer to perform this check. Do the following:

1. Log into DIGIOP® Connect.

2. Click the icon in the upper-left corner of the DIGIOP® Connect window, click **Check for Updates**.
   - If your software is up to date, a pop-up window will open. Click **OK** to close the window.
   - If an update is available, a new window will open through which you can select and install the update.

2.4 System Setup Tool

After you installed the DIGIOP® Server software in the previous steps, or are starting a DIGIOP® factory pre-configured system for the first time, the DIGIOP® System Setup Tool will open.



WARNING

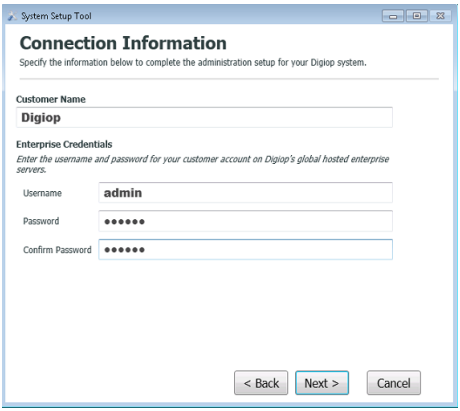
This decision to be a Hosted or Stand-Alone system is irreversible. You cannot change this selection without uninstalling and then reinstalling the DIGIOP® Server software.
If Hosting the system on DIGIOP® Elements, contact your sales representative for your Customer name.

1. In the **System Setup Tool** window shown above, click **Hosted - Using a DIGIOP® Elements Account** if your system will be managed through DIGIOP ELEMENTS™ (see ***"SECTION 1 System Overview" on page 1*** for more information). Otherwise, click **Stand-Alone**.
   - If you selected **Hosted - Using a DIGIOP® Elements Account**, continue with "2.4.3 Activate DIGIOP® Licenses" on page 16.
   - If you selected **Stand-Alone**, skip to "2.4.2 Stand-Alone Systems" on page 15.

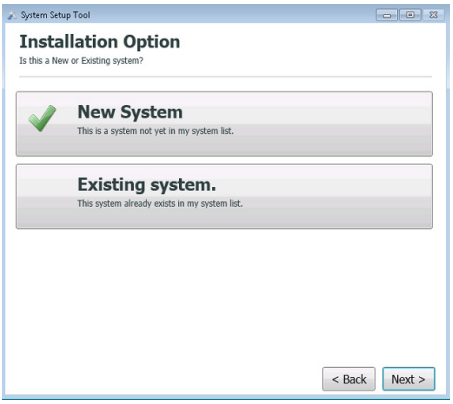
2.4.1 DIGIOP® Hosted Systems

Before continuing with the System Setup Tool, collect the **Customer Name**, **User Name**, and **Password** for your account which you received from DIGIOP®. If you don't have these credentials, contact your sales representative.

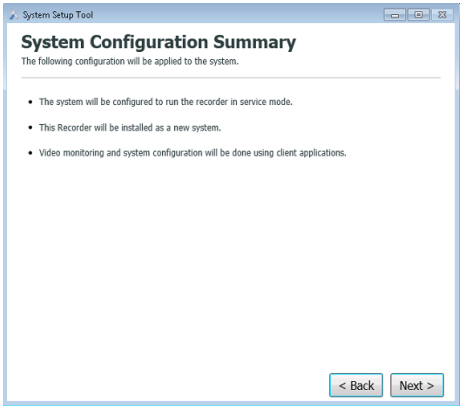
1. After selecting Hosted in the System Setup Tool, enter the **Customer Name**, **User Name**, and **Password** assigned to you by DIGIOP® in the Connection Information window, and then click **Next**.



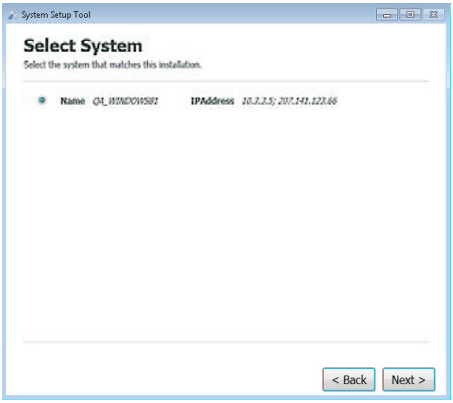
2. In the **Installation Option** window, select **New System** if you are setting up the system for the first time. If you are replacing an existing system, for example if you have reimaged a system previously added to your account, select **Existing System**.

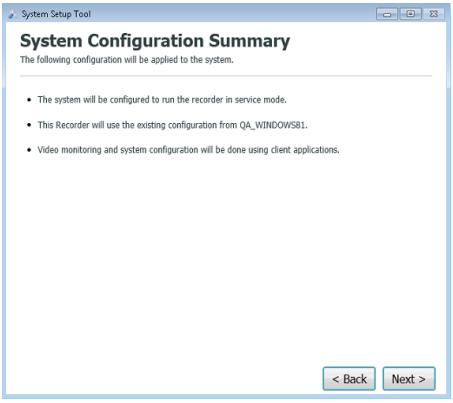


a. If you selected **New System**, review the information shown in the **System Configuration Summary** window, and then click Next.

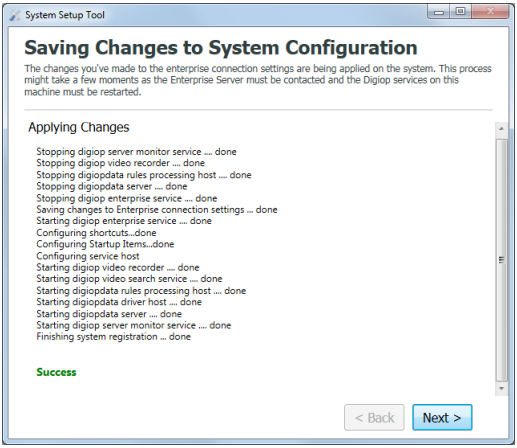


b. If you selected **Existing System**, select the appropriate system in the **Select System** window, and then click **Next**. Review the information in the **System Configuration Summary** window and then click **Next**.

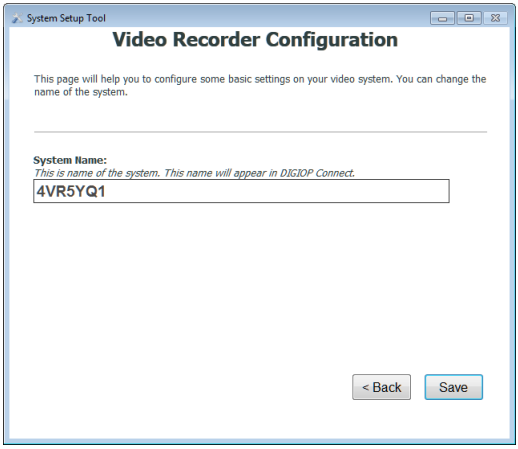




3. Next, the System Setup Tool will apply changes to the system and restart the DIGIOP® services. Allow this process to complete, and then click **Next**.



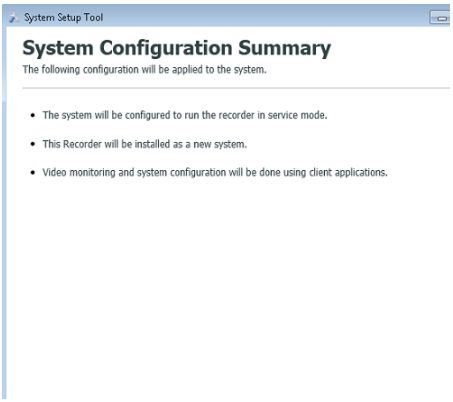
4. On the **Video Recorder Configuration** screen, enter a System Name for your DIGIOP® server. The system name defaults to the Full Computer Name of your operating system. Click **Save** and continue to "Activate DIGIOP Licenses".

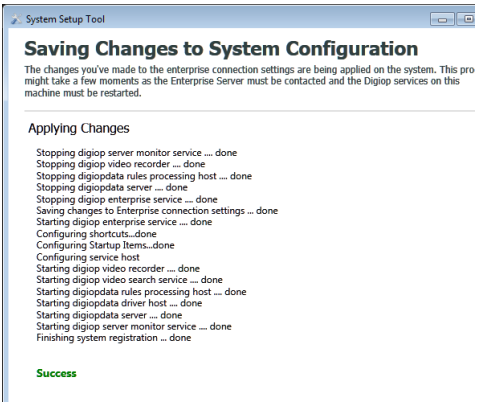


2.4.2 Stand-Alone Systems

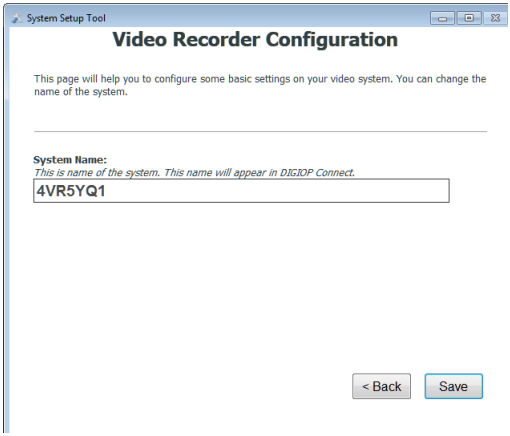
In the **How will the system be configured** window, if you selected **Stand-Alone**, perform the instructions in this subsection.

1. In the **System Configuration Summary** window, review the information provided, and then click **Next**. After the System Setup Tool applies changes successfully, click **Next**.





2. Enter a **System Name** for your DIGIOP® Server in the Video Recorder Configuration window. The system name defaults to the Full Computer Name of your Windows operating system.

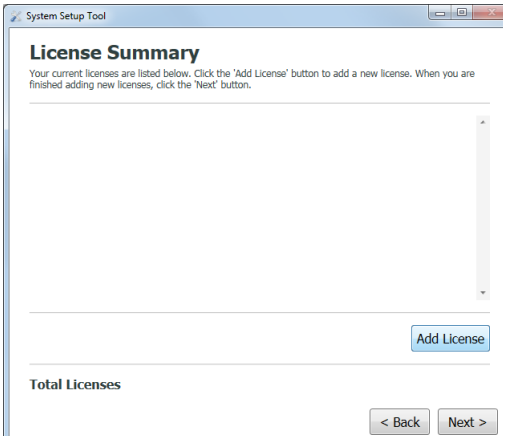


Click **Save**, and continue to the next subsection.

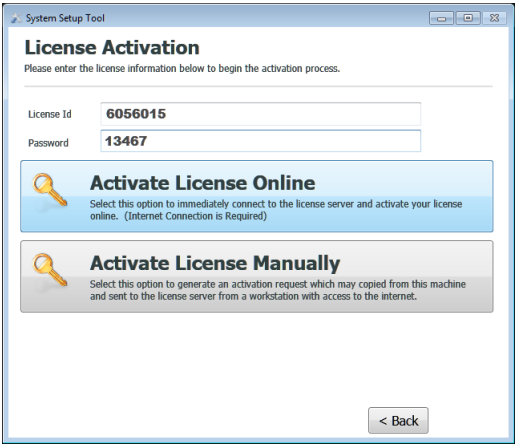
2.4.3 Activate DIGIOP® Licenses

The software requires a base license, and camera licenses for the number and type of cameras your system can have. To support additional features, additional licenses may need to be installed. Additional licenses can be activated at this time, or added later. Contact your sales representative for more information on expanding the features of your system.

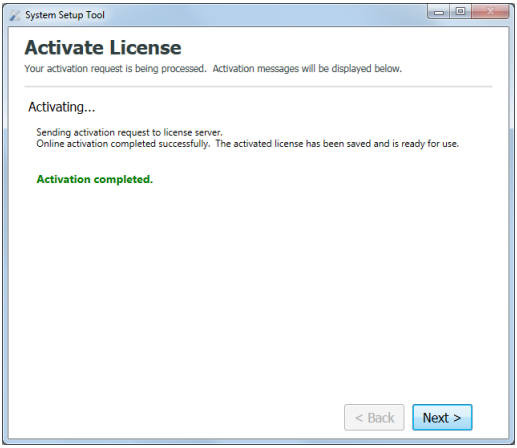
1. In the License Summary window, click **Add License**.



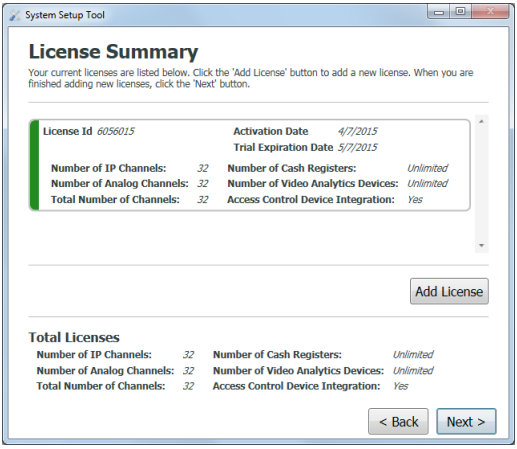
2. In the License Activation window, enter the License ID and Password. Click either **Activate License Online** (requires Internet access) or **Activate License Manually,** then follow the instructions to complete the process.



3. After the license information you entered is activated, the Activate License window will show the Activation completed. Online license activation usually occurs in less than 10 seconds. Click **Next**.

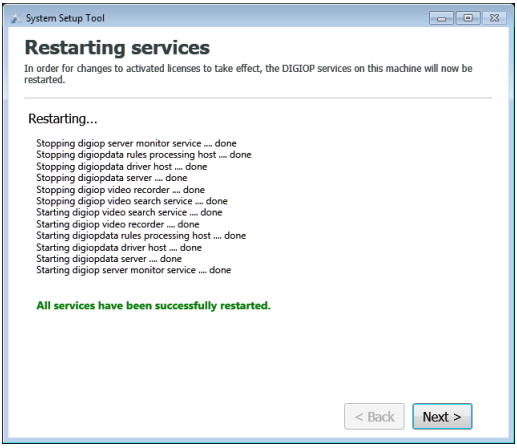


4. The **License Summary** window will open, showing the License ID, Activation Date and Total Licenses summary (see below). If you have additional licenses for your system, click **Add License** and repeat this procedure to add each one.

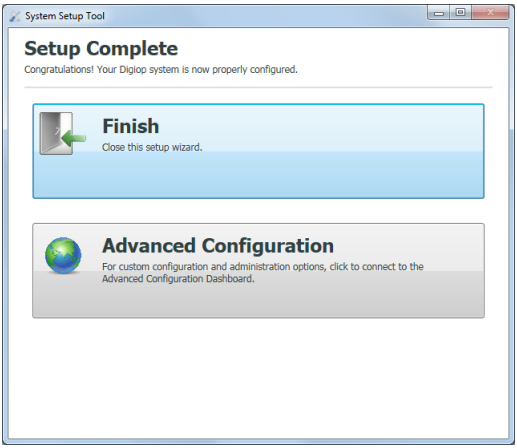


After entering all the license information, click **Next**.

5. After **Restarting Services** completes, click **Next**.



6. In the **Setup Complete** window, click Finish to close the **System Setup Tool**, or click **Advanced Configuration** to close the tool and open DIGIOP® Control in an Internet browser.



2.5 Working with DIGIOP® Control

After setup is complete, you can log in to the system either locally or remotely through the DIGIOP® Control admin portal. DIGIOP® Control allows you to configure your video, data, and users.

2.5.1 Opening DIGIOP® Control

The DIGIOP® Control web administration tool is accessed using an Internet browser (Microsoft® Internet Explorer®, Mozilla® Firefox®, or Google® Chrome™). How you log into DIGIOP® Control depends on whether the system is hosted locally or by DIGIOP ELEMENTS™.

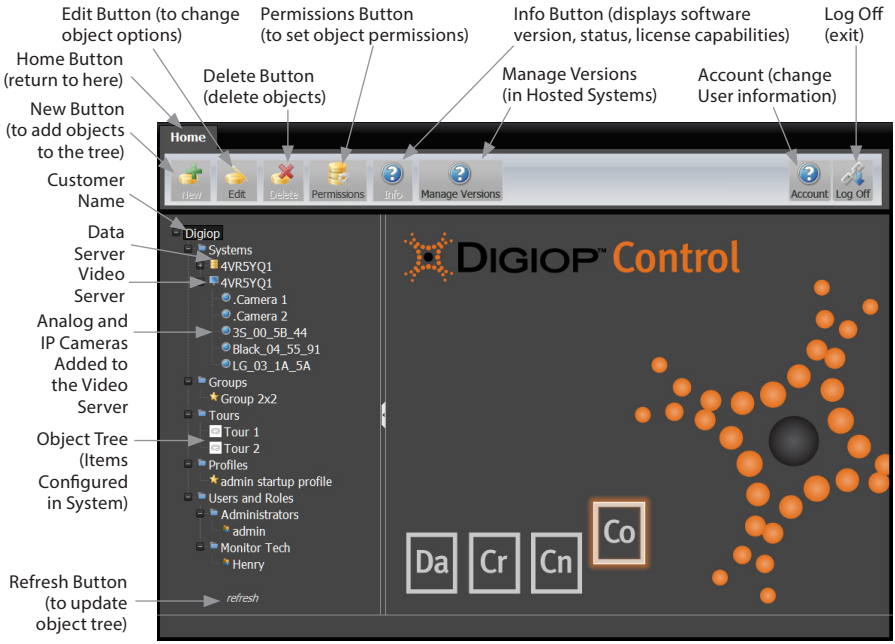
a. For systems hosted by DIGIOP ELEMENTS™:

1. Open an Internet browser on a computer that has Internet access.
2. Go to the URL: *https://elements.digiop.com*.
3. Enter the Username, Password and Customer name assigned to you by DIGIOP®, and then click **Login**.

b. **For Stand-Alone systems:**

4. On the server, open an Internet browser and go to the URL: *localhost/Digiop*
5. From a client station, open an Internet browser and go to the URL: *<ip address of DIGIOP® Server >/ digiop* Example: 192.168.5.43/digiop
6. Enter the default Username and Password (admin and admin), and Customer name (digiop) and then click **Login**.

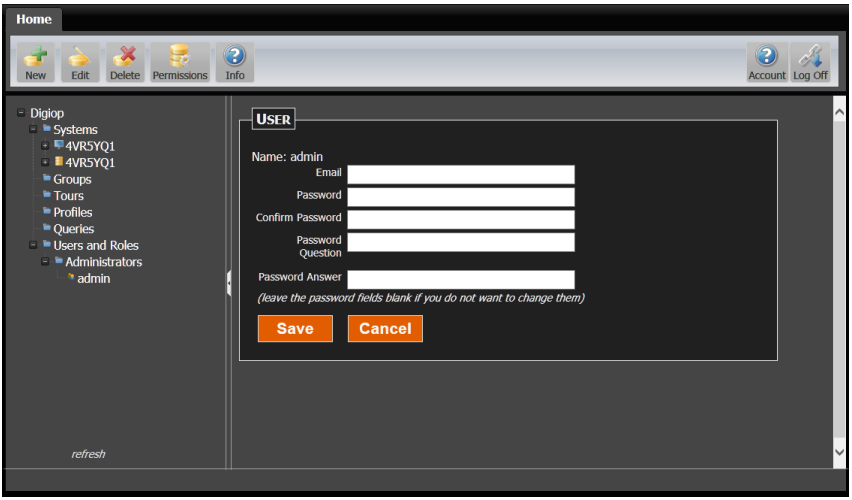
2.5.2 DIGIOP® Control Main Window



2.5.3 Setting the Administrator Account Password

To improve the security of your DIGIOP® server, DIGIOP® strongly encourages you to change your default password to a more secure version. To change the password of the administrative user account log into DIGIOP® and:

1. Click the **Account** button.



2. Enter a strong password in the **Password** and **Confirm Password** fields. You can optionally enter a **Password Question** and **Password Answer** into those fields provided. Click **Save** to retain the new settings.

2.5.4 Manage Versions Button

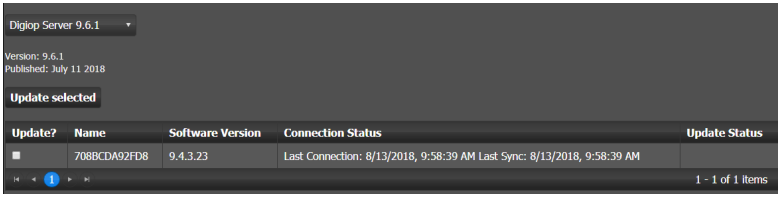
The Manage Versions button appears on systems hosted by DIGIOP ELEMENTS™ and is located at the top of the DIGIOP® Control window. This feature is useful in identifying and updating the software version level of your system(s).

To use the Manage Versions feature:

1. Log into DIGIOP ELEMENTS™ with an Administrative user account and click the **Manage Versions** button.

2. Select the desired update from the drop down menu.

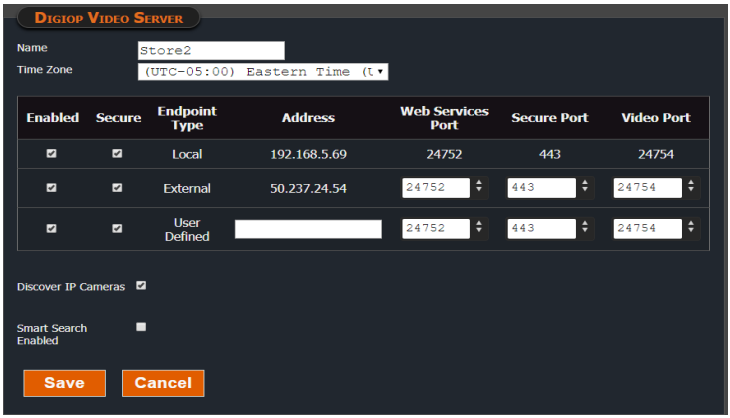
3. Check the **Update** box in front of the system **Name**(s) you want to update, then select **Update Selected**. The Update Status will appear in the column to the right.



SECTION 3
Configuring Video

3.1 DIGIOP® Video Server - Edit Settings

To open the DIGIOP® Video Server settings window, click the Video Sever icon (blue monitor) in the object tree to highlight it, then click the **Edit** button in the application header.



In the DIGIOP® VIDEO SERVER menu, you can rename the server, change Time Zones, setup a User-defined Address, and customize networking ports. The User-defined Address and customized ports are useful for unique network situations. Changes to these configurations are not normally needed. See ***How to Remotely Access DIGIOP®*** for more advanced network settings.

NOTE *If the system you are configuring has 1) only analog cameras and 2) is not on a network, enter 127.0.0.1 in the User Defined Address field. DIGIOP® Connect must be run on the same computer used as the DIGIOP® Server system.*

Discover IP Cameras: When this is checked, DIGIOP® will scan the local subnet on the network for any compatible IP cameras. These cameras will then be available in the **Add a Camera** page.

Smart Search Enabled: When this is checked, DIGIOP® will scan the archived video files on the local server for all motion present in the video files. This will then enable the Smart Search feature in DIGIOP® Connect.

If you are configuring a hybrid DIGIOP® server the menu will also include links for the video capture board, analog PTZ camera profiles, and Spot Monitor Tours.

After changing any of these parameters, click **Save**. Click **Cancel** to close the window without saving.

3.2 Add Analog Cameras to a Hybrid DIGIOP® Server

NOTE *This section applies only to DIGIOP® factory pre-configured servers that support both analog and IP cameras (hybrid systems).*

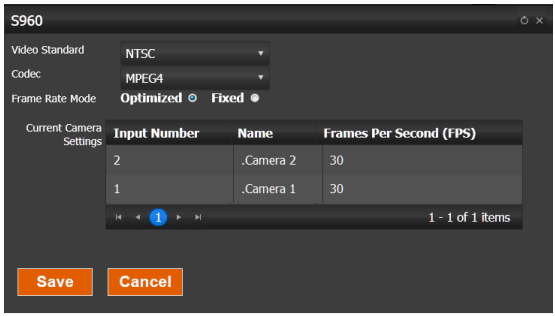
DIGIOP® Control automatically adds analog cameras to the video server when they are connected to the adapter cable of the video capture card. Each camera is assigned to the video channel it is physically connected to. Analog cameras appear in DIGIOP® Control as "**.Camera 1**" for the camera connected to analog channel 1, "**.Camera 2**" for the camera connected to channel 2, etc.

3.2.1 Configure Hybrid DIGIOP® Server Capture Board

Configuration of the analog video capture board affects all analog video channels. Different video capture boards may have different options. To configure the board:

Open the DIGIOP® Video Server settings window by clicking the Video Server icon and then click **Edit**.

Click the link **Configure the <type> capture board** to open the menu for the board.



To change the settings of the board:

1. Under **Video Standard**, select either NTSC (USA, other locations) or PAL (Europe, other locations).
2. Under the CODEC drop-down menu, select either **MPEG4** or **H.264**.

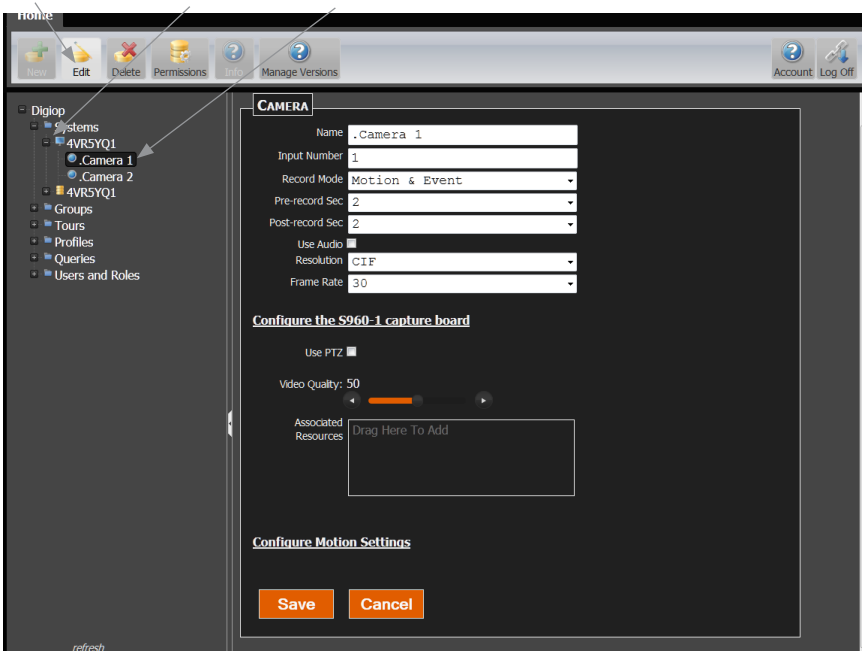
NOTE *H.264 compression is only available on capture cards with H.264 support.*

3. Select the **Frame Rate Mode** option you prefer.
4. Click **Save** to retain your settings, or **Cancel** to close the window.

3.2.2 Configure Individual Analog Cameras

To configure an individual camera:

1. Find the Systems entry in the list in the left frame of the home page, then click the + icon to expand the Systems list. Inside the Systems list are two entries for each DIGIOP® Server you can connect to. The one prefaced with the blue "display" icon identifies the video server. The one with the yellow "disk" icon identifies the data server. In the window below, **.Camera 1** and **.Camera 2** were added automatically.



2. In the list under the Video server, click the name of the analog camera you want to configure.

3. Click the **Edit** button. The **Camera** configuration window will open. In this menu you can:

   a. Change the name of the camera by editing the field.

   b. Change the recording mode to **Motion & Event**, **Continuous & Event**, or **Event only**.

NOTE *An event, such as a sensor input becoming active, can be used to trigger video recording. To configure your camera for event recording, see* "Recorder Events".

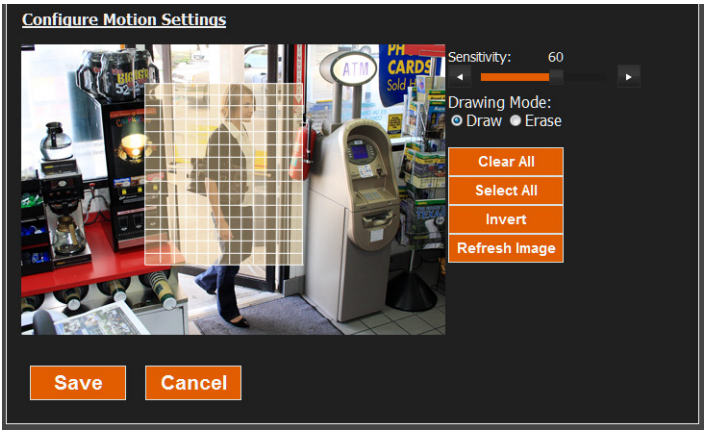
c. Change the Pre-record and Post-record times using the drop-down menus (select 0 - 15 seconds).

d. Select the preferred **Resolution** and **Frame Rate** from the drop-down lists (if available for your system).

e. Check **Use Audio** and **Use PTZ** if these options apply.

f. Drag the slider on the Video Quality slider bar to set the video quality you need.

g. Click **Configure Motion Settings** to setup the motion detection zone(s), then scroll down to the bottom of the frame.



- The grid overlay identifies the area of the video that is sensed for motion. Initially, the entire video image is selected for motion sensing.
- The **Sensitivity** setting represents how sensitive the motion detection area is to detect motion. A large sensitivity number will detect small objects, whereas a small number will not. The default value is 60.
- **Drawing Mode**"**Draw**" enables you to select individual cells in the grid for motion sensing by holding down the left mouse button and dragging the cursor across the cells you want to select. Similarly, to de-select cells, click "**Erase**", then hold down the left mouse button and drag the cursor across the cells that are not important.
- Click **Clear All**, **Select All**, or **Invert** to act on the entire video image.
- Click **Refresh** to refresh the video image.

4. Click **Save** to retain your settings.

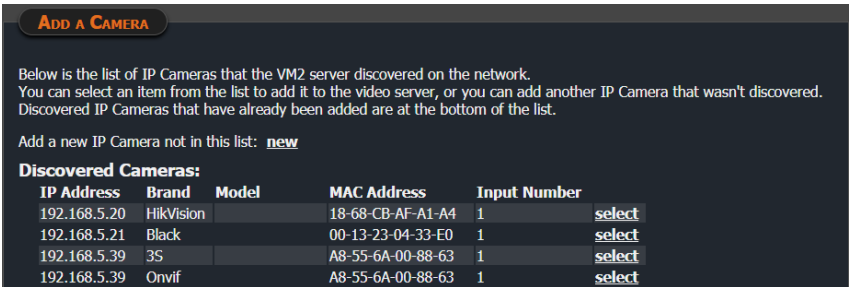
5. Repeat this procedure for all analog cameras added to the system.

3.3 Add "Discovered" IP cameras to the DIGIOP® Server

If the **Discover IP Cameras** option was selected in the DIGIOP® VIDEO SERVER window, DIGIOP® will discover compatible IP cameras and list them in the Video Server **Add A Camera** window. To add these IP cameras to the DIGIOP® Server:

1. Find the Systems entry in the list in the left frame of the page,then click the  icon to open the Systems list.

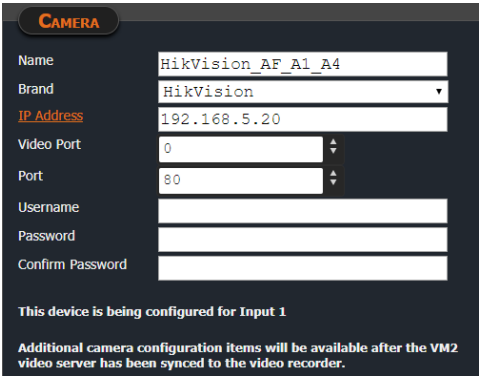
2. Click the Video server (blue display screen) icon to select it, then click the **New** button at the top of the page. The Add Camera pane will open in the right frame.



3. Discovered Cameras are listed in the **Add a Camera** frame. Find the camera you want to add, then click **select**. If the desired camera is not listed, click **new** to add the camera manually. See *"Add an IP Camera Not Discovered"*.

4. Some camera IP addresses may be displayed twice, once with their Brand name and once with the Brand "ONVIF". ONVIF® is a global standard for the interface of IP-based security products. Select the line with the camera's Brand name to use the direct integration to that brand. Select the line with ONVIF to use the ONVIF integration. For assistance determining the best integration to use for your camera, contact a DIGIOP® Support representative.

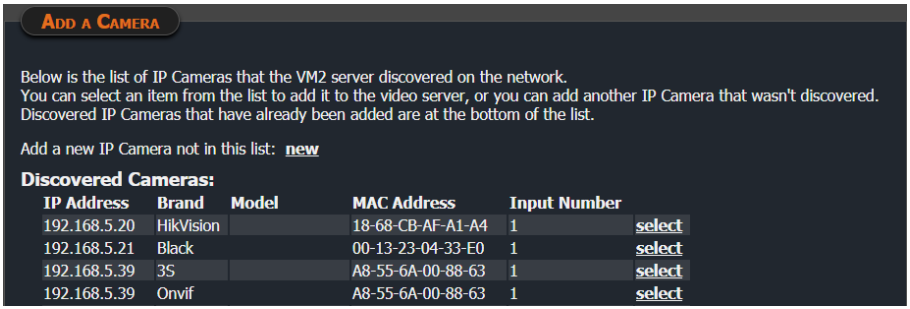
5. DIGIOP® will assign the default manufacturer's settings for the camera. Make any needed changes, then click **Save.** The camera will be added to the system and automatically assigned a camera channel in the DIGIOP® server.



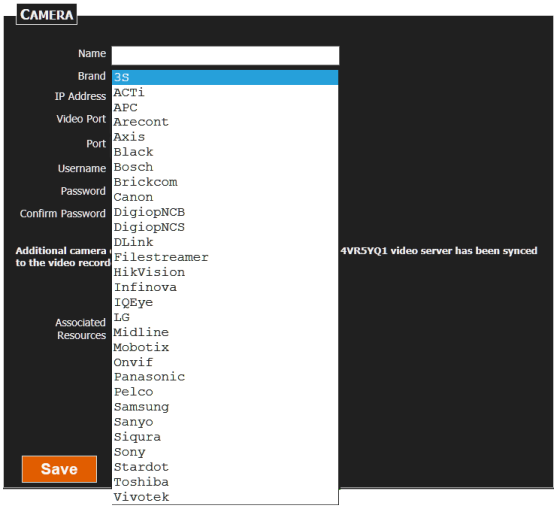
3.4 Add an IP Camera Not Discovered

If you chose not to discover IP Cameras when you configured the Video Server, or if a camera was not discovered, you can manually add IP cameras to DIGIOP® Control. The cameras you add must be compatible with DIGIOP®.

1. Click the **new** action link in the **Add a Camera** pane.



2. In the Camera settings list, select the brand from the drop-down list. For assistance determining the best integration to use for your camera, contact a DIGIOP® Support representative.

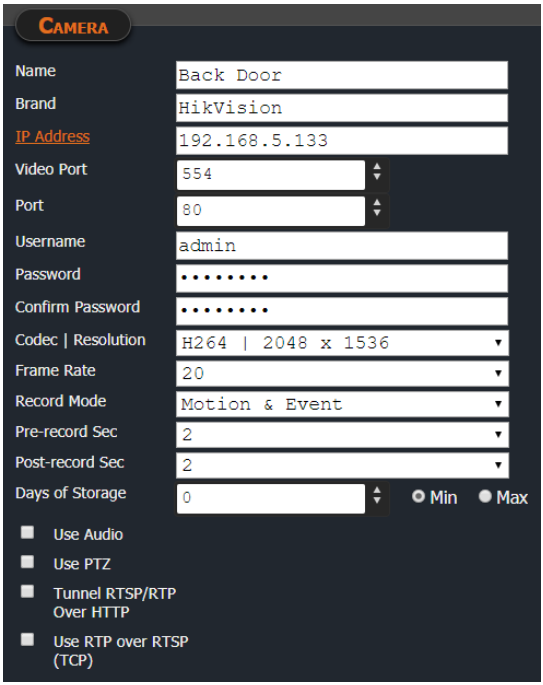


3. Enter the remaining settings as needed and select **Save**.

3.5 Edit IP Camera Settings

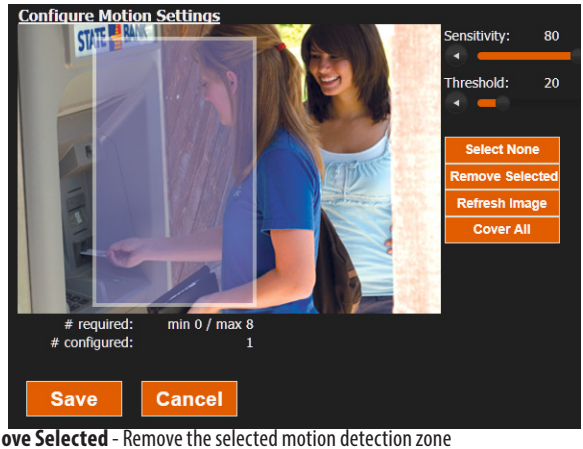
Camera settings, such as the Name, resolution, frame rate, record mode, etc. are edited within DIGIOP® Control.

1. In the list of cameras added to the video server, click the entry for the camera whose settings you want to edit, then click the **Edit** button at the top of the Home page. Notice that the configuration screen for the camera includes additional options. (It may take a few minutes for the camera to sync initially.)



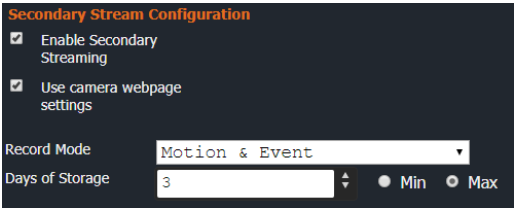
2. Select the desired **Codec, Resolution,** and **Frame Rate** settings. Additional options may be available based on the camera such as **Use RTP over RTSP (TCP)**, **Tunnel RTSP over HTTP**, **Use Audio,** and **Use PTZ**.

3. In the **Record Mode** field, select if you would like to record on **Continuous and Event, Motion and Event,** or on **Event Only** (for example with a digital input). If **Motion and Event** or **Event Only** are selected, use the **Pre-record sec** and **Post-record sec** fields to add time to the beginning and end of the clip. Some cameras have Motion Configuration Zone settings available in DIGIOP Control. If the settings are not available in DIGIOP Control, the motion settings should be configured in the camera's webpage. Hikvision cameras have a toggle check box that allows you to configure Motion Detection settings within DIGIOP Control, or to use the camera webpage settings. 3S, LG, and BLACK brand cameras will always show motion configuration zones within DIGIOP Control. Click **Configure Motion Settings** to setup the motion detection areas.



- **Remove Selected** - Remove the selected motion detection zone
- **Select None** - Deselect all motion detection zones
- **Cover All** - Create a motion detection zone that covers the entire image
- **Refresh Image** - Fetch a new image from the camera
- **Sensitivity** - A large sensitivity number will detect small objects, whereas a small number will not.
- **Threshold** - The amount of the detection area that has to change before motion is sensed.

4. Some cameras include a dual stream option. This allows you to toggle between the full stream resolution in DIGIOP® Connect, or a lower resolution stream to save bandwidth. Select **Use Camera's Webpage Settings** to setup and utilize the secondary stream properties from the camera's webpage. If you don't select this box, DIGIOP® will utilize the camera's recommended settings for the secondary stream.



5. You have the ability to set the **Days of Storage** for both the primary and secondary streams. By default, the primary stream is set to a minimum of 0 days. With this setting, the stream will follow the standard recording rules, and will record until the drives are full, then overwrite data on a first in first out basis. For streams that need longer recording, for example for PCI compliance, you can set the stream to the minimum number of days required. By default, the secondary stream is set to a maximum of 0 days, which means it won't record. You can enable secondary stream recording by increasing the maximum number of record days. This is helpful for low bandwidth situations.

3.6 Add an IP Encoder

An IP encoder can be added to the DIGIOP® Server in a similar manner to how IP cameras are added. Each channel of an IP encoder will count towards 1 IP channel.

3.6.1 Add a "Discovered" IP encoder to the DIGIOP® Server

To add automatically discovered IP encoder channels to the DIGIOP® Server, find the IP encoder channel in the **Add a Camera** list the same way that you would find and add an IP camera:

1. Find the Systems entry in the list in the left frame of the page, then click the  icon to open the list.
2. Click the **Video server** icon (blue display screen) to select it.
3. Click the **New** button at the top of the page. The **Add Camera** menu will open in the right frame.
4. If **Discovered Cameras** are listed in the **Add a Camera** menu, find the IP address and channel of the encoder you want to add, then click the associated **Select** link. If the encoder channel you want to add is not listed, click the **New** hyperlink above the list, and then add the encoder manually. See *""3.6.2 Add an IP Encoder Not Discovered" on page 30"*.
5. DIGIOP® will assign the default manufacturer's settings to the encoder. Make any needed changes, and then click **Save**. The encoder will be added to the system and automatically assigned to a camera channel in the DIGIOP® server. After the first channel of an encoder is added and the encoder has synced for the first time, all other channels of the encoder will become available to add in the **Add a Camera** list (if not already present).

3.6.2 Add an IP Encoder Not Discovered

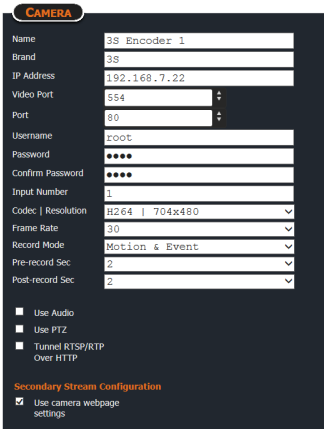
If you chose to not discover IP Cameras when you configured the Video Server, or if the encoder you want to add was not discovered, you can manually add IP encoder channels to DIGIOP® Control the same way you can manually add IP cameras. The encoders you add must be compatible with DIGIOP® Control.

1. Click the new action link in the **Add a Camera** pane.
2. In the camera settings list, select the brand from the drop-down list, then enter the remaining settings as needed.
3. Edit the items in the menu as needed to reflect the encoder and click **Save.**
4. After the first channel of an encoder is added and the encoder has synced for the first time, all other channels of the encoder will become available to add in the **Add a Camera** list (if not already present).

3.6.3 Edit Encoder settings

Encoder settings, such as the Name, resolution, frame rate, record mode, etc. are edited within DIGIOP® Control. Note that changing network settings here for an IP encoder must also be performed within the encoder setup.

1. In the list of cameras added to the video server, click the entry for the encoder you want to edit, then click the **Edit** button at the top of the Home page. Notice that the configuration screen for the encoder includes additional options. (It may take a few minutes for the encoder to initially sync and display these additional options.)



2. Change all settings as needed, and then click **Save** to retain your settings.

3.6.4 Add and Configure Additional Encoder Channels

Encoders that are fully integrated with DIGIOP® have the option to **Copy Encoder Configuration**. Once an initial encoder channel has been added, the other channels of the same encoder can be easily added with the same configuration as the initial channel, using the **Copy Encoder Configuration** section. Encoder settings, such as the resolution, frame rate, record mode, etc. can be copied.

1. In the list of cameras added to the video server, click the entry for the encoder that was already added, then click the **Edit** button at the top of the Home page.

2. Select one or more channels, or **Select All** channels then click **Save**. The channels selected will automatically be added to the System's Camera List in DIGIOP® Control, and the channels will have the same configuration as the initial channels.

3. The new channels will be assigned a default name for the camera, followed by "1", "2", etc. for the corresponding channel number. Once the additional channels have been added in the System's Camera List, click the entry for one of the new encoder channels, then click the **Edit** button at the top of the Home page.

4. Modify the **Name** and any other desired configurations and click **Save**.

Copy Encoder Configuration can also be used to change the configuration of encoder channels that have previously been added for the same encoder.

1. In the list of cameras added to the video server, click the entry for the encoder with the desired settings, then click the **Edit** button at the top of the Home page.

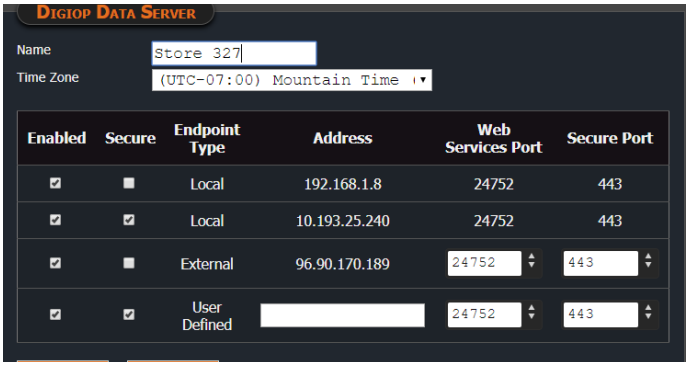
2. Select one or more channels, or **Select All** channels then click **Save**. The channels selected will receive the same configuration (resolution, frame rate, record mode, etc.) as the initial channel configured.

SECTION 4
Configuring Data

DIGIOP® Data integrates external data with video recorded by DIGIOP®. This information can be displayed and retrieved with DIGIOP® Connect. DIGIOP® has several built-in data capabilities including I/O and System Health. DIGIOP® can also integrate video with other data devices such as Point-of-Sale (POS) and Video Analytics with additional licensing.

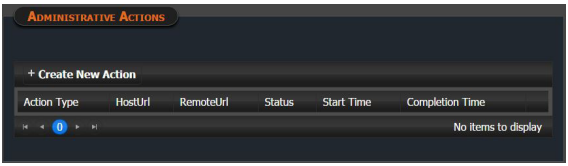
4.1 DIGIOP® Data Server - Edit Settings

To open the DIGIOP® Data Server settings window, click the Data Sever icon in the object tree (yellow stack of discs) to highlight it, then click the **Edit** button in the application header.



In the DIGIOP® Data Server menu, you can rename the server, change Time Zones, setup a User-defined Address, and customize ports. The User-defined Address and custom ports are useful for unique network situations and normally changes to these configurations are not needed. See ***How to Remotely Access DIGIOP®*** for more advanced network settings. After changing any of these parameters, click **Save**. Click **Cancel** to close the window without saving.

Administrative actions allow for a download to, upload from, or remote execute commands on the system. This is useful for system maintenance. Click the **+ Create New Action** bar, then enter the required parameters in the window.



4.2 Associated Resources

Associated Resources allow users to associate video with a data stream. For instance, users can associate a camera at a cash register, with a POS transactional data stream. At a more advanced level, users can associate a camera with an I/O device that can trigger recording, or associate an analytics counting device (camera) with a cash register to detect possible Fraudulent Exception Transactions. Associated Resources entry boxes are included in all Data stream menus. To associate a camera with a data stream, drag the camera from the object tree into the Associated Resources box.

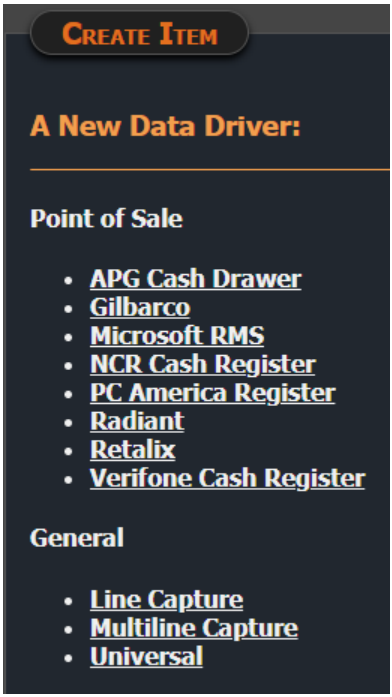
4.3 Add Data Server Streams

DIGIOP® can integrate video with data devices such as retail Point-of-Sale (POS), and many other data sources. Additional licensing may be needed to support these types of streams. Contact your sales representative for more information.

To add data server streams to DIGIOP® Control:

1. Open the Systems list, then click the hostname of the data server.

2. Click the **New** button at the top of the Home page. The Create Item pane will open in the right frame.



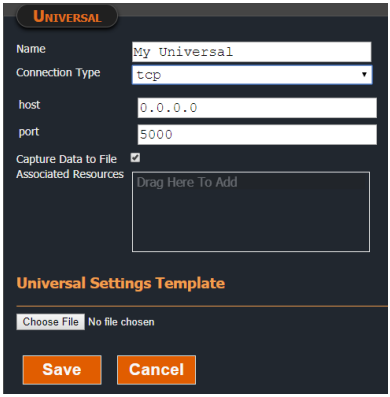
3. Click the **New Stream** data stream you want to add to the server. A properties window will open.

4. In the properties window for the data stream enter the appropriate parameters, then click **Save**.

4.4 Data Streams - Universal Template Integrations

A custom integration template can be made quickly and easily for most data types including POS Cash Registers, Thermometers, Scales, and more. Contact your DIGIOP® Sales representative for more information.

Universal



Parameter settings:

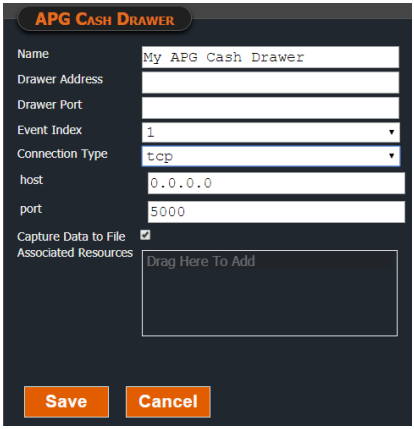
- **Name** – Name assigned to the Universal Data stream.
- **Connection Type** - Option to receive data through a TCP, UDP, Serial, SQL, or a File Watcher.
- **Host** - Set a specific NIC card to utilize, or leave as 0.0.0.0 to listen on all NICs.
- **Listen Port** (TCP or UDP Connection types) – The TCP/UDP port through which the DIGIOP® Server will receive data. The IP address of the DVR is configured in the sending device. Ensure that the port you select is open in all firewalls.
- **Serial Port, Baud Rate, Data Bits, Handshake, Stop Bits, Parity** (Serial connection type) – Serial settings of the data device that is connected to the DIGIOP® Server serial port.
- **Associated Resources** – Associate a camera to see the video that corresponds to each data entry. Associated Resources can also be used to configure fraudulent exception transactions if an analytic device and POS register are both present (see Fraudulent Exception Transactions).
- **Universal Settings Template** – Click **Browse** to find and then select the custom template for your data integration provided to you by DIGIOP®. Click **OK**.

4.5 Data Streams - Point of Sale Direct Integrations

DIGIOP® has several existing data integrations in place that can be used with compatible POS Registers.

APG Cash Drawer

In DIGIOP® Connect you can see when the cash drawer opens and closes, when the cash drawer powers on or off, and when it drops and gets a network connection. The IP address of the cash drawer and the Drawer Port can be found and programmed with the **APGCdRelUtil** utility from APG.

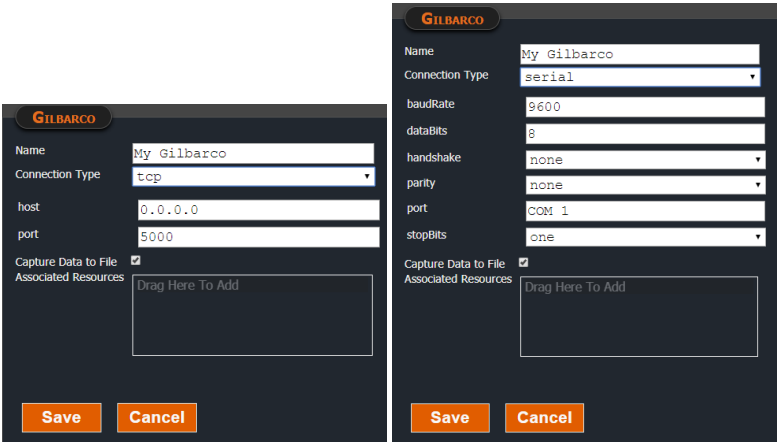


Parameter settings:

- **Name** - Name assigned to the data stream.
- **Drawer Address** - IP address of the drawer.
- **Drawer Port** - APG Drawer Port.
- **Event Index** - APG Event (1 .. 6)
- **Connection type (TCP)**
- **Host** - Set a specific NIC card to utilize, or leave as 0.0.0.0 to listen on all NICs.
- **Port** - The port through which DIGIOP® Control will receive data from the drawer. Ensure that the port you select is open in hardware and firewalls.
- **Associated Resources** - Associate a camera to see the video that corresponds to each cash drawer event.

Gilbarco

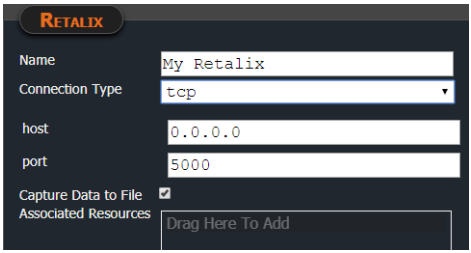
Select this option for data stream capture from Gilbarco® devices.



Parameter settings:

- **Name** – Name assigned to the cash register.
- **Connection Type** - Option to receive data through TCP or Serial.
- **Host** (TCP connection type) - Set a specific NIC card to utilize, or leave as 0.0.0.0 to listen on all NICs.
- **Port** (TCP connection type) – The port through which the DIGIOP® Server will receive data from the Gilbarco device. The IP address of the DIGIOP® Server is configured in the device. Ensure that the port you select is open in hardware and firewalls.
- **Serial Port, Baud Rate, Data Bits, Handshake, Stop Bits, Parity** (Serial connection type) – Settings of the Gilbarco device serial port that is connected to the DIGIOP® Server serial port.
- **Associated Resources** – Associate a camera to see the video that corresponds to each POS transaction. Associated Resources can also be used to configure fraudulent exception transactions if an analytic device is present (see Fraudulent Exception Transactions).

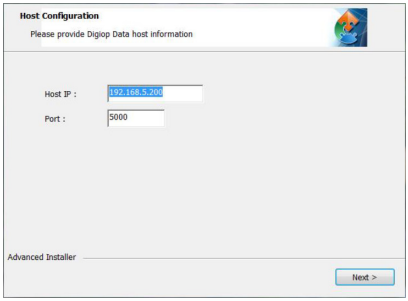
Microsoft RMS, pcAmerica, Radiant, Retalix



Parameter settings:

- **Name** – Name assigned to the register.
- **Connection Type** - Option to receive data through TCP or other options.
- **Host** (TCP Connection Type) - Set a specific NIC card to utilize, or leave as 0.0.0.0 to listen on all NICs.
- **Port** (TCP Connection Type) – Port through which DIGIOP® Control will receive data from the register. The IP address of the DIGIOP® Server is configured in the device. Ensure that the port you select is open in hardware and firewalls.
- **Associated Resources** – Associate a camera to see the video that corresponds to each POS transaction. Associated Resources can also be used to configure fraudulent exception transactions if an analytic device is present (see Fraudulent Exception Transactions).

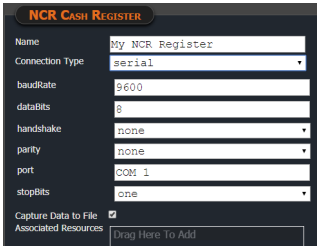
Microsoft RMS: When integrating Microsoft RMS registers with DIGIOP® Data, a DIGIOP® application named *DigiopRMSHookSetup.exe* must be running on the register. This application informs the register where to send transactional data.



In the **DIGIOP® RMS Hook Setup** screen shown above, enter the Host IP address (address of the DIGIOP® server), and the port assigned to the Microsoft RMS data device.

pcAmerica: For information on configuring the pcAmerica register to send data to a DIGIOP® server, refer to the How-to "pcAmerica Register Configuration".

NCR Cash Register

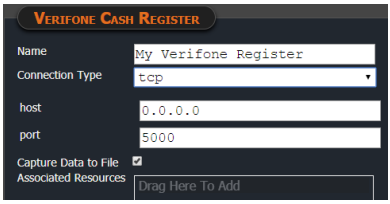


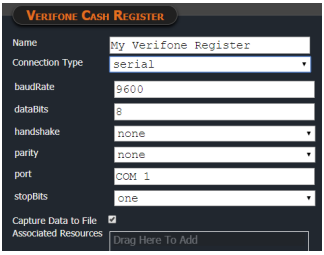
Parameter settings:

- **Name** – Name assigned to the cash register.
- **Connection Type** - Option to receive data through serial or other options.
- **Serial Port, Baud Rate, Data Bits, Handshake, Stop Bits, Parity** – Settings of the cash register serial port that is connected to the DIGIOP® Server serial port.
- **Associated Resources** – Associate a camera to see the video that corresponds to each POS transaction. Associated Resources can also be used to configure fraudulent exception transactions if an analytic device is present.

VeriFone Cash Register

Select this option to receive a data stream from a VeriFone® cash register.





Parameter settings:

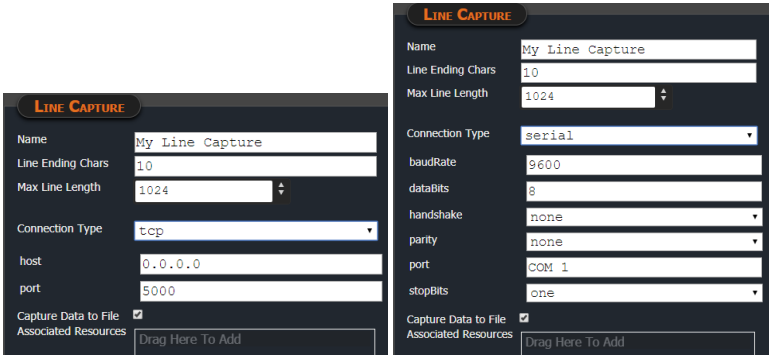
- **Name** – Name assigned to the cash register.
- **Connection Type** - Option to receive data through TCP or serial.
- **Host** (TCP connection type) - Set a specific NIC card to utilize, or leave as 0.0.0.0 to listen on all NICs.
- **Port** (TCP connection type) - The port through which DIGIOP® Control will receive data from the register. The IP address of the DIGIOP® Server is configured in the device. Ensure the port you select is open in any firewalls.
- **Serial Port, Baud Rate, Data Bits, Handshake, Stop Bits, Parity** – (Serial connection type) Settings of the VeriFone cash register serial port that is connected to the DIGIOP® Server serial port.
- **Associated Resources** – Associate a camera to see the video that corresponds to each POS transaction. Associated Resources can also be used to configure fraudulent exception transactions if an analytic device is present.

4.6 Data Streams - Line Capture and Multiline Capture

Line Capture and multiline capture are generic drivers for receiving data from a data device that is not yet integrated into DIGIOP® Server. This can be used for things like testing cash registers that have not yet been integrated, or on generic data devices like thermometers or scales that don't necessarily need a full integration.

Line Capture

Line Capture will receive and display every line of data as it is sent by the data device.

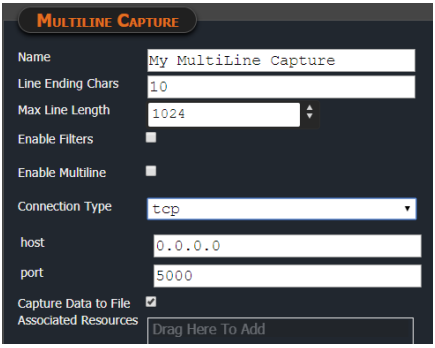


Parameter settings:

- **Name** – Name assigned to the line capture data.
- **Line Ending Chars** – Default setting is 10. Contact DIGIOP® support if the default settings don't work for your situation.
- **Max Line Length** – Default setting is 1024. Contact DIGIOP® support if the default settings don't work for your situation.
- **Connection Type** - Option to receive data through TCP or serial.
- **Host** (TCP connection type) - Set a specific NIC card to utilize, or leave as 0.0.0.0 to listen on all NICs.
- **Port** (TCP connection type) - Port through which the DIGIOP® Server will receive data. The IP address of the DIGIOP® Server is configured in the sending device. Ensure the port you select is open in any firewalls.
- **Serial Port, Baud Rate, Data Bits, Handshake, Stop Bits, Parity** (Serial connection type) - Settings of the sending device serial port that is connected to the DIGIOP® Server serial port.
- **Associated Resources** – Associate a camera to see the video that corresponds to each line. Associated Resources can also be used to configure fraudulent exception transactions if both an analytic device and cash register are present.

Multiline Capture

Multiline Capture is similar to Line Capture, but takes it a step further by searching for the beginning of a transaction string. Multiline Capture can block an entire transaction by identifying Begin Transaction Strings. When that string of text appears in the data the last transaction closes and the new transaction begins.



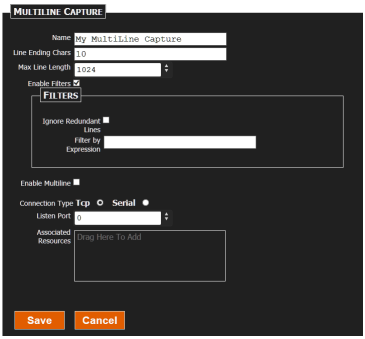
Parameter settings:

- **Name** - Name assigned to the data stream.
- **Line Ending Character** – Default setting is 10. Contact DIGIOP® support if the default settings don't work for your situation.
- **Max Line Length** – Default setting is 1024. Contact DIGIOP® support if the default settings don't work for your situation.
- **Enable Filters** - Enables filters options. See below.
- **Enable Multiline** - Enables the Multiline capture features. See below.
- **Connection Type** - Option to receive data through TCP or serial.
- **Host** (TCP connection type) - Set a specific NIC card to utilize, or leave as 0.0.0.0 to listen on all NICs.
- **Port** (TCP connection type) - Port through which the DIGIOP® Server will receive data. The IP address of the DIGIOP® Server is configured in the sending device. Ensure the port you select is open in any firewalls.
- **Serial Port, Baud Rate, Data Bits, Handshake, Stop Bits, Parity** (Serial connection type) - Settings of the sending device serial port that is connected to the DIGIOP® Server serial port.
- **Associated Resources** – Associate a camera to see the video that corresponds to each transaction. Associated Resources can also be used to configure fraudulent exception transactions if both an analytic device and cash register are present.

Multiline Capture - Enable Filters

When Enable Filters is selected, two options are available:

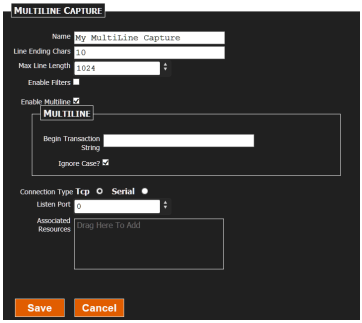
- **Ignore redundant**: Selecting this option will ignore redundant data from the data driver. For example, if data from a scale is monitored and the data received is continuous "0's" (same value), only the first 0 is recorded. When the data from the device changes (for instance, something is placed on the scale or taken off the sale), only the first occurrence of the changed data is recorded.
- **Filter by Expression**: In this text field, you can filter data using a *"regular expression"*.



Multiline Capture - Enable Multiline

When Enable Multiline is selected, two options are available:

- **Begin Transaction String**: In this field, enter the character string that identifies the start of a new transaction. A new or additional search of subsequent data begins at that point.
- **Ignore case**: Select this option to ignore the case (upper case or lower case) of alphabetic data during the search.



NOTE *You can use both Enable Filters and Enable Multiline when using this feature.*

4.7 Digital Inputs

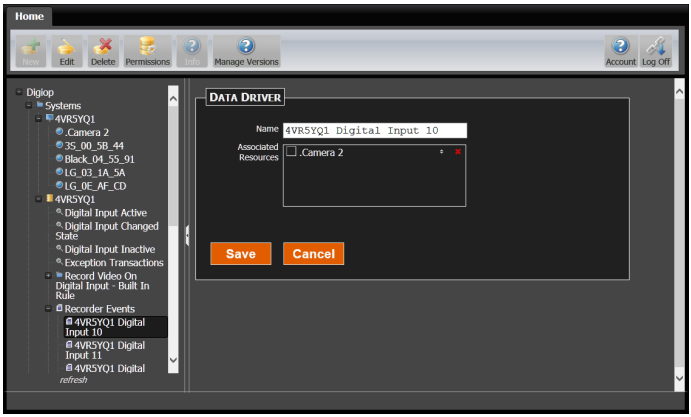
Digital Inputs appear under Recorder events in the DIGIOP® Control object tree and are automatically created when a hardware sensor input contact closes (activates). There are two kinds of hardware sensors:

- Sensor inputs on a DIGIOP® factory pre-configured server chassis I/O board (see the hardware quick start guide for your server)
- Digital inputs to IP cameras

Digital Inputs are useful for triggering cameras to record when the sensor becomes active. Because DIGIOP® Control is preset with the rule to **Record Video On Digital Input**, associating a camera with a digital input (Recorder Event) can trigger DIGIOP® Control to record the channel. The digital inputs must be activated at least once before they appear in the DIGIOP® Control Recorder Events list (see below). To associate a camera to record on sensor input, do the following:

NOTE *The rule Record Video On Digital Input can be configured to execute an action when any of the following conditions occur: Always, Any Data Received, Digital Input Inactive, Digital Input Active, or Digital Input Changed State. Refer to* "SECTION 6 Rules Engine" *for more information on how to setup rules and actions.*

1. Open the DIGIOP® Control Video server object tree to list the cameras configured in the system.



2. Open the Data server object tree, then open the Recorder Events list (see above).

3. Select the Digital Input with the number of the sensor input that will be triggering recording and click **Edit**.

4. Drag the camera you want to associate from the object tree to the Associated Resources box of the Digital Input.

5. Click **Save**.

4.8 Filter Queries

Filter Queries allow users to mine data for exact events by extracting relevant transactional data. This allows users to quickly see important data. DIGIOP® provides several Built-in Queries, as well as the ability to construct Custom Queries both locally and globally.

4.8.1 Built-in Queries

DIGIOP® Built-in Queries automatically appear when the user adds specific data device types. These queries prevent users from having to create a live or search filter query for every connection. Built-in Queries appear in DIGIOP® Control and DIGIOP® Connect as a magnified glass icon under your data tree. Built-in Queries include:

Exception Transactions

When adding a cash register data stream, DIGIOP® automatically creates the Exception Transaction filter query. An Exception Transaction is any transaction that is not completed by normal means (Void, Cancel, Returns, No Sale, Discounts, etc.). These are common transaction types used when theft is involved.

Fraudulent Exception Transactions

The Exception Transaction query will appear any time a cash register data stream is present; however, the Fraudulent Exception Transaction query will only work when a cash register data stream is associated with an analytics device. Fraudulent Exception Transactions associates a presence zone from an analytics data stream with a cash register. The assumption here is that if an Exception Transaction occurs when no one is in the presence zone from the analytics device, fraudulent behavior may have occurred. The presence zone is usually placed at a point of service, or where a customer is expected to be standing.

Traffic Queries

For systems with multiple Traffic devices, DIGIOP® will combine the data from each device into one built-in query for that device type.

- **Traffic Entered** – Displays the total Traffic Entered counts from all traffic counters present.
- **Traffic Exited –** Displays the total Traffic Exited counts from all traffic counters present.
- **System Queues –** Displays an accumulation of the data from all queues present.
- **System Service Zones –** Displays an accumulation of the data from all service zones present.

Conversion Rate

When both traffic counters from an analytic device and cash register data streams are present, DIGIOP® automatically creates a Conversion Rate query. Conversion Rate associates traffic entered with cash register transactions and calculates the conversion rate (ratio of how many transactions were made to how many entered the store). Conversion rate statistics are displayed in DIGIOP® Connect with the number of shoppers, number of transactions, total sales, conversion rate, dollars per shopper and dollars per transaction.

NOTE *Use the live filter query to remove analytics counting devices not to be used to count shoppers entering the store.*

Recorder Event Queries

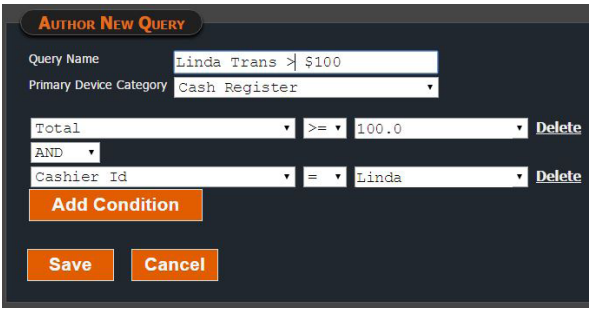
For systems with multiple Digital Inputs, DIGIOP® will combine the events from all of the Digital Inputs and display them in three different built-in queries.

- **Digital Input Active** – Displays the total number of times any digital input has gone active.
- **Digital Input Inactive –** Displays the total number of times any digital input has gone inactive.
- **Digital Input Changed –** Displays the total number of times any digital input has changed state, whether that be to active or inactive.

4.8.2 Custom Queries

Custom Queries can be created in DIGIOP® Control for use in DIGIOP® Connect. These queries appear as a magnifying glass icon under the data tree. Queries can be created for a single system, or they can be globally created and applied to an entire enterprise. Global Custom Queries are used to create one query in DIGIOP® Elements that will be applied to every system in the system tree. This saves users the task of creating a common query in each system in their customer name.

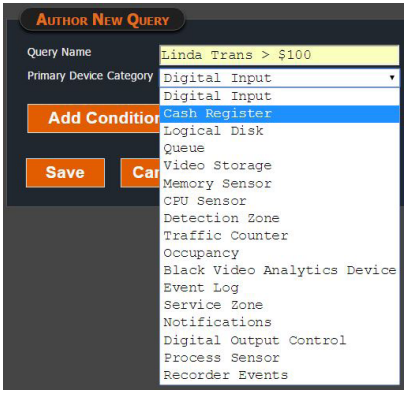
When constructing a Custom query, conditions can be created using and/or (Boolean) logic to produce a true or false (met or not met) result. For instance, the following query is a Cash Register test for two cash register event conditions: Transaction Total >= $100 and Cashier ID = Linda.



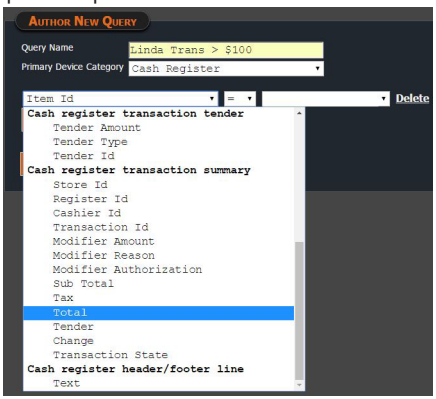
NEW SINGLE SYSTEM QUERY

To create a new query for a single data server:

1. Click the **Data Server** icon in the left frame, then click **New**.
2. In the **Create Item** menu, scroll down and click **New Query** to open **Author New Query**.
3. Enter a name in the **Query Name** field.
4. Open the **Primary Device Category** drop-down list to select a category.



5. Click **Add Condition**.
6. On the condition line, open the drop-down list on the left to select a variable.

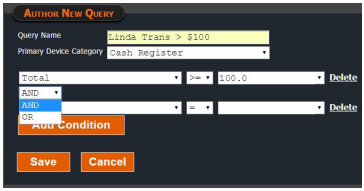


7. Select the boolean operator from the drop-down list in the middle.

8. Open the drop-down list on the right to select the status, or enter a value.

9. Add additional conditions as needed to form a precise boolean construct to test.

10. Click **Add Condition**. There is now an additional option to "AND" or "OR" the new condition. When condition 1 and 2 are "ANDed" together, both conditions must be met for the event to be displayed in the query. When condition 1 and 2 are "ORed" together, either condition 1 OR condition 2 can be met for the event to be displayed in the query.



11. Click **Save**. The queries you defined and those provided by default in the system are listed under the Data Server icon in the left frame.

NEW GLOBAL QUERY

To create a new global query for an entire enterprise:

1. In DIGIOP® Elements, click the **Queries** folder under your **Customer Name**, and then click **New**.

2. An **Author New Query** window similar to the one used for a single system query will appear.

3. Name the query and create conditions for the query in the same way that you would for a single system query.

4. Click **Save**. The queries you defined are listed under the Queries folder in DIGIOP® Elements. In DIGIOP® Connect the global query you defined will be listed under the data server for each system.

SECTION 5

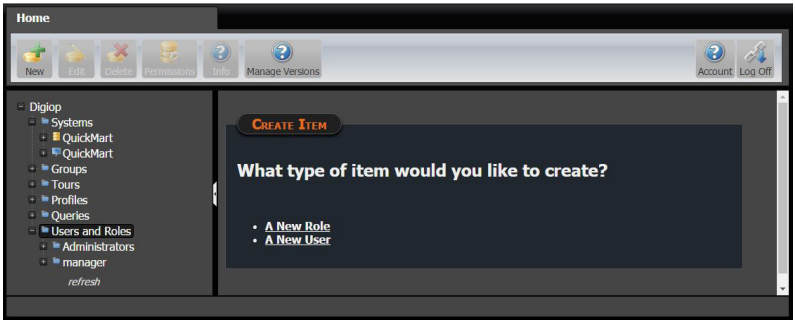
Users, Roles, and Permissions

All DIGIOP® Server Users are assigned a Role that includes a set of Permissions, that is, what level of access they have to the server. Initially, only the **admin** user with the Administrator Role (all permissions enabled) is configured in the system. The **admin**, or a user with System Configure permissions can create other roles and users. Once a role has been created, permissions can then be assigned to that role.

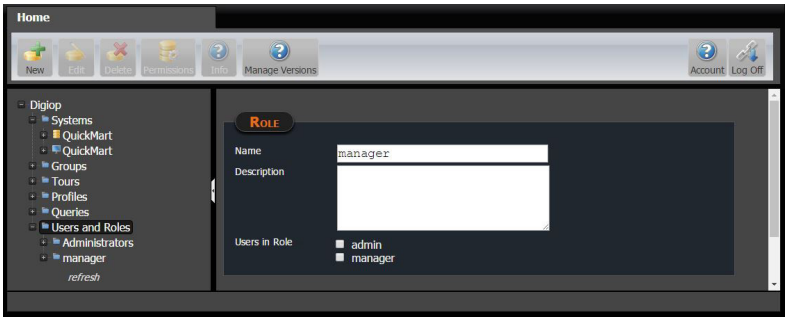
5.1 Create Role

Create Role is used to create classes of users who manage or view the system. Each role has a specific set of permissions. User identities are each assigned to a role when they are created. Initially, only an Administrator Role is established in the system. To create a Role:

1. Click the **Users and Roles** entry in the left frame of the Home page, then click the **New** button.



2. In the Create Item frame, click **A New Role**.



3. In the Role menu, enter the name of the Role in the **Name** field.

4. Enter a description of the role in the space provided (optional).

5. Click **Save** to update DIGIOP® Control.

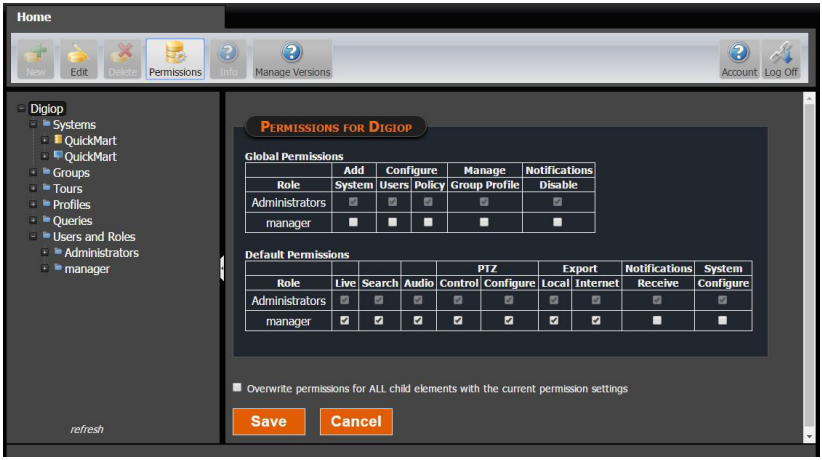
5.2 Permissions

Once a role is created, or if a Role needs to be modified, permissions can be set at the Customer level, System level, or Device level. Permissions can also be set for Groups, Tours, and Startup Profiles.

5.2.1 Customer Level Permissions

1. Click the Customer entry at the top of the tree in the left frame (in this example the customer is Digiop), then click the **Permissions** icon at the top of the window.

2. In the **Permissions for Digiop** frame, assign permissions to each role by clicking the checkbox associated with the function of the role.



3. After assigning permissions, if you check the box **Overwrite permissions for ALL child elements with the current permission settings** all of the permissions just created will be applied to all of the systems and devices below that level in the tree. If this is not checked, permissions will need to be set at each level.

4. Click **Save** to update DIGIOP® Control.

GLOBAL PERMISSIONS

Global Permissions are set at the Customer Level for hosted customers and allow the administrator to determine what roles can add, configure, and manage systems. Click the customer name (at the top of the tree), and then click the **Permissions** icon at the top of the window.

- **Add System** - The ability to add a system to an Elements hosted account during the DIGIOP System Setup Tool when setting up a new server.
- **Configure Users** - The ability to add users.
- **Configure Policy** - The ability to add and configure roles and permissions.
- **Manage Group Profile** - The ability to add groups, tours, and startup profiles.
- **Notifications Disable** - The ability to be able to enable and disable notifications for a system.

DEFAULT PERMISSIONS

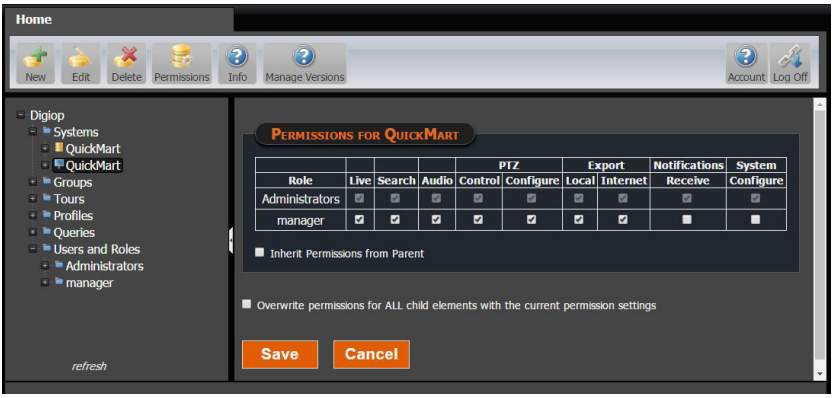
Default Permissions are set at the Customer Level (top level) for both hosted and stand-alone customers, and determine what access Roles have at lower levels of the tree. These can then be applied to systems and individual devices under the customer name. Additionally, individual devices can have more restrictions. Click the customer name (at the top of the tree), and then click the **Permissions** icon at the top of the window.

- **Live** - The ability to view live video.
- **Search** - The ability to search recorded video.
- **Audio** - The ability to hear audio (if enabled for the camera(s)).
- **PTZ Control** - The ability to utilize PTZ controls such as pan, tilt, zoom, focus, and iris open/close.
- **PTZ Configure** - The ability to create and modify PTZ presets.
- **Export** - The ability to export video or save an image of a video clip after searching recorded video.
- **Notifications Receive** - The ability to see notifications (if enabled for a system).
- **System Configure** - The ability to make configuration changes (for example add/edit cameras or add/edit data streams) to a system.

5.2.2 System Level Permissions

System level permissions allow Roles to be applied to specific systems.

1. Expand the system list for your customer. Select the video server for the desired system, then click the **Permissions** icon at the top of the window.



2. If checked, uncheck the **Inherit Permissions from Parent** box. When checked, the system is receiving its permission set from its parent, the overall customer. Unchecking this box will allow you to set a specific set of permissions for that system.

3. In the **Permissions for <System Name>** frame, assign permissions to each role by clicking the checkbox associated with the function of the role.

4. After assigning permissions, if you check the box **Overwrite permissions for ALL child elements with the current permission settings** all of the permissions just created will be applied to all of the cameras below that video server. If this is not checked, permissions will need to be set for each camera.

5. Click **Save** to update DIGIOP® Control.

6. If you would also like to change permissions for the data server, select the data server for the same system, then click the **Permissions** icon at the top of the window.

7. Make any changes to the permissions for the data server. If you check the box for **Overwrite permissions for ALL child elements with the current permission settings** all of the permissions just created will be applied to all of the data devices below that data server. If this is not checked, permissions will need to be set for each data device.

8. Click **Save** to update DIGIOP® Control.

5.2.3 Camera Level Permissions

Camera level permissions allow Roles to be applied to a specific camera(s).

1. Expand the system list for your customer, then expand the video server for the desired system. Select the desired camera then click the **Permissions** icon at the top of the window.

2. If checked, uncheck the **Inherit Permissions from Parent** box. When checked, the camera is receiving its permission set from its parent, the video server. Unchecking this box will allow you to set a specific set of permissions for that camera.

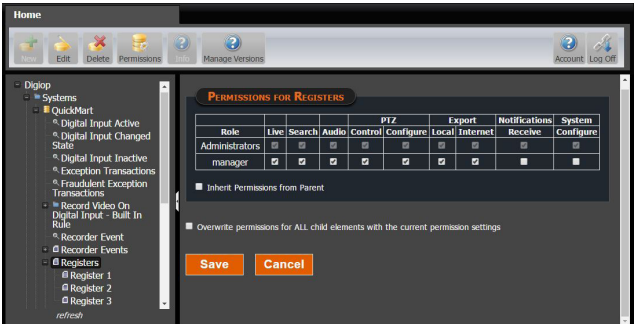
3. In the **Permissions for <Camera Name>** frame, assign permissions to each role by clicking the checkbox associated with the function of the role.

4. Click **Save** to update DIGIOP® Control.

5.2.4 Data Device Level Permissions

Data Device level permissions allow Roles to be applied to a specific data device(s).

1. Expand the system list for your customer, then expand the data server for the desired system. Select the desired data device then click the **Permissions** icon at the top of the window.



2. If checked, uncheck the **Inherit Permissions from Parent** box. When checked, the data device is receiving its permission set from its parent, the data server. Unchecking this box will allow you to set a specific set of permissions for that data device.

3. In the **Permissions for <Data Device Name>** frame, assign permissions to each role by clicking the checkbox associated with the function of the role.
4. Depending on the data device, the data device may also have additional children. If you look at the example above, the data device **Registers** was added. This site has multiple registers, so each individual register displays under the overall parent **Registers**. After assigning permissions, if the data device has children present, you can check the box for **Overwrite permissions for ALL child elements with the current permission settings** and all of the permissions just created will be applied to all of the children devices below that data device in the tree. If this is not checked, permissions will need to be set for each child device.
5. Click **Save** to update DIGIOP® Control.

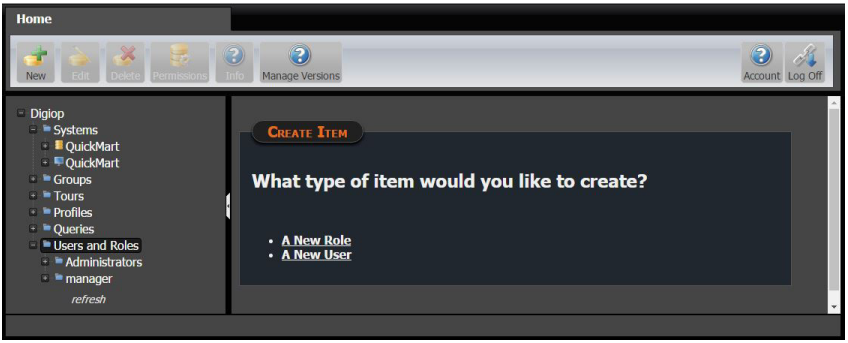
5.3 Create User

Create User is used to create a user Username and Password, and assign a Role (permissions) to the user. By default, one user, **admin**, with password **admin** and the role **Administrators** (full system permissions), is provided. DIGIOP strongly recommends that the default **admin** password be changed to improve system security.

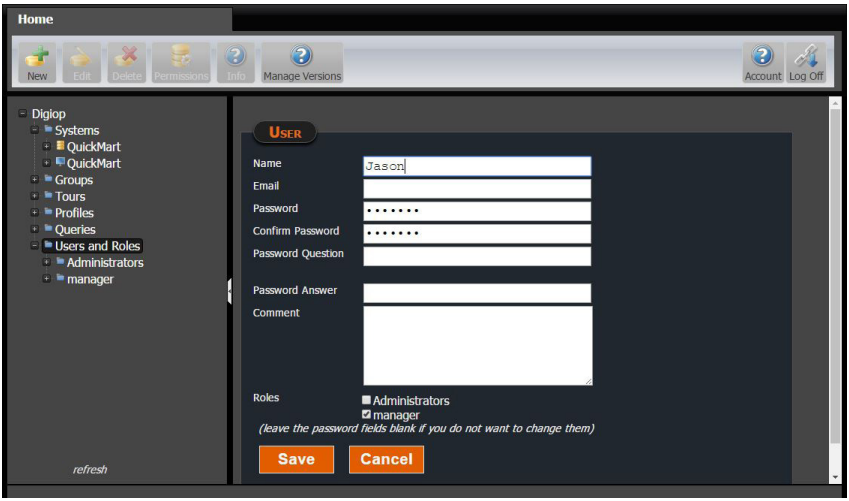
NOTE *To change the admin password, expand the Administrators role tree in the left frame, click admin, then click the Edit button. Change the password on the edit menu, then click Save.*

To create a User:

1. Click the **Users and Roles** entry in the left frame of the Home page, then click the **New** button at the top of the window.



2. In the Create Item frame, click **A New User**.



3. In the User settings window, enter:
   - Name
   - Email address (optional)
   - Password and Confirm Password
   - Security Question and Answer (optional)
   - Comments (optional)

4. Click the **Role** to assign to the user. Note that in the window above, Jason was given the manager role.

5. Click **Save** to update DIGIOP® Control.

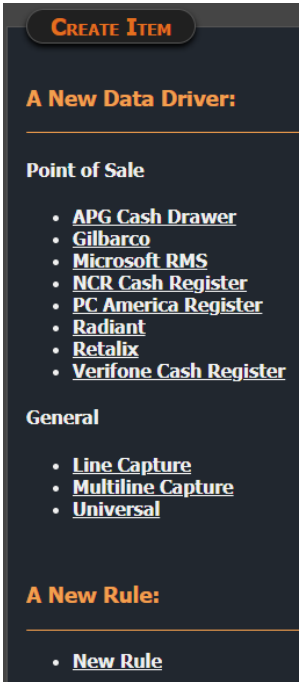
SECTION 6
Rules Engine

DIGIOP® Control allows Admin users to configure rules. When a rule is violated, the action configured with it is performed. Actions include *send an email notification*, *forward counts to an FTP site*, *forward images*, *activate a Digital Output*, and *record video.*

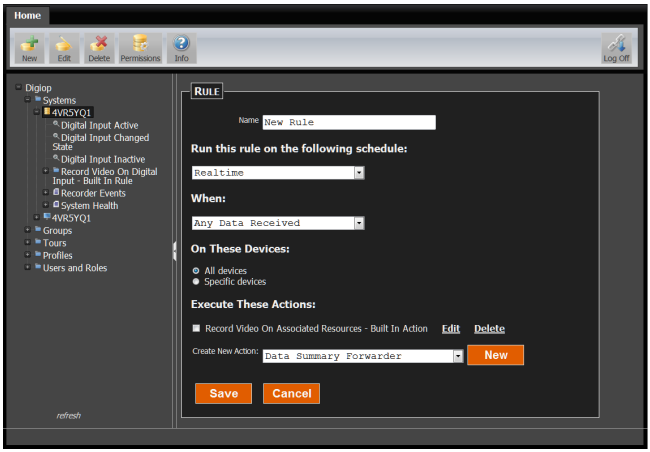
6.1 Create Rules

To create a rule:

1. Click the **Data Server** icon in the left frame, then click **New**.



2. Click the **New Rule** link.



3. In the **Name** field, assign a Name to identify the rule.

4. In the **Schedule** field, open the drop-down list and select one of the options to determine when the rule will be run.

- **Realtime** - Execute the action in realtime each time the rule is violated.
- **Every Minute, 15 Minutes, Hour, Day, Week** - Execute the action at the designated time interval if the rule has been violated, no matter how often the rule was violated.

5. In the **When** field, open the drop-down list and select when the action is executed per the schedule selected previously:

- **Always** - The action is always executed per the schedule.
- **Any Data Received** - The action is executed when any data is received per the schedule.
- **Digital Input Active** - The action is executed when one or more of the system's digital inputs is activated.
- **Digital Input Inactive** - The action is executed when one or more of the system's digital inputs are deactivated.
- **Digital Input Changed State** - The action is executed when one or more of the system's digital inputs changes state, whether that be to active or inactive.

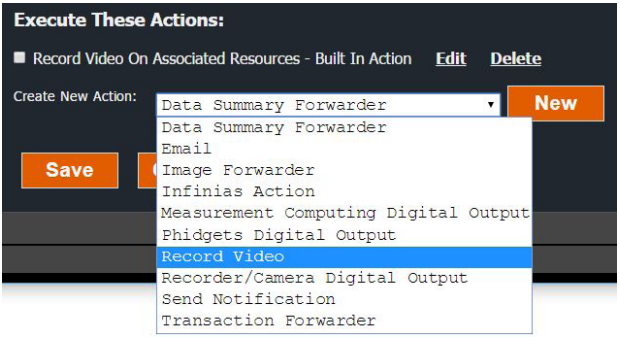
6. In the **Device** list, select the option that applies to the rule.

- **All Devices** - The action is executed if any of a device type violate the rule. For example, if the "When" is Digital Input Active, the action is executed if any of the digital inputs are activated.
- **Specific Device** - The action is executed only if the specific device selected violates the rule. For example, if the "When" is Digital Input Active, the action is executed only if the specific digital input selected is activated.

7. In the **Execute These Actions** section, several options are available. See *"Actions"* for more information.

6.2 Actions

Each Rule has an Action associated with it. When a rule is violated, the action configured within the rule is performed. The action **Record Video On Associated Resources** is already built-in, and there are other actions that can be created. Both built-in actions, actions previously crated, and new actions appear under **Execute These Actions.** To edit a built-in or previously configured action, select **Edit** next to the action under **Execute These Actions** on the **New Rule** page. To create a new action, drop-down the **Create New Action** list, select the desired action, then click **New**.



6.2.1 Record Video on Associated Resources

When a rule has been violated for a specific device or devices, the camera associated to the device(s) will record.

1. In the **Name** field, assign a Name to identify the action.

2. In the **What to Record** field, specify which cameras will record.

- **Associated Resources** - Records the camera(s) associated with the device(s) violating the rule.
- **Specific Resources** - Select the camera(s) you want to record when the rule is violated.

3. The **Record Action** field defines what will trigger the recording.

- **Start Recording** - The camera(s) will record on any event.
- **Use a property to determine the action** - This allows you to select a specific property from the data to start recording and stop recording. Recording will start if the property is true (or non-zero), and stop if the property is false or 0.

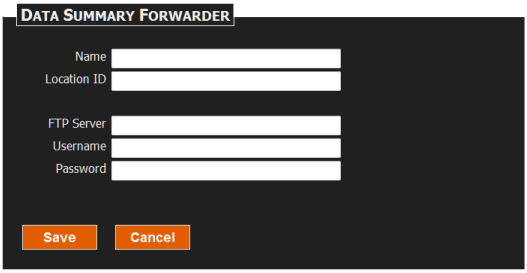
4. The **Duration** field defines how long the event or alarm records.

- **Record Duration** - Select Indefinite to record until the state changes, or select a specific duration.
- **Pre and Post Buffer** - This condition is based on the Pre and Post camera settings of the associated resource(s).

5. Select **Mark recorded video as alarm** to identify the recording as alarm based, instead of event based. The timeline for the video will appear red in DIGIOP® Connect.

6.2.2 Data Summary Forwarder

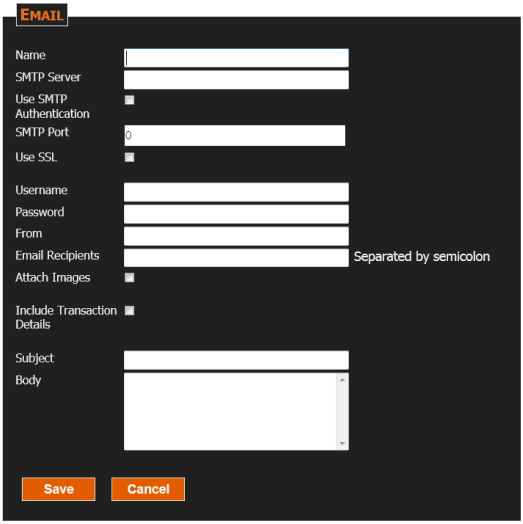
This action allows you to forward a summary of event data to a FTP site for the device(s) selected in a rule anytime the rule is violated. Data is forwarded in XML format.



- **Name** - Name to identify the action.
- **Location ID** - Store number or register ID number.
- **FTP Server** - Address of the FTP server.
- **Username/Password** - Security credentials for the FTP server.

6.2.3 Email

This action generates and sends an email message when a rule is violated. Emails are sent using an SMTP server.



- **Name** - Name to identify the action.
- **SMTP Server** - Address of the SMTP server.
- **Use SMTP Authentication** - Select if required by the SMTP server.
- **SMTP Port** - The port where the SMTP server can be accessed.
- **Use SSL** - Select if required by the SMTP server.
- **Username/Password** - Security credentials of the SMTP server.
- **From** - Email address the email will be sent from.
- **Email Recipients** – List of recipients email addresses. Each email address is separated by a semicolon (;).
- **Attach Images** – Select to attach images to the email from the camera(s) associated to the device(s) defined in the rule.
- **Include Transaction Details** - Select to attach the associated transaction to the email, for example, POS transactions.
- **Subject** – Subject line of the email.
- **Body** – Message body of the email.

Below is an example of an email sent as a result of a rule.

From: digiopemail@gmail.com
Date: April 10, 2013, 7:47:16 PM EDT
To: tim@yahoo.com, christy@gmail.com
Subject: Garage Door Opened.

Tim & Christy's Garage Door opened. I'm attaching images for you to take a look...

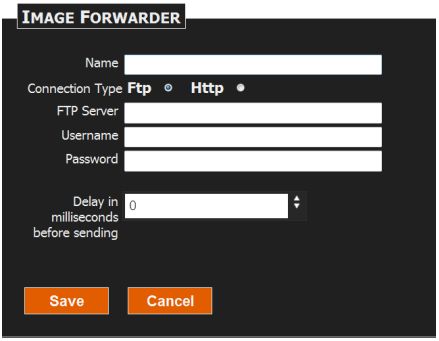
=== Relevant Transaction Items ===

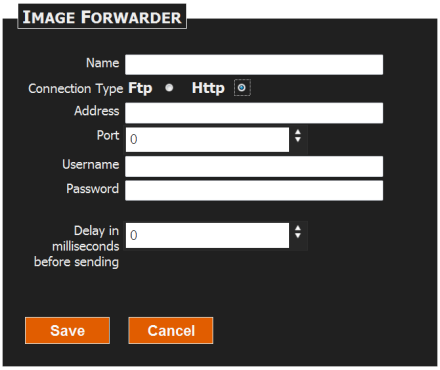
[4/10/2013 7:47:05 PM] - Active

6.2.4 Image Forwarder

This action performs an FTP or HTTP upload of an image when an event is triggered.

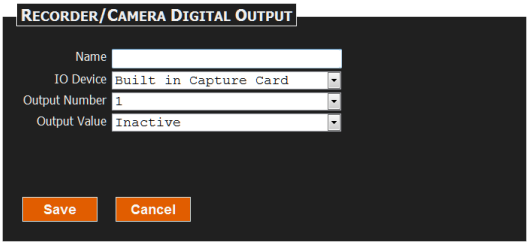
- **Name** - Name to identify the action.
- **Connection Type** - Select FTP or HTTP.
- **FTP Server** - (FTP) Address of the FTP Server.
- **Address** and **Port** - (HTTP) IP address and port to send to.
- **Username/Password** - Security credentials for FTP/HTTP.
- **Delay in milliseconds before sending** - Select milliseconds to delay before forwarding the image.





6.2.5 Recorder/Camera Digital Output

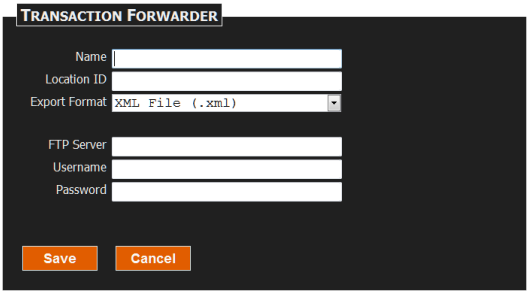
This action allows you to configure the digital output state of a digital output on the recorder or of a camera when a rule is violated.



- **Name** - Name to identify the action.
- **I/O Device** - Select the built-in capture card or a camera with a digital output configured.
- **Output Number** - Output number of the I/O device.
- **Output Value** - State of the output (active or inactive).

6.2.6 Transaction Forwarder

This action sends all event data to an FTP site in XML or CSV format.



- **Name** - Name to identify the action.
- **Location ID** - Store number or register ID number.
- **Export Format** - Select XML or CSV.
- **FTP Server** - Address of the FTP server.
- **Username/Password** - Security credentials for the FTP server.

SECTION 7
DIGIOP® Connect Login

The DIGIOP® server can be managed either locally or managed remotely by the DIGIOP ELEMENTS™ cloud. Locally managed Stand Alone systems are logged into differently than Hosted systems. With each method, your unique Username and Password provides access to all the privileges assigned to you, including all the systems, cameras, groups and tours you are permitted to use.

7.1 Hosted by DIGIOP ELEMENTS™

Use this login method to access a DIGIOP ELEMENTS™ hosted DIGIOP® server (default). Use this method whether you are logging into DIGIOP® Connect installed on the DIGIOP® server or installed on a remote PC.

Your DIGIOP ELEMENTS™ account will have a unique Customer name assigned by DIGIOP®. For more information on hosting your system with DIGIOP ELEMENTS™ and to register for a DIGIOP ELEMENTS™ customer name, contact your sales representative.

To launch DIGIOP® Connect and log into a DIGIOP ELEMENTS™ hosted DIGIOP® server:

1. Double click the Connect application icon on the desktop. The login menu is shown below. If it is not already displayed, open the ***Site*** drop down list and select **elements.digiop.com**.

2. In the Login window, enter your ***Username***, ***Password*** and ***Customer*** field with the credentials assigned to you by DIGIOP.

3. Check the ***Remember Me*** box if you would like DIGIOP® Connect to remember these credentials for the next login.

4. Click **Login** to open the DIGIOP® Connect main window.

7.2 Stand Alone

Use this type of login to access a DIGIOP® Stand Alone server. This will access the video and data servers of your system.

1. Open the ***Site*** drop-down menu and select **other**, then enter the IP address of the DIGIOP® server.

2. In the ***Site*** field, use one of the following appropriate for your server:

   — **For DIGIOP® Connect installed on the server**: Use the URL **localhost** or IP address **127.0.0.1** to direct the application to the same computer you are using (the DIGIOP® server).
   — **For DIGIOP® Connect installed on a remote PC on the same network as the server**: Use the internal IP address of the DIGIOP® server. See the example below.

   — **For DIGIOP® Connect installed on a remote PC outside the server's network**: Use the external static IP address of the DIGIOP® server, also known as the Public IP address.

NOTE *To view your DIGIOP® system from a PC outside the network where the server is installed, you must configure the server's network for port forwarding. See* ***How to remotely access DIGIOP®*** *for port settings.*

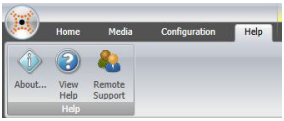
3. Enter your username and password. In the ***Customer*** name field, enter "DIGIOP".

4. Check the ***Remember Me*** box if you would like DIGIOP® Connect to remember these credentials for the next login.

5. Click **Login** to open DIGIOP® Connect and login to the video and data servers in the system.

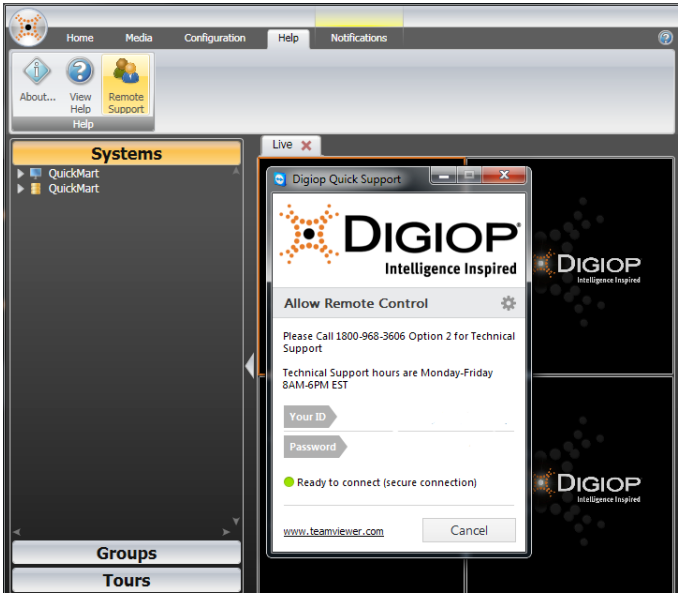
7.3 DIGIOP® Connect Help

Various Help options are available within the DIGIOP® Connect software. To access the Help features:

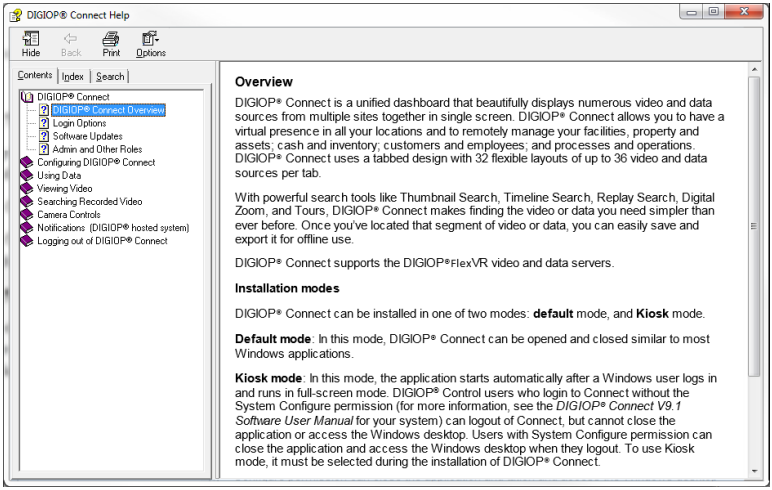


1. Click the **Help** tab and click **About**. The About menu shows version and additional Help information for the system.

2. Click the **Help** tab and click the **Remote Support** icon. A pop-up appears with contact information and a remote support link to allow the DIGIOP® tech support team access to the system.



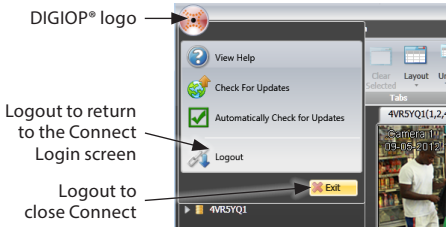
3. Select **View Help** under the Help tab or click the "**?**" Help icon in the upper right-hand side of the DIGIOP® Connect window. The Help window will open. Each item can be expanded by clicking the closed book symbol. Clicking the open book symbol collapses the content. Index and Search methods are also available within Help.



7.4 Logout

DIGIOP® Connect provides three ways to logout:

- Logout and return to the DIGIOP® Connect login screen: Click the DIGIOP® logo in the upper left corner of the DIGIOP® Connect application window, then select Logout.
- Logout and close DIGIOP® Connect: Click the window close icon ()in the upper right corner of the DIGIOP® Connect application window. (Note: If Connect is in Kiosk Mode and the user does not have **System Configure** permissions, the user will not be able to close out of Connect.)
- Logout and close DIGIOP® Connect: Click the DIGIOP® logo in the upper left corner of the DIGIOP® Connect application window, then select Exit.



SECTION 8
Viewing Video

With DIGIOP® Connect you can view:

- **DIGIOP® Video Server**: This represents a DIGIOP® server and will allow you to view live video from cameras.
- **DIGIOP® Data Server:** Use this option to view a data source from a database or third party software. (Data sources may include Point of Sale, Video Analytics, System Health, or other systems.)

DIGIOP® Connect supports layouts that can include both video and data streams. This section will review viewing video.

8.1 Live Video

Click the triangle to the left of a System name to expand its list. For Video Servers, the camera list is displayed. There are several different ways to view a video source:

1. Click the mouse button on an item listed in the Systems list and then click the **Live** icon. The video stream will appear.

2. Click the mouse button on the name of the Video Server (with the blue icon) and then click the **Live** icon. The video from all video streams for that system will appear. All of the streams will appear in a pre-defined layout for the number of streams being selected.

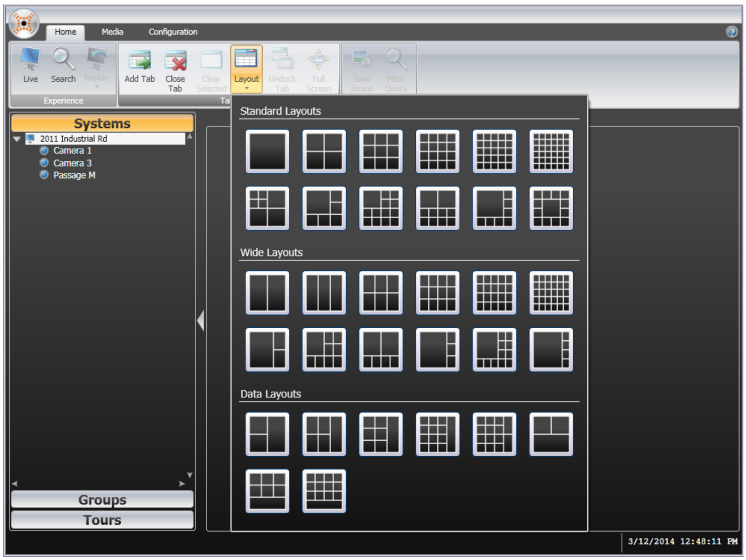
3. Click the mouse button on an item listed in the Systems list. Hold down the **Ctrl** key and continue to select additional items in the Systems list, then click the **Live** icon. All of the streams selected will appear in a pre-defined layout for the number of streams being selected.

4. Click the **Home** tab and open the drop down list under the Layout icon to select the layout of camera and data images to be shown. Click and hold down the mouse button on an item listed in the Systems list and drag it to a viewing frame. The video or data stream from that item will appear in that frame. Repeat with other items listed in the Systems lists that you want to see.

8.2 Layout Options

You can select camera and/or data layouts that fit the specific needs of your surveillance or business intelligence objectives. Multiple tabs can be setup, with layouts of 2 x 2 grids up to 6 x 6 grids (36 viewing frames).

To select a layout, click the **Home** tab, click the down arrow on the **Layout** icon, then click the layout pattern you prefer to use.



8.3 Tabs and Frame Functions

Viewing frames can be selected (i.e., highlighted, by a orange border) by mouse click and:

- Double-clicked within the viewing frame to toggle to and from a single-pane view.
- Opened in Full Screen using the right-click menu. Use the right-click menu again or the **ESC** key to revert back.
- Cleared by clicking the **Home** tab, then clicking **Clear Selected** to close the selection in the frame.
- Closed by clicking the "X" on a tab which will remove the camera images as well as the viewing tab.

Any selected tab can be undocked from the DIGIOP® Connect software panel. This feature allows the undocked tab to be moved freely on the desktop while simultaneously viewing other tabs still attached to the software panel. See below. The undocked tab can be re-attached (docked) with a single mouse click.

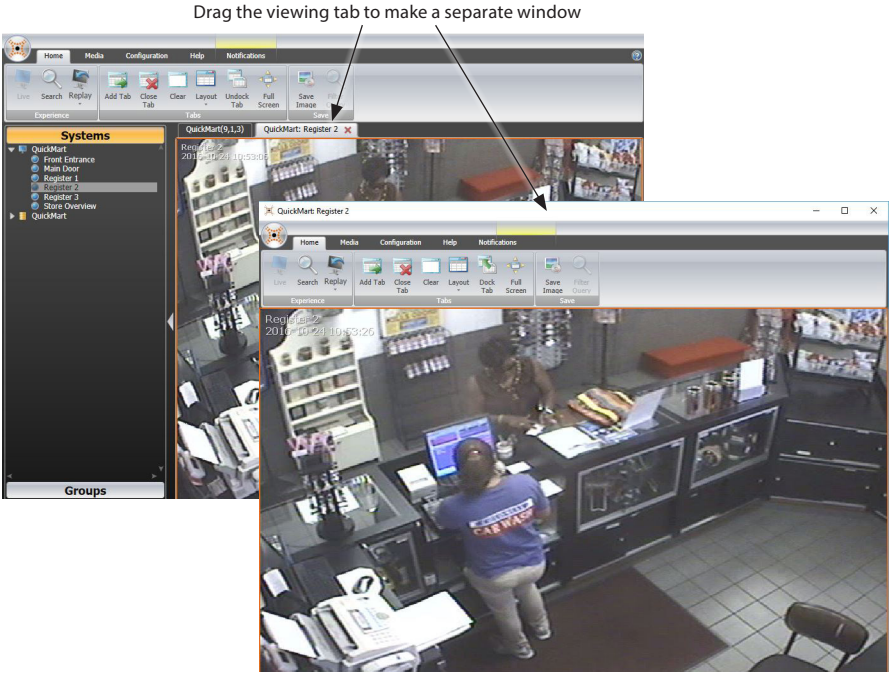
This feature allows for full multi-monitor support. For instance, it can be setup so that one tab can be showing live video from a camera, while another tab can be used for searching recorded video.

To release a viewing pane tab so that it is unattached from the DIGIOP® Connect software panel, perform the following steps:

1. Make sure the viewing tab to be released from the software window is active in the viewing area.

NOTE *The undock feature affects all frames being displayed in the tab.*

2. Either click the **Undock** tab icon under the Home tab, or click and hold the tab and drag it from the main window.

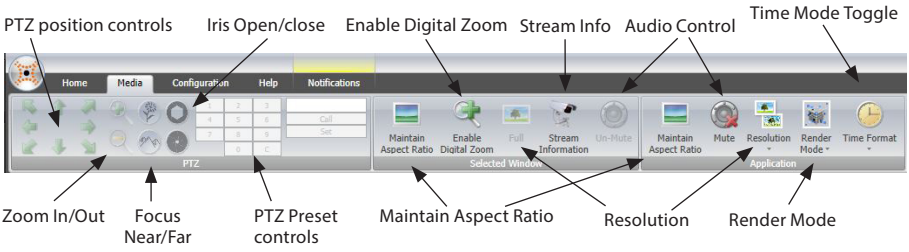


3. To re-attach the viewing tab to the DIGIOP® Connect software window, click the **Dock** tab icon.

8.4 Camera Controls

Camera controls are included in the Media tab menu. The controls enabled for a camera are dependent on the features of the camera selected. The right half of the Media toolbar includes two sections: Selected Window and Application. Clicking an icon in the **Selected Window** section applies the tool to the viewing frame that is selected (framed with an orange border). Tools in the **Application** section apply to all viewing frames.

NOTE *The PTZ (Pan, Tilt, and Zoom) controls are only active when the camera selected is a PTZ camera.*

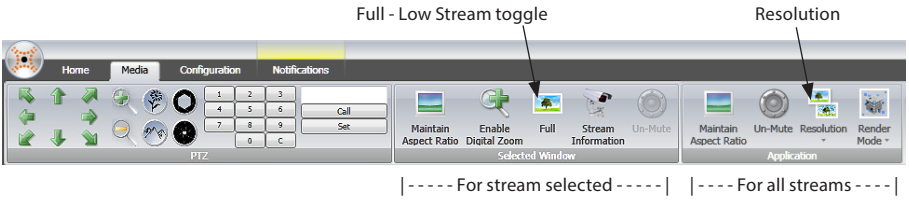


Media controls

8.4.1 Resolution Controls

For dual-stream IP cameras, you can switch between the high-resolution stream and low resolution stream in three ways:

1. By selecting a single video stream frame, then clicking the **Full - Low Stream toggle** icon on the **Media** tab



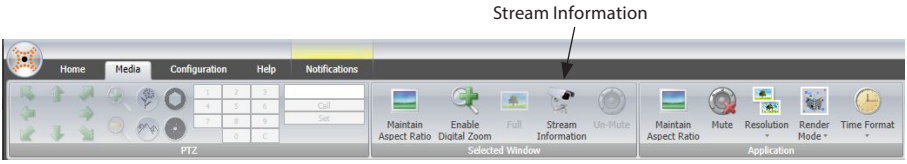
2. By clicking the **Resolution** icon in the Application section of the **Media** tab. Clicking this icon offers the option to select either Low or Full stream resolution for all supported dual-stream IP cameras shown in Connect.

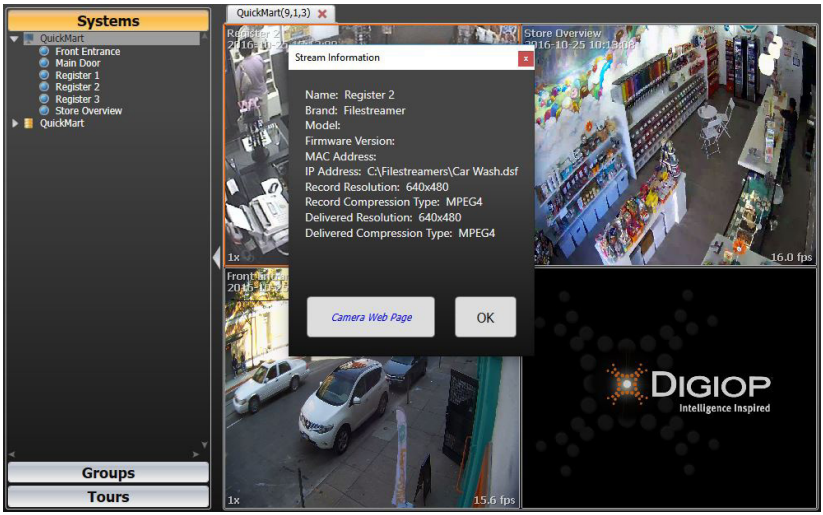
3. By selecting a single video stream frame, then right-clicking to pull up the right-click menu as described below.

Maintain Aspect Ratio toggles between the original width and height of the video (what the camera is set to), and the width and height of the viewing pane. The video will assume the size (ratio of the width and height) of the viewing pane.

8.4.2 Stream Information

The video stream information can be displayed by clicking on a Live view video frame to select it, then clicking the **Stream Information** icon in the **Media** tab. A pop-up window will appear showing the Name, Brand, Model, Firmware Version etc. of the camera.



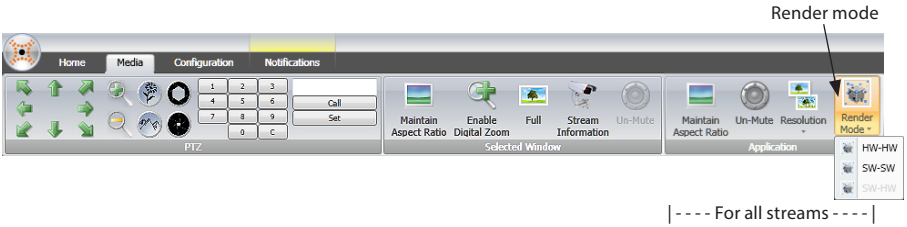


In the **Stream Information** window, click on **Camera Web Page** to open the camera web page.

You can also open the Stream information popup window by right clicking on a video stream, then selecting the **Stream Information** option in the pop-up window.

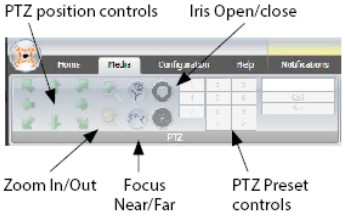
8.4.3 Render Mode

Render Mode determines whether Connect uses only the computer hardware to render video, only software to render video, or a combination of both. Depending on the computer's hardware resources, different render modes will look better on different computers. It is dependent on the computer with Connect, not the server. Choose the mode (SW-SW, SW-HW, or HW-HW) that produces the best performance.



8.4.4 Using PTZ Camera Controls

PTZ camera controls become active when the Media tab is selected, the camera selected is a PTZ camera, and PTZ for that camera is enabled in DIGIOP® Control.



- **PTZ position controls** – A mouse click on an arrow moves a PTZ camera in the direction of the arrow.
- **Zoom In** – Each mouse click on this control increases the magnification of the camera (which enlarges the view of an object for more detail) until the maximum focal length of the camera is reached.
- **Zoom Out** – Each mouse click on this control decreases the magnification of the camera until the minimum focal length of the camera is reached.
- **Focus Near** – Each mouse click on this control enhances the sharpness of objects that are close by.
- **Focus Far** – Each mouse click on this control enhances the sharpness of objects that are far away.
- **Open Iris** – Each mouse click on this control increases the camera iris (aperture), allowing more light to pass through the lens. This makes the picture brighter.
- **Close Iris** – Each mouse click on this control decreases the camera iris, reducing the amount of light passing through the lens. This makes the picture darker.

The Preset Controls allow you to setup a PTZ camera to quickly move to preset targets. Each target position is assigned a number. When the camera is selected and the number is "Called", it quickly moves to that target.

- **Set** – Click to assign a number to the position currently being used by the camera.
- **Call** – Click to move the camera to the pre-designated position.

To assign a preset number to a camera position:

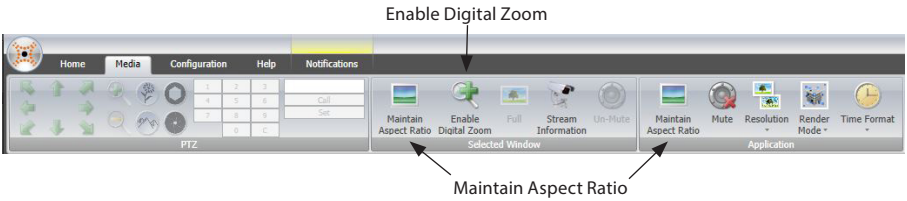
1. Use the PTZ position controls to aim the camera at a target.
2. Click the number to assign to the camera position.
3. Click **Set** to assign the set position to the number.
4. Repeat Steps 1-3 above for each additional camera position.

To Call the camera to a preset position:

1. Select the camera viewing frame.
2. Click the number assigned to the camera position you want see. The number will appear in the blank box.
3. Click **Call**.

8.4.5 Using Digital Zoom Camera Controls

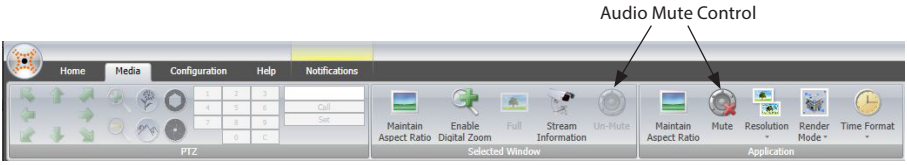
Digital Zoom will work with all digital video cameras (including PTZ cameras).



To use this feature, select the camera pane, then click the **Enable Digital Zoom** icon in the Media menu (see above). se the "+" and "-" keys on the keyboard or the mouse wheel to zoom in and out.

8.4.6 Using Audio Controls

The Volume controls are available for the selected viewing frame (Selected Window) and for all viewing frames (Application). These controls include:

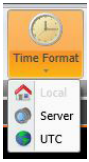


Application controls

- **Mute** – Clicking this control mutes the sound from the camera selected.
- **Un-mute Selected Audio** – Clicking this control enables the sound from the selected camera to be heard. The volume controls of the computer can be used to increase or decrease the volume level.

8.4.7 Time Format

Video and data can be viewed in DIGIOP® Connect using 3 different relative time formats. This is helpful if you are viewing a server in a different time zone, or especially if you have multiple servers across different time zones.



- **Local** - This will display all video and data relative to where the DIGIOP® Connect client is located. For example, if Connect is on a client station in the Eastern Time Zone, and there is a server located in the Pacific Time Zone, Connect will show the server's times relative to the Eastern Time Zone.
- **Server** - This will display all video and data relative to where the server is located. For example, if Connect is on a client station in the Eastern Time Zone, and the server is located in the Pacific Time Zone, Connect will show the server's times relative to the Pacific Time Zone.
- **UTC** - This will display all video and data in Coordinated Universal Time.

8.5 Recorded Video Search

Connect provides different methods for finding recorded video. These methods include Replay Search (Quick Video Search), Calendar Search, and Thumbnails Search.

Use Replay Search to find recorded video for events that occurred within the previous 15 minutes. For older events, the Calendar and Thumbnail searching features provide a precise way to find recorded video. Users can switch between recorded and live video by clicking between viewing tabs. Live video and recorded video can also be viewed concurrently through use of the Undock feature.

NOTE *Multiple recordings can be searched simultaneously by using the Layout icon and selecting a view where several camera images are displayed within a viewing tab.*

8.5.1 Playback Controls

Video playback controls are displayed whenever the Replay or Search viewing tabs are active. Controls include:

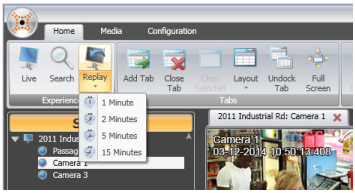
- **Pause** – Pauses the video being played.
- **Play** – Starts playing the video from the point where the scrub bar is located on the Timeline.
- **Step Forward** – Advances the search playback one frame at a time.
- **Fast Forward** – Increments the speed of video play each time it is clicked. Increments are 2x, 4x, 8x, 16x, 32x, 64x, and 128x.
- **Step Reverse** – Reverses the search playback one frame at a time.
- **Reverse play** – Starts playing the video in reverse from the point where the scrub bar is located on the Timeline
- **Fast Reverse** – Increments the speed of reverse video play each time it is clicked. Increments are 2x, 4x, 8x, 16x, 32x, 64x, and 128x.

8.5.2 Replay search

Use Replay search to quickly replay recent video:

1. Select the Live viewing tab with the cameras you want to use for the Replay search.

2. Within the Home tab, click the down arrow on the Replay icon to replay 1, 2, 5, or 15 minutes of recorded video.



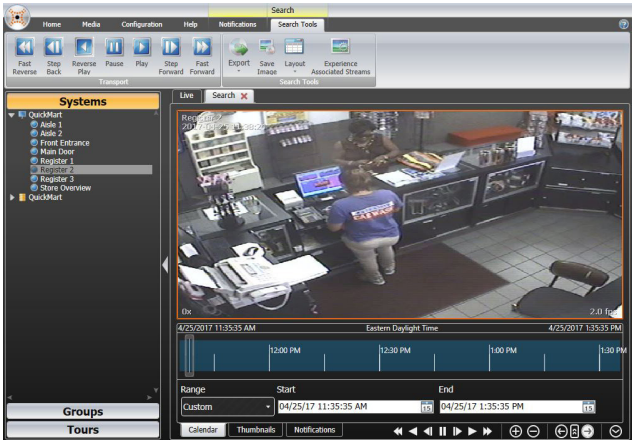
3. Use the playback controls to pause, play, step forward, fast forward, step reverse, reverse, or fast reverse playback.

8.5.3 Calendar Search

The Calendar search method allows a user to search recorded video in increments that can be set as seconds, minutes, hours, days, or months.

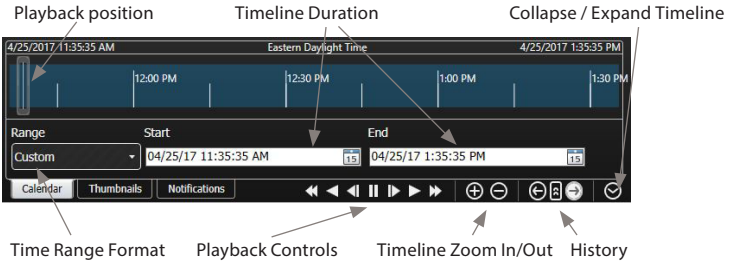
1. Select the camera that you want to search from the Systems or Groups list.

2. Click the Home tab, and then click the Search icon. A window similar to that shown below will be displayed.



Searching video

Calendar video search allows you to search video by date, time, and duration with the use of a timeline.



Calendar search method

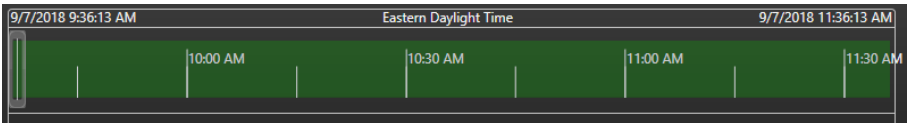
Use the following guidelines to configure the time range of the search:

- In the Start field, click the calendar icon to open a calendar window, and then select the desired date.
- Click the mouse pointer on the hour, minute, or second fields, then input the desired start time.
- Do the same for the End Time (if in Custom mode).
- Predefined time ranges, such as Today, Yesterday, This Week, etc. are also available in the Range dropdown.

After the time range is established, the timeline can be used to refine the search.

Timeline Usage

The Timeline tool is a graphical representation of a defined time range of recorded video. It is used within the Search tabs to help a user determine the exact time that an event or detail occurred. The Timeline will appear green if the camera was set to record continuously or blue if motion was detected at that time.



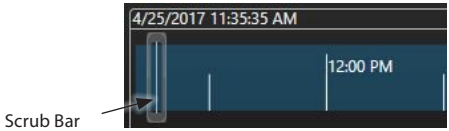
Timeline Tool

Use the following guidelines to use the Timeline tool for searching video:

- Scrub Bar – Scrub Bar allows a user to navigate across a range of recorded video.

NOTE *If multiple video streams are simultaneously being searched, all viewing panes will show the result of the scrub.*

- Use the mouse cursor to drag the scrub bar back and forth along the timeline to move forward or backward within the time range of the video being searched.

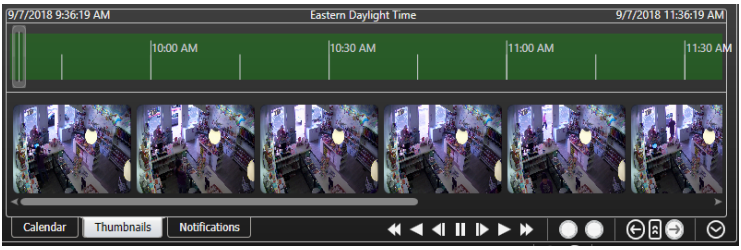


Scrubbing Video

- Use the mouse to drag the timeline back and forth to adjust the start and end times of the video being searched.
- Use the scroll wheel on your mouse to zoom in and out to expand or contract the timeline displayed.

8.5.4 Thumbnails Search

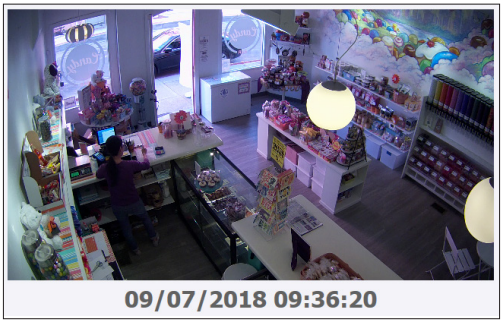
Use the Calendar view first to establish the time range of video to be searched, then click on the Thumbnails tab. The Thumbnails view is another way to view the video once the time range is determined. This search method presents 10 thumbnails of video frames, spaced across a defined time range, to help locate a detail or event of interest.



Thumbnails search method

Use the following guidelines to perform a Thumbnails search:

- Click on a thumbnail to move the playback time pointer to the thumbnail's point in time.
- Place the cursor on a thumbnail and hold the cursor there for about one second to enlarge the view of that thumbnail. The time and date of the video frame is also displayed in the enlarged view. If the cursor is not moved from the thumbnail, the enlarged view stays open for 15 seconds.



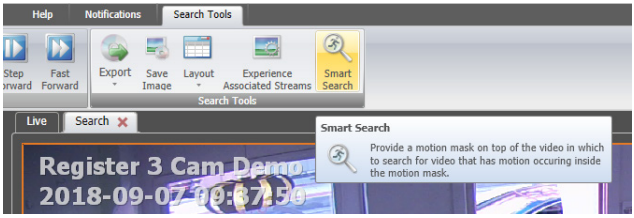
Highlighted thumbnail range

NOTE *A slider bar, for adjusting the timeline view forward or backward, may be visible directly under the thumbnails depending on the time range of the video selected.*

8.6 Smart Search

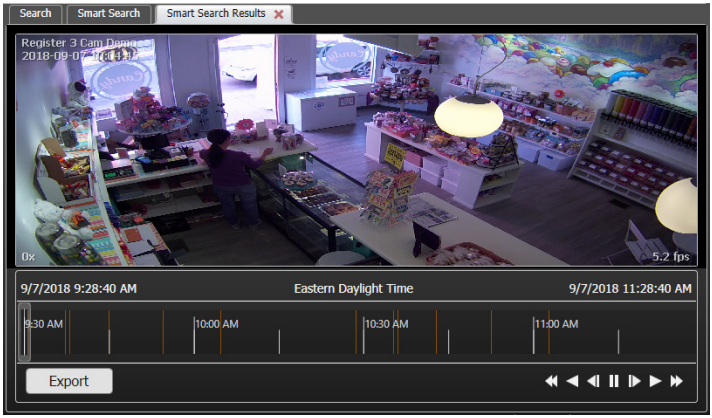
Use Smart Search to quickly narrow down specific regions of video where motion is present. This is helpful, for example, when trying to research a missing item.

First use the Calendar view to establish the time range of video to be searched, then click the Smart Search button. Select the area you would like to have searched for motion. Select All and Clear All buttons are also available.



Use the Sensitivity and Threshold bars to adjust how sensitive the motion search should be, then click Search.

The Search will return only video that has motion in the selected zones, which will be reflected in orange on the timeline.



8.7 Exporting video from a search

The range of video selected during a search can be exported using DIGIOP® Connect. This is useful, for example, if the video is used as evidence by police or other authorities. A viewer can be exported with the video.

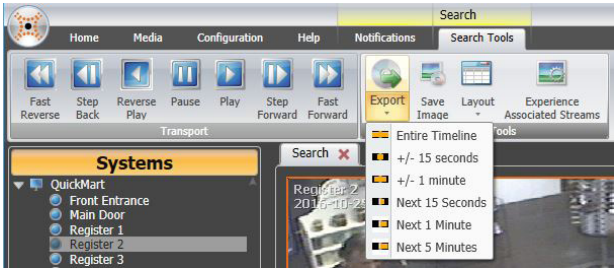
Connect can export video in either of three different video formats:

- **MP4** (*.mp4): The video file is converted and exported as MP4, a compressed file type that can be played on most computer media players. The On Screen Display can be toggled on and off using a player's subtitle functionality.
- **MP4 - With On Screen Display Burn-In** (*.mp4): Same as **MP4** with the On Screen Display permanently burned-in to the top left corner.
- **Native** (*.dsf): This format is unconverted. These files cannot be modified. A viewer is exported with the file.

To Export video:

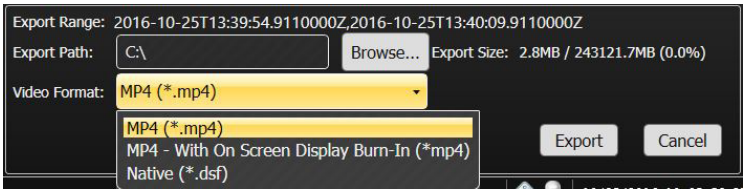
1. Establish the time range of the video to be exported. Refer to the Calendar and Thumbnails Searching.

2. Click either the top half of the **Export** icon (default for exporting the entire timeline range), or click on the bottom half of the Export icon and select one of the options.



Selecting video range for export

3. After the time range of the video is selected, an Export menu is displayed below the camera frames. Click **Browse** to select the destination (Export Path) where the video will be sent, and select the file format from the drop-down list. The Export button becomes active when the export path and video format is established.

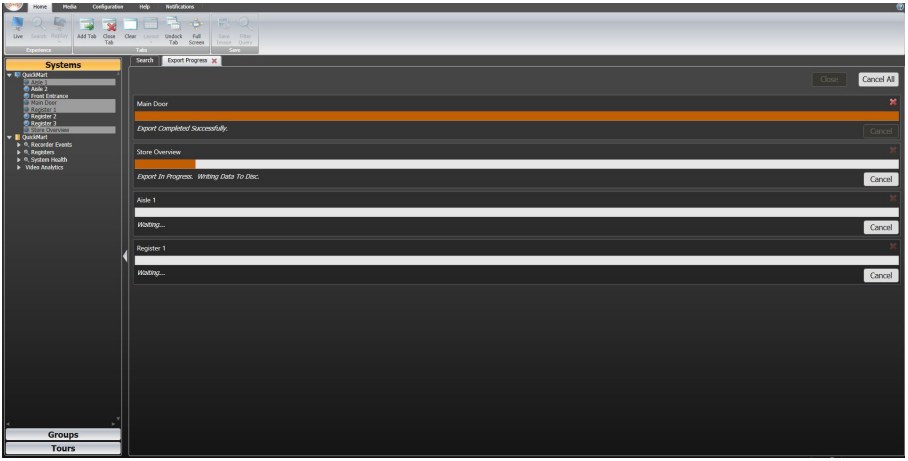


Export menu

4. Optionally, select **Break On Hour Boundary** to break up longer exports into 1 hour segments.

5. Click **Export**.

6. The Export Progress tab will appear.



7. If more than one camera was selected, a progress bar will appear for each camera.

8. As each stream is completed, that stream becomes available for viewing in the folder selected for exporting.

9. Select **Cancel** next to an individual stream to cancel the export on that stream.

10. As each stream is completed, the **Cancel** button will become grayed out for that stream.

11. Select **Cancel All** to cancel the export of all streams.

12. When all exports has completed, a **Close** button will become available.

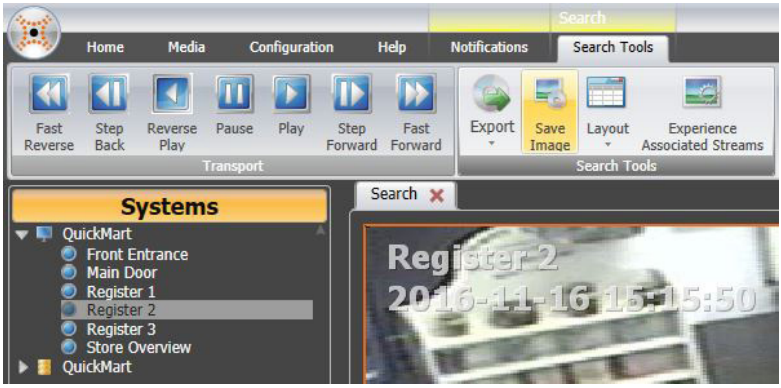
13. Click **Close** to close out of the Export Progress tab.

8.8 Saving images from searched video

A video image (one frame of video) within a search can be saved as a JPG (.jpg) file to your computer or to another drive connected to the computer. Images from Replay Search, Calendar Search, and Thumbnails Search can be captured and saved. To capture and save a video image:

1. Find the image to be saved.

2. Click the **Save Image** icon under the Search Tools tab or right-click the video frame and select **Save Image**. This will capture the image, and the Save Image window will open.



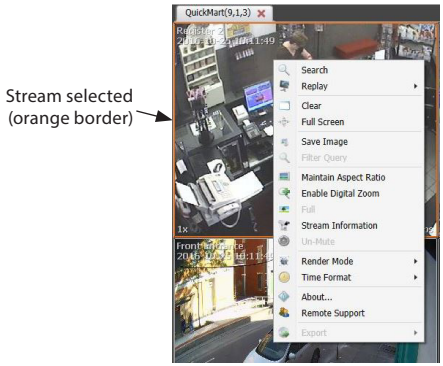
3. Browse to select the destination where the captured image will be sent.

4. Enter a name for the file.

5. Click **Save**.

8.9 Right-click pop-up menu

The Right-click pop-up menu provides quick access to common video and data stream options such as Search, Save Image (capture), Stream information, etc. for the stream selected. This menu is opened by right-clicking anywhere within the stream. Only the options applicable to the stream are enabled (bold text). This feature is used with Live view and Search streams for video and data. In the example below, the user right clicked on the upper live view stream (indicated by the orange border).



Pop-up menu options include:

- **Search**: Opens the Search tab for the selected stream. This is equivalent to selecting the stream, clicking the **Home** tab, then clicking the **Search** icon.
- **Replay**: Opens a submenu where you must select either 1, 2, 5, or 15 minutes to replay. This opens a **Search** tab and replays the previous 1, 2, 5, or 15 minutes shown in the stream.
- **Clear**: Closes the stream displayed in the viewing pane.
- **Full Screen**: Toggles a layout between a full screen view and the application view.
- **Save Image**: Captures the current image in the stream, then opens a **Save Image** menu where you can name the image and select the location where it is saved.
- **Maintain Aspect Ratio**: Toggles an image between its recorded aspect ratio, and a stretched image.
- **Enable** (or **Disable**) **Digital Zoom**: Enables (disables) digitally zooming in or out of the image using the mouse wheel.
- **Full** (or **Low**): Changes the selected stream to high (low) resolution.
- **Stream Information**: For video streams, opens a pop-up window showing the configuration of the stream including the camera, network and stream resolution and compression data.
- **Un-Mute** (or **Mute**): For video streams with audio, disables (enables) sound for the selected stream.
- **Render Mode**: Toggles between the 3 available Render Modes.
- **Time Format**: Toggles time relativity between the Local Time of the client, Server Time, and UTC time.
- **About**: Shows version and additional Help information for the system.
- **Remote Support**: Provides contact information and a remote support link to the DIGIOP® tech support team.
- **Export**: For use in a search tab screen. Opens a submenu where you can select a section of video to export near the position of the playback marker. You can select either Entire Timeline, +/- 15 seconds, +/- 1 minute, Next 15 Seconds, Next 1 Minute, or Next 5 Minutes.

SECTION 9
Viewing Data

With DIGIOP® Connect you can view:

- **DIGIOP® Video Server**: This represents a DIGIOP® server and will allow you to view live video from cameras.
- **DIGIOP® Data Server:** Use this option to view a data source from a database or third party software. (Data sources may include Point of Sale, Video Analytics, System Health, or other systems.)

DIGIOP® Connect supports layouts that can include both video and data streams. This section will review viewing data.

DIGIOP® Connect can display data streams from POS systems, Video Analytics, System Health data and many other sources from DIGIOP® Control. System Health data is included with the DIGIOP® server. Other types of data sources may require additional licensing. Contact your DIGIOP® Sales representative for additional information.

9.1 Viewing Data Sources

Data in DIGIOP® Connect can appear in several different ways, depending on the device you are viewing data from. For instance, some devices such as cash registers can display a graphical view of data or the actual data. Some data devices also allow the Connect user to activate and deactivate digital outputs from those devices for a variety of purposes, such as unlocking doors. Some examples are shown below.

9.1.1 Live Data

1. Click the mouse button on an item listed in the Systems list and then click the **Live** icon. The data stream will appear.

2. Click the mouse button on an item listed in the Systems list. Hold down the **Ctrl** key and continue to select additional items in the Systems list, then click the **Live** icon. All of the streams selected will appear in a pre-defined layout for the number of streams being selected.

3. Click the **Home** tab and open the drop down list under the Layout icon to select the layout of camera and data images to be shown. Click and hold down the mouse button on an item listed in the Systems list and drag it to a viewing frame. The data stream from that item will appear in that frame. Repeat with other items listed in the Systems lists that you want to see.

9.1.2 Data Search

The Calendar search method allows a user to search data in increments that can be set as seconds, minutes, hours, days, or months.

1. Select the data stream that you want to search from the Systems or Groups list.

2. Click the Home tab, and then click the Search icon. A window similar to that shown below will be displayed.

Data Search

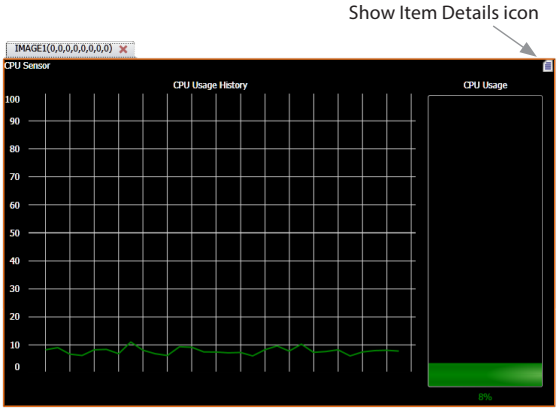
Calendar search allows you to search by date, time, and duration with the use of a timeline. Use the following guidelines to configure the time range of the search:

- In the Start field, click the calendar icon to open a calendar window. Click the start date in the calendar, and then click the calendar icon again to close the calendar window.
- Click the mouse pointer on the characters in the hour, minute, or second fields to produce a selector cursor. Input the desired start time.
- Do the same for the End Time.
- Predefined time ranges, such as Today, Yesterday, This Week, etc. are also available in the Range dropdown.

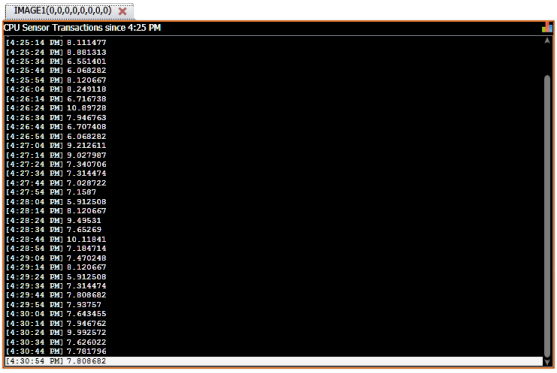
After the time range is established, the timeline can be used to refine the search. The Timeline tool is a graphical representation of a defined time range of data. It is used within the Search tabs to help a user determine the exact time that an event or detail occurred. The Timeline will appear yellow where data was detected.

9.1.3 Viewing graph and list data

Most data can be viewed as a bar graph that shows counts of data received, or the actual data in readable format.



Click the **Show Item Details** icon to switch between the bar chart and data received in readable format:

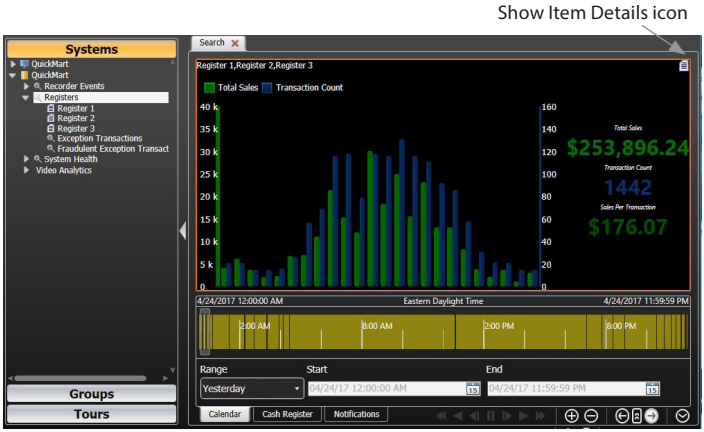


9.1.4 Viewing cash register data

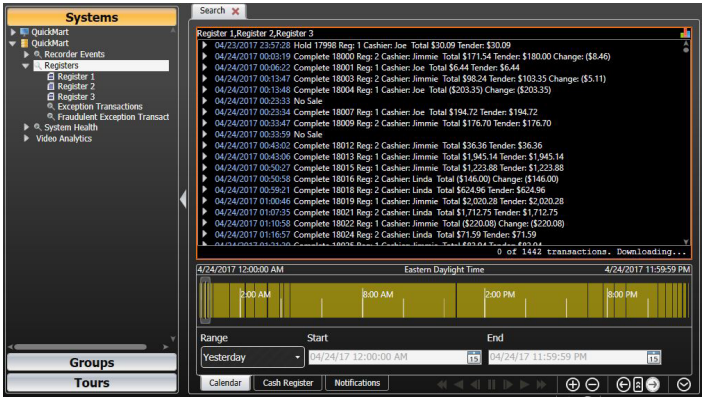
Register data can be viewed as a graph that shows Total Sales, Transaction Counts, and Sales Per Transaction, or in a readable format. You can view one register at a time, or a composite of more than one register. To display a composite:

1. Select the register parent at the top of the list of registers (in this example "Registers") and click **Live**, or simply drag the register parent into a viewing pane.

2. Alternatively, render an initial register, then continue to drag additional registers on top of the initial register to create a composite of all registers that have been dragged out.



Click the **Show Item Details** icon to switch between the bar chart and data received in readable format:



9.2 Data Mining

In DIGIOP® Connect, you can search streams of data, such as POS transactions or the Windows Event Log, for specific types of entries, or entries with specific character strings, using both Keyword Search and Filter Queries. DIGIOP® can also provide you with pre-configured custom queries. Contact your sales representative for more information.

9.2.1 Keyword Search

In DIGIOP® Connect you can perform a quick keyword search to filter data from POS transactions. The following example shows how to search the data stream for all transactions containing coffee:

1. Select the Register 1 data device then click the **Search** icon. Drag over additional registers as desired to create a composite (in this example we dragged all registers).

2. Adjust the timeline to define the time span over which you want to search for specific data.

3. Click on the data element title bar to select it. When selected, the data will be surrounded by an orange border (see above) and the Cash Register option will appear at the bottom of the frame. Click the **Cash Register** tab in the search controls section (at the bottom of the pane).

4. In the Text Search box, type in the word or partial word of interest. In this example we typed Coffee. Notice that the transactions displayed are now only transactions that contain Coffee.

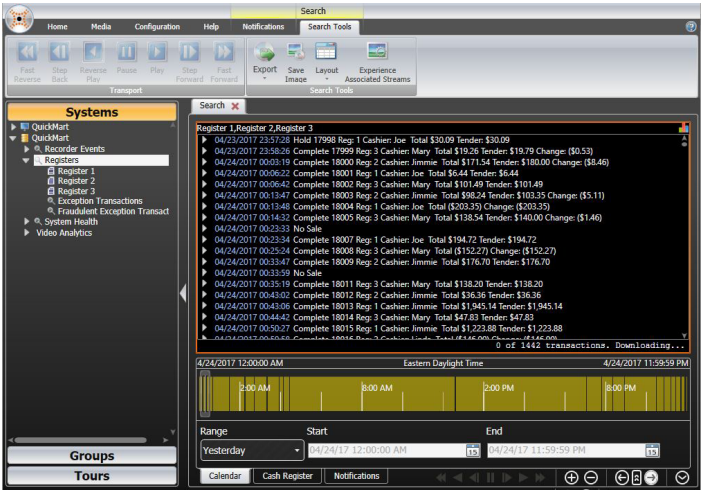
5. Additional options are also available to select a Cashier or Transaction Type to filter the data even further.

9.2.2 Filter Queries

A Filter Query can filter data from streams such as POS data, Traffic Counts, Windows Event Logs, etc. Filter Queries are easy to construct using logical search filters to detect specific information in the data. Operators such as "=, <>, >, >=, <, <=, Contains, and Does Not Contain" are provided. Expressions can also be combined to create more specific filters.

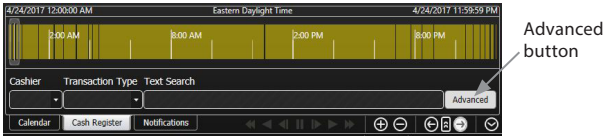
The following example shows how to search the data stream for all item totals over $200.00:

1. Select the Register 1 data device then click the **Search** icon. Drag over additional registers as desired to create a composite (in this example we dragged all registers).

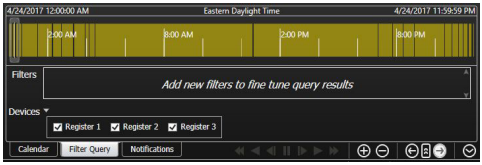


2. Adjust the timeline to define the time span over which you want to search for specific data.

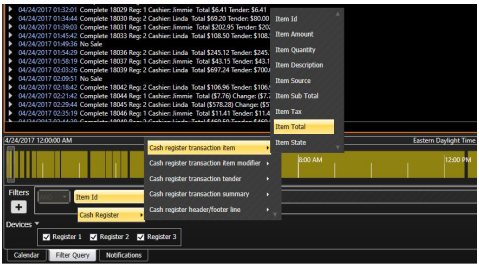
3. Click on the data element title bar to select it. When selected, the data will be surrounded by an orange border (see above) and the Cash Register option will appear at the bottom of the frame. Click the **Cash Register** tab in the search controls section, then click the **Advanced** button on the right.



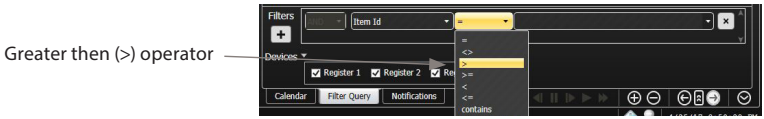
4. In the **Filters** section, click the line ***Add new filters to fine tune query results***.



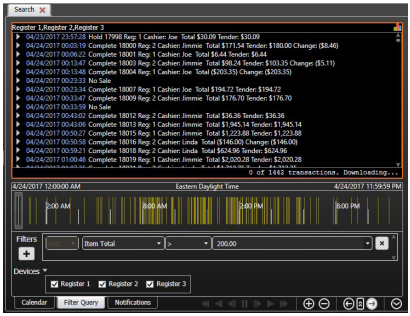
5. In the **Filters** section, open the drop-down list in the **Item ID** field and select the following: **Cash Register ▶ Cash register transaction item ▶ Item total**.



6. In the operator field, open the drop-down list and select the "**>**" (greater than) symbol.



7. In the data field, enter **200.00**. You have the option to click the "+" icon to add additional filter criteria. All filter criterion you define will be "anded" together to produce a single filter applied to the data.



Notice that the data shown above now reflects the criterion of the filter.

9.3 Associated Resources

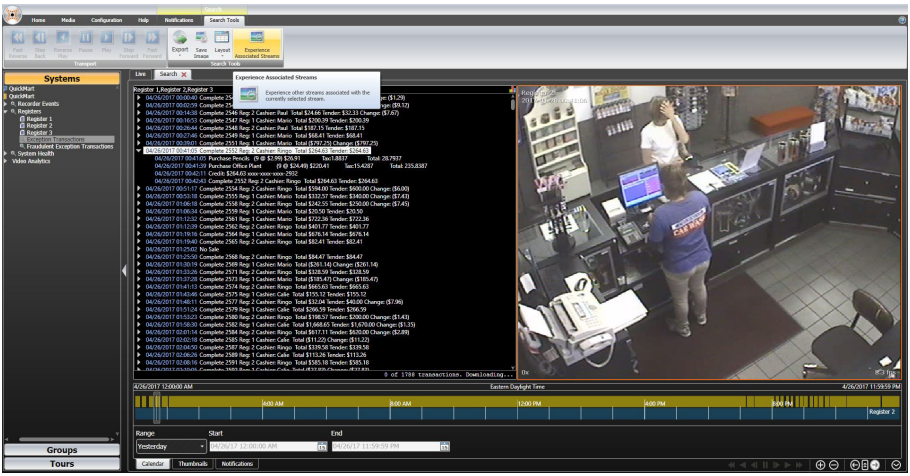
Associated Resources allow users to associate a channel(s) of video with a data stream. For instance, users can associate a camera at a cash register, with a POS transactional data stream. For more information on configuring associated streams, see ***Configuring Data***.

To view video from an associated stream:

1. Search a data stream or filter query for the data of interest that you would like to see.

2. Click on the **Show Item Details** icon to display a list of the transaction data in a readable format.

3. Under the Search Tools tab, select **Experience Associated Resources**. This will render the video stream associated to the data that you searched in a 2x1 window.



4. The above example shows a POS register with its associated transaction. Click a transaction to see the video that occurred at that register during the time of that transaction. As you continue to click through transactions, the window will adjust and display the appropriate camera and video for each transaction.

5. When searching a composite of registers, or a query that has a composite of registers, the window will adjust and display the appropriate camera and video for the associated register as you click through the transactions.

9.4 Exporting Data

The range of data selected during a search, Keyword Search, or Filter Query can be exported using DIGIOP® Connect. If there has been video associated with the data, the corresponding video can also be exported.

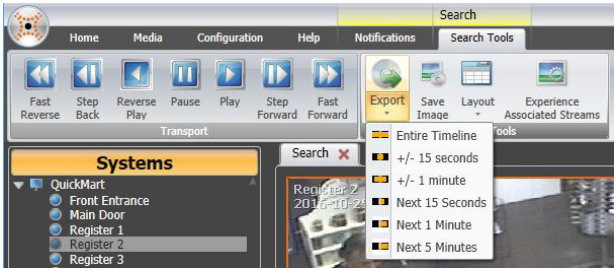
Connect can export data in either of three different formats:

- **Native XML** (One file per hour): The data file is exported in its native format. A viewer is exported with the file. If video is present, the Native option will export both the video and data at the same time to show the video and data side by side in the viewer.
- **XML** (single file): The data is exported in a single XML file.
- **CSV** (comma delimited): The data is exported in CSV. This is a common file format that can be viewed and manipulated in most spreadsheet programs such as Microsoft Excel.

To Export data:

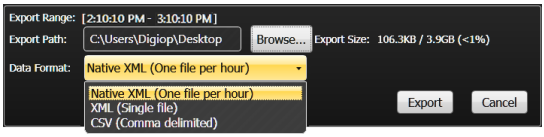
1. Establish the time range of the data to be exported. Refer to the Calendar and Thumbnails Searching.

2. Click either the top half of the **Export** icon (default for exporting the entire timeline range), or click on the bottom half of the Export icon and select one of the options.



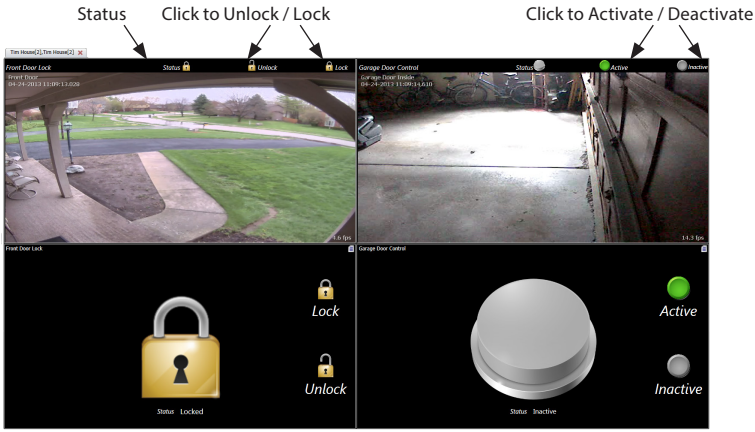
Selecting range for export

3. After the time range of the data is selected, an Export menu is displayed below the data frames. Click **Browse** to select the destination (Export Path) where the data will be sent, and select the file format from the drop-down list. The Export button becomes active when the export path and data format is established.



9.5 Using digital outputs

Some data devices compatible with DIGIOP® can include digital outputs used to control many other devices such as door locks, garage doors, alarm panels, etc. In the example shown below, click the Lock / Unlock or Activate / Deactivate icons to change the status of the device. The camera associated with the lock icons is a view of the space outside of the door or device .



9.6 Right-click pop-up menu

The Right-click pop-up menu provides quick access to common data stream options such as Search and Filter Query for the stream selected. This menu is opened by right-clicking anywhere within the stream. Only the options applicable to the stream are enabled (bold text). This feature is used with both Live and Search views. Pop-up menu options include:

- **Search**: Opens the Search tab for the selected stream. This is equivalent to selecting the stream, clicking the **Home** tab, then clicking the **Search** icon.
- **Clear**: Closes the stream displayed in the viewing pane.
- **Full Screen**: Toggles a layout between a full screen view and the application view.
- **Filter Query**: Enables you to search the selected stream for specific data recorded based on a logical filter. The result is shown in the viewing frame. For information on constructing a filter query, see ***Filter Queries***.
- **Time Format**: Toggles time relativity between the Local Time of the client, Server Time, and UTC time.
- **About**: Shows version and additional Help information for the system.
- **Remote Support**: Provides contact information and a remote support link to the DIGIOP® tech support team.
- **Export**: For use in a search tab screen. Opens a submenu where you can select a section of data to export near the position of the playback marker. You can select either Entire Timeline, +/- 15 seconds, +/- 1 minute, Next 15 Seconds, Next 1 Minute, or Next 5 Minutes.

SECTION 10
Groups, Tours, and User Startup Profiles

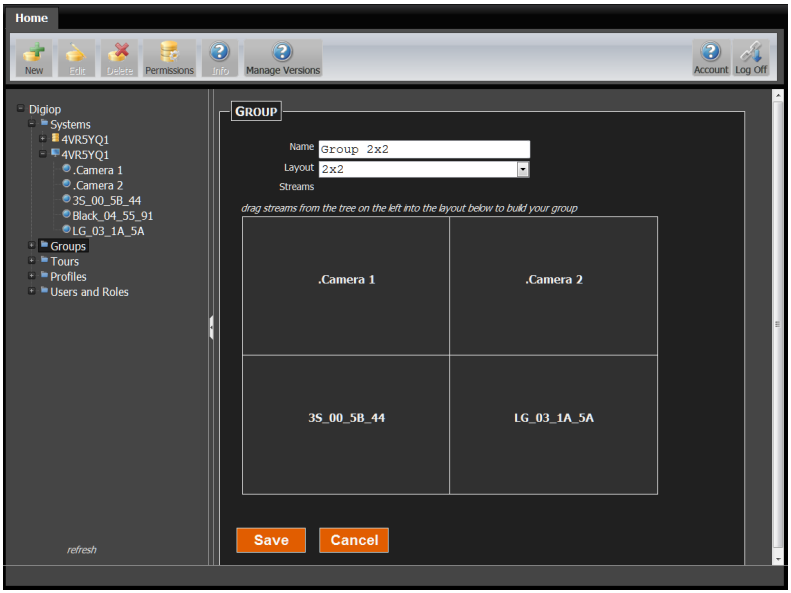
Video and Data Streams can be saved as a group. Like a System, the group name is displayed in the Groups list and can be displayed at any time. Groups can also be used to create Startup Profiles for individual users, or to create Tours that cycle through both Groups and individual streams.

10.1 Groups

Groups can be created in either DIGIOP® Control or DIGIOP® Connect. In DIGIOP® Connect the group name is displayed in the Groups list and can be displayed at any time. Only users with system configure privileges can create groups.

10.1.1 Creating and Editing Groups in DIGIOP® Control

1. Click the **Group** entry in the left frame of the Home page, then click the **New** button at the top of the window.



2. In the Group settings window, enter the name of the group in the **Name** field.

3. Open the **Layout** drop down list and select the preferred split-screen arrangement for the group. In the Example above, a 2x2 split-screen layout was selected.

4. Add a camera or data stream to the group by dragging the stream entry from the tree in the left frame and dropping it into a frame in the group layout display. Four cameras were added to the layout shown above.

5. Click **Save** to update DIGIOP® Control.

6. The new group will now appear under the **Groups** list in the left frame.

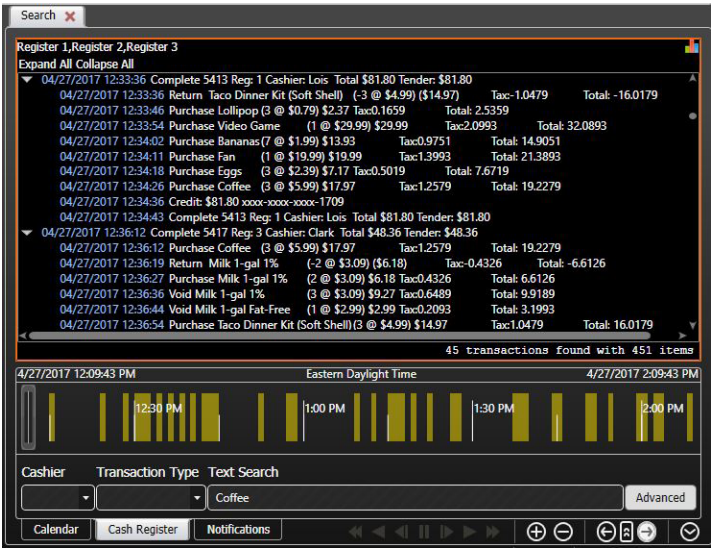
You can also edit or delete groups in this same manner by clicking the group name, then clicking **Edit**/**Delete**.

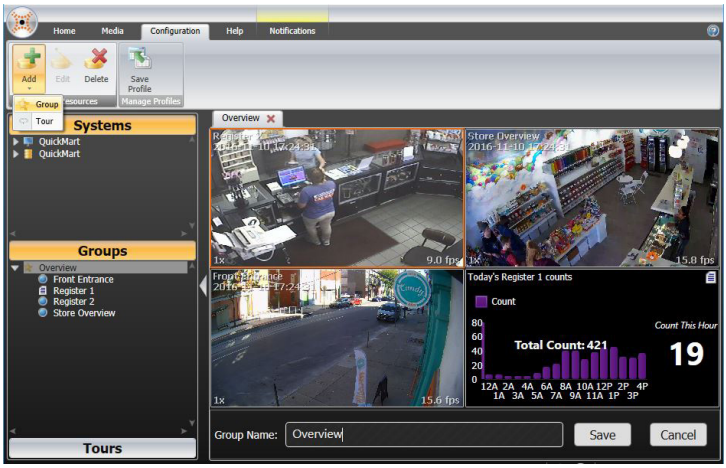
10.1.2 Creating Groups in DIGIOP® Connect

1. Select a layout option for the Group.

2. Drag video and/or data sources into the viewing frames to form the Group.

3. Click the **Configuration** tab, **Add**, and then **Group**. Enter the name of the group and click **Save**.





10.1.3 Viewing Groups

To view a group in DIGIOP® Connect, do the following:

1. Click the **Home** tab, click the **Groups** title bar, select the desired group and then click the Live icon.

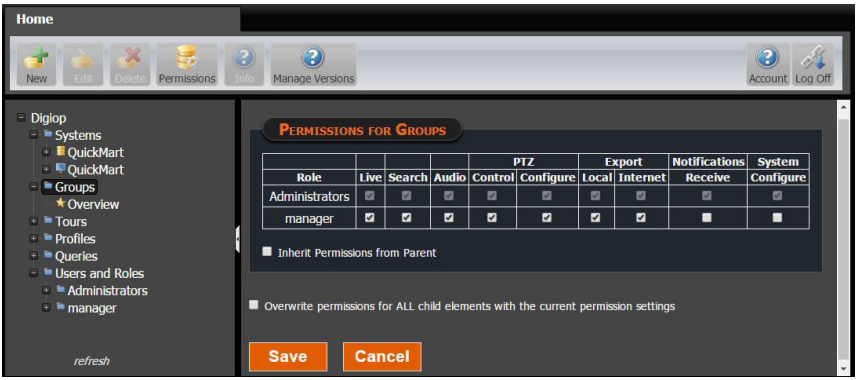
2. Alternatively, click and hold down the mouse button on a group listed in the **Groups** list, and then drag it to a viewing frame.

3. To view individual items in a group, click the **Groups** title bar, then click the drop-down to the left of the group name you created. Click one of the video or data streams under the group, and click the **Live** icon.

10.1.4 Group Permissions

After a group has been created, members of the Administrators role will automatically be able to view the created groups. For other roles to be able to view the groups, the group permissions will need to be set:

1. In DIGIOP® Control, click **Groups** in the system tree, then click the **Permissions** icon at the top of the window.



2. If checked, uncheck the **Inherit Permissions from Parent** box. When checked, all groups are receiving their permission set from its parent, the customer. Unchecking this box will allow you to set a specific set of permissions for all groups.

3. In the **Permissions for Groups** frame, assign permissions to each role by clicking the checkbox associated with the function of the role.

4. After assigning permissions, if you check the box for **Overwrite permissions for ALL child elements with the current permission settings** all of the permissions just created will be applied to all of the individual groups. If this is not checked, permissions will need to be set for each individual group.

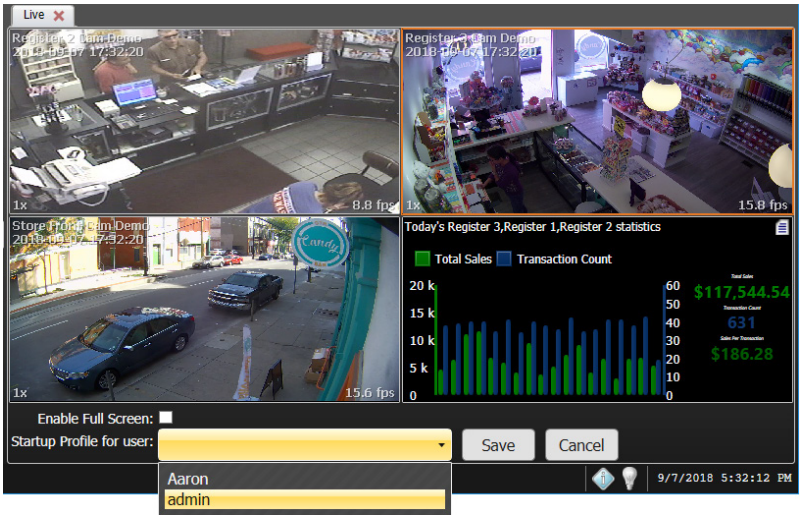
5. Click **Save** to update DIGIOP® Control.

10.2 User Startup Profiles

Users with System Configure privileges can create User Startup Profiles through DIGIOP® Connect. Profiles are pre-configured display setups that appear when a user logs in to Connect.

10.2.1 Creating User Startup Profiles

1. Log into DIGIOP® Connect with a Username and Password that have System Configure privileges.
2. Select a layout option for the Startup Profile.
3. Drag video and/or data sources into the viewing frames.
4. Click the **Configuration** tab, then click **Save Profile**.

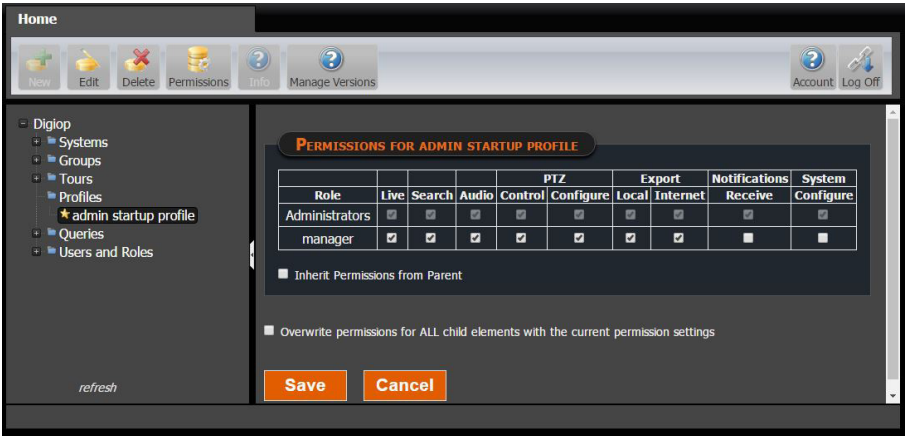


5. At the bottom of the Connect window, open the **Startup Profile for user:** drop-down list, then click the username you want to assign the profile to. In the example above, username *admin* was selected.
6. Check the box for *Enable Full Screen* if you would like the Startup Profile to launch in full screen.
7. Click **Save** to retain the profile.
8. After creating a profile, you will need to verify that the user's role has permissions to view profiles.

10.2.2 Profile Permissions

To set permissions for Profiles:

1. Click the **Profiles** link in the left frame, then click the **Permissions** icon at the top of the window.



2. If checked, uncheck the **Inherit Permissions from Parent** box. When checked, all Profiles are receiving their permission set from its parent, the customer. Unchecking this box will allow you to set a specific set of permissions for all Profiles.

3. In the **Permissions for Profiles** frame, assign permissions to each role by clicking the checkbox associated with the function of the role.

4. After assigning permissions, if you check the box for **Overwrite permissions for ALL child elements with the current permission settings** all of the permissions just created will be applied to all of the individual Profiles. If this is not checked, permissions will need to be set for each individual Profile.

5. Click **Save** to update DIGIOP® Control.

10.2.3 Delete Profiles

While User Startup Profiles are created in DIGIOP® Connect, they can only be deleted in DIGIOP® Control.

To delete a user's startup profile:

1. Drop down **Profiles** in the left frame, click the profile name you want to remove, then click **Delete**.

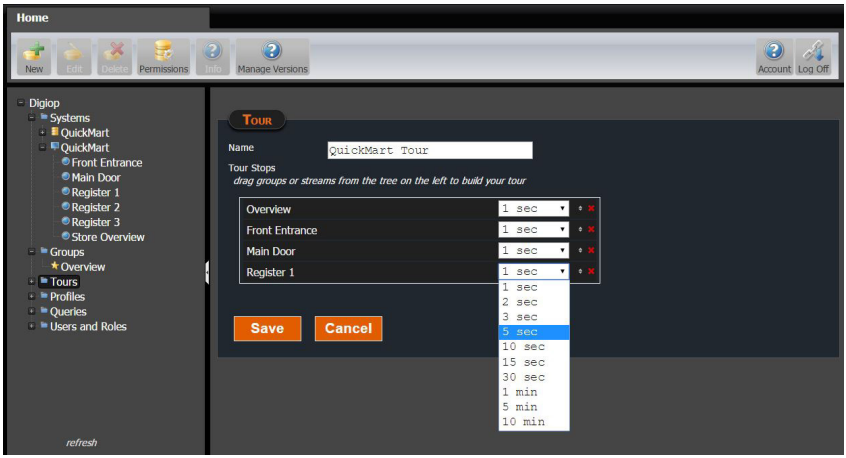
10.3 Tours

A Tour is a collection of video streams, data streams or groups that are displayed individually and sequentially with a pause time (dwell) on each item. The dwell time for each item can be either 1 sec, 5 sec, 10 sec, 30 sec, 1 min, or 5 min. The tour can be played, paused, and manually stepped forward to the next image(s).

Users with system configure privileges can create Tours through DIGIOP® Control or DIGIOP® Connect. Tours can be played in DIGIOP® Connect.

10.3.1 Creating and Editing Tours in DIGIOP® Control

1. Click the **Tour** entry in the left frame of the Home page, then click the **New** button at the top of the window.



2. In the Tour settings window, enter the name of the tour in the **Name** field.

3. Add a camera, data stream or group to the tour by dragging an element from the tree on the left.

4. Click the down arrow to the right of the item, then select the dwell time for the item.

5. Repeat the two steps above to add additional streams or groups to the tour. The Tour configured above includes four cameras with a dwell time of 1 to 5 seconds.

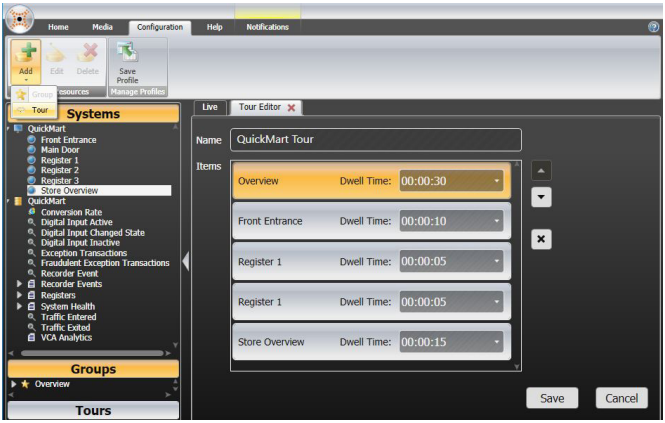
6. Click **Save** to update DIGIOP® Control.

You can also Edit or Delete Tours in the same manner by clicking the tour name, then clicking **Edit**/**Delete**.

10.3.2 Creating Tours in DIGIOP® Connect

To construct a tour in Connect, do the following:

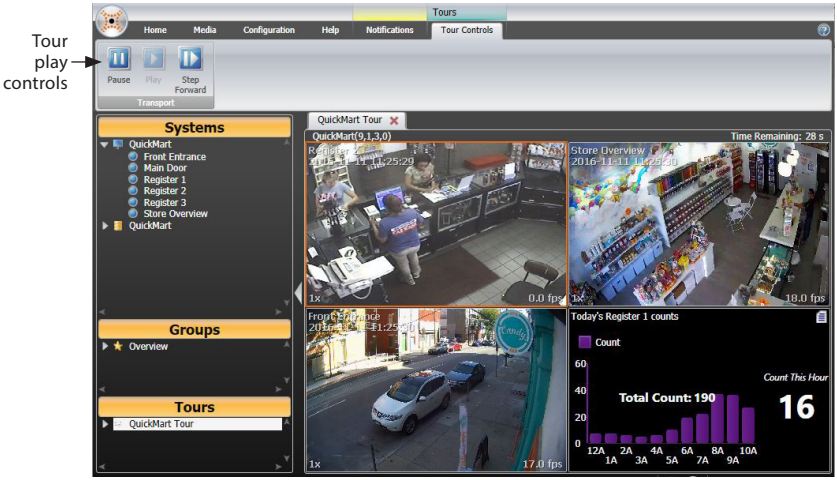
1. Select the Configuration tab, click **Add**, then click the **Tour** icon.



2. In the Tour Editor tab:
   a. In the **Name** field, enter a name for your tour. In the example below, the tour is named "**QuickMart Tour**".
   b. Drag individual cameras or data sources, systems, or groups from the left frame into the **Items** box.
   c. For each item added to the tour, click the down arrow on the right of the entry to open dwell time selection window, then click the dwell you want to assign to the item in the tour.
   d. For each item added to the tour, you can drag the item or use the up and down arrows to the right to change the order of the items.
   e. Click **Save** to save your tour.

10.3.3 Viewing Tours

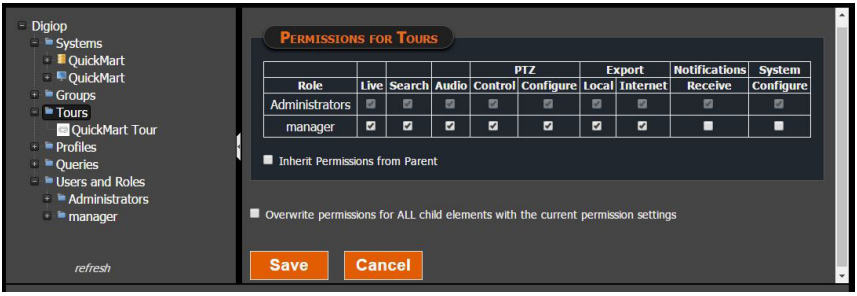
In DIGIOP® Connect, drop down the Tour menu in the left frame. Select the tour and select **Live** from the Home tab, or drag the Tour name to a pane in the viewing frame. Click the tour play control buttons in the upper-left corner to "**Pause**", resume "**Play**", and "**Step Forward**".



10.3.4 Tours Permissions

After a tour has been created, members of the Administrators role will automatically be able to view the created tours. For other roles to be able to view the tours, the tour permissions will need to be set:

1. Click the **Tours** link in the left frame, then click the **Permissions** icon at the top of the window.



2. If checked, uncheck the **Inherit Permissions from Parent** box. When checked, all tours are receiving their permission set from its parent, the customer. Unchecking this box will allow you to set a specific set of permissions for all tours.

3. In the **Permissions for Tours** frame, assign permissions to each role by clicking the checkbox associated with the function of the role.

4. After assigning permissions, if you check the box for **Overwrite permissions for ALL child elements with the current permission settings** all of the permissions just created will be applied to all of the individual tours. If this is not checked, permissions will need to be set for each individual tour.

5. Click **Save** to update DIGIOP® Control.

10.3.5 Deleting Tours in DIGIOP® Connect

To delete a tour:

1. Close the tour if it is running.

2. Click the **Configuration** tab at the top of the window.

3. In the **Tours** list, click the tour entry you want to delete.

4. Click the **Delete** icon in the **Configuration** tab.

APPENDIX A
Hard Drive Configuration

DIGIOP® factory pre-configured systems have specific hard drive partitioning.

- DIGIOP® systems are configured using multiple partitions.
- Partitions may contain the operating system, drivers, and setup or data files.
- Most files and software are in folders named DIGIOP or DissTech.

Table 1. Drive Partitions

Drive	Size	Description
CAUTION	Do not access or modify any drives unless specifically directed to by DIGIOP® Technical Support. Most files are encrypted and affect system operation.	
System C:\	Approx. 150GB	Windows OS and the system software; Windows folder structure
DATA D:\	Dependent on HDD size	DissTech (video files), Database, and Index files

OTHER DRIVES

Depending on the configuration of the system and the amount of storage space available, other drives may be used for data storage. Once the system has consumed all DATA storage drives, it searches for the next drive in alphabetical order and starts recording data on that drive. Data is written on a first in/first out basis. As the data drives start to fill, they will automatically record over the oldest video.

NOTE *Any drive 16GB or greater in size is considered by the system to be a storage device. The system will attempt to write data to it.*

APPENDIX B
Adding DIGIOP® Licenses

DIGIOP server licenses enable the capabilities of the system. A base system license that enables cameras is normally activated on the server using the System Setup Tool during system installation. Additional licenses for adding additional cameras and enabling data features can also be activated during system installation, or acquired and activated later.

If a full system recovery is performed on the server, the base license and all additional licenses used must be re-activated. Licenses purchased with factory pre-configured systems are usually provided on stickers on the case of the server hardware.

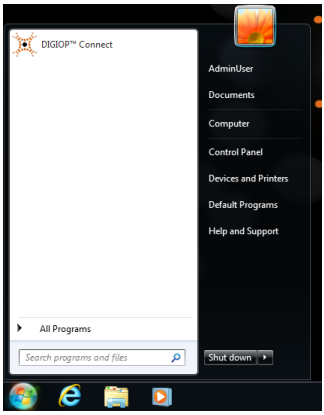
NOTE *The license examples shown in this Appendix may be different from the ones required for your system. Consult your DIGIOP® sales representative for more information.*

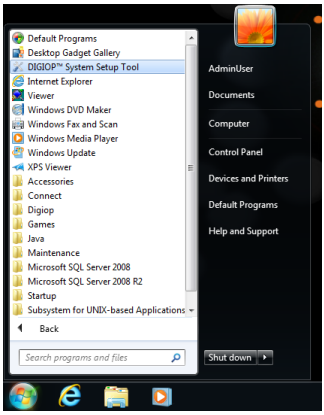
Installing additional licenses

To install additional licenses, do the following:

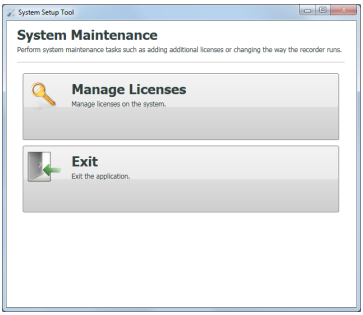
1. Acquire your new License ID and Password from your DIGIOP® sales representative.

2. Click the Windows **Start** button, then select **All Programs** to open the program list. Depending on your system configuration, the Start menu and programs list may appear different from the screen captures shown below.

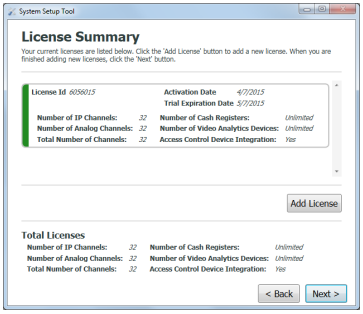




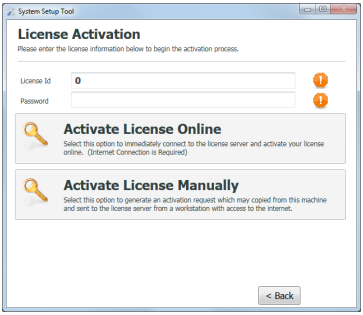
3. In the All Programs list, open the **DIGIOP™ System Setup Tool**.
4. In the System Maintenance window, click **Manage Licenses**.



5. On the License Summary display, click **Add License.**



6. On the License Activation display, enter your new **License ID** and **Password.**



7. Select **Activate License Online** if you have an Internet connection. Otherwise, select **Activate License Manually** and follow the on-screen instructions to complete the activation.

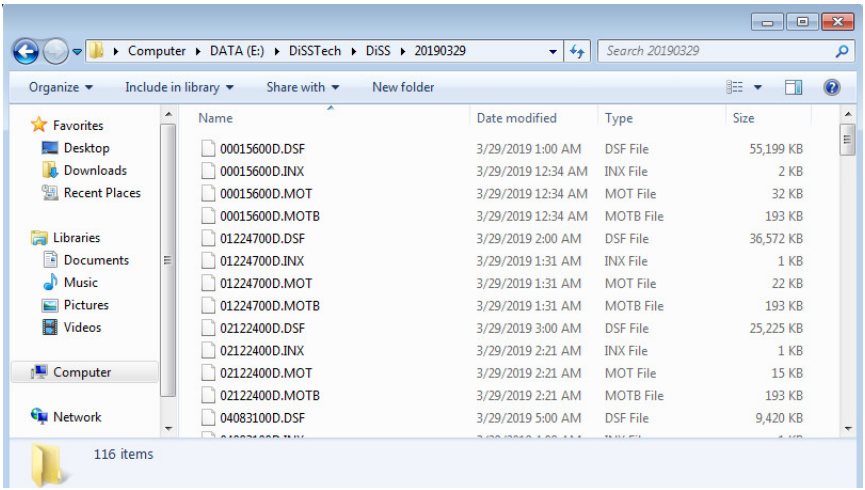
APPENDIX C
File Naming Conventions

NOTE *Any drive 4GB or greater in size is considered a storage device by the system.*

DAILY DIRECTORIES

Each day the system runs, the Server application creates a new directory under DiSSTech\DiSS. These daily directories are formatted as YEAR-MONTH-DAY (yyyymmdd).

Example: The highlighted directory named 20190329 is for 29 March, 2019.

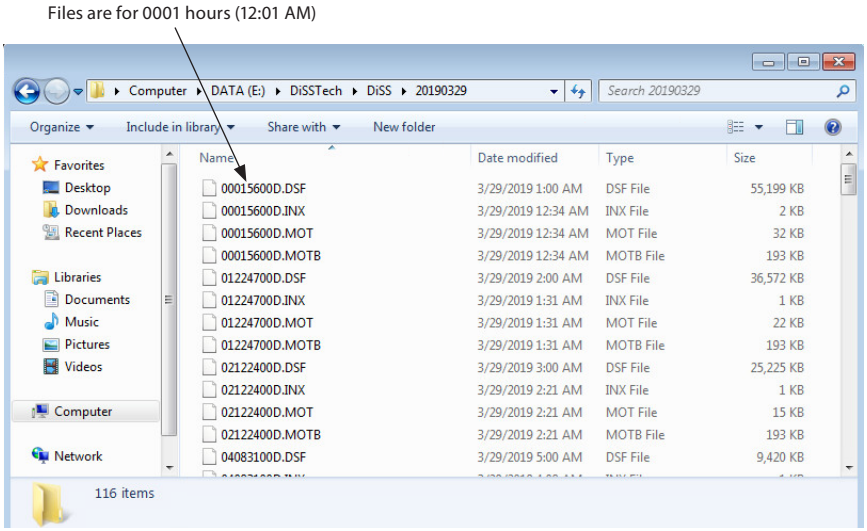


File Naming Convention

In each daily directory, files are saved in encrypted .DSF, index (.INX), and motion (.MOT or MOTB) formats. The .DSF file can be viewed using a utility, such as *Viewer.*

These hour files are in the format HOUR (24 hours)–MINUTE–SECOND–CAMERA CODE–EVENT CODE, using two digits each (hhmmsscce). Possible Event Codes include "D" for Daylight Savings Time used, and "S" to indicate it is video from the camera's secondary stream.

Example: The file called 00015600D.DSF is the hourly video file for the .INX and .DSF files in directory 20190329.



For the example above:

- HOUR = 00 (12 AM)
- MINUTE = 01 minutes
- SECOND = 56 seconds
- CAMERA CODE = Camera 00 (Camera 1 is 00, Camera 2 is 01, Camera 3 is 02, etc.)
- EVENT CODE= D

The video file size depends largely on the duration of the recording, the recording modes (e.g., motion versus continuous), and compression type.

APPENDIX D
TCP/IP Port Configurations

You can access DIGIOP ELEMENTS™ cloud hosted systems from a location that is outside of the Local Area Network of the DIGIOP® Server you are using to view video and data in DIGIOP® Connect. If there is a firewall between the DIGIOP Server and the PC at the remote site, you must forward ports in your router and in any software firewalls to allow communications. Information herein includes TCP/IP port settings and router port forwarding settings for a basic DIGIOP server setup. For more advanced configurations, including custom port configuration for multiple servers behind the same public IP address, refer to *How-to Remotely Access DIGIOP* located on *Digiop.com*.

DIGIOP Connect Remote Access TCP/IP Settings

To be able to launch Connect and view video remotely, the following inbound ports must be forwarded:

Web Service Ports	Ports 24752 and 443 TCP
Video Service Port	Port 24754 TCP

DIGIOP Elements TCP/IP Settings

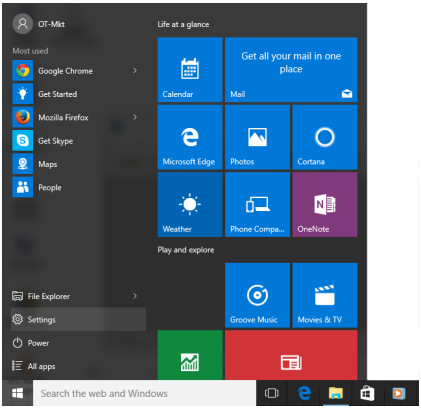
Systems hosted by DIGIOP Elements Cloud Hosting also utilize outbound ports. Most firewalls do not restrict outbound access, but if your location has outbound restrictions, you must allow outbound access for the following ports:

Web Service Ports	Ports 24752 and 443 TCP

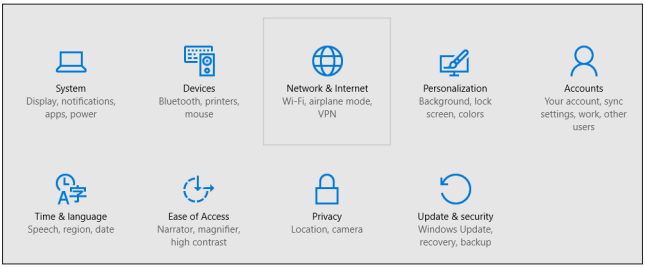
Opening Ports in Windows Firewall for Data Devices

The Web Service Port and Video Service Port needed for DIGIOP Connect and DIGIOP Control are automatically configured in the Windows Firewall by the DIGIOP Server Installer. However, if you are integrating data devices with DIGIOP, you may need to open additional ports in Windows Firewall. The steps shown below are for a Windows 10 system.

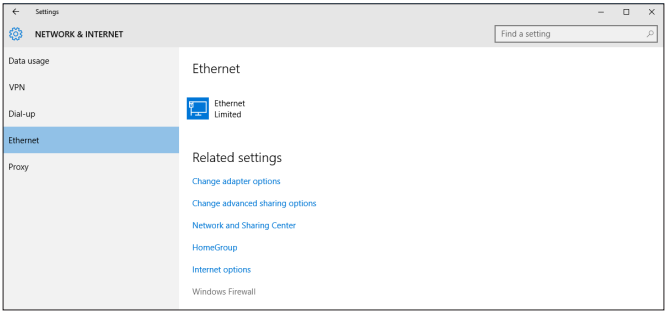
1. Click the Windows **Start** button and then open the **Settings** window.



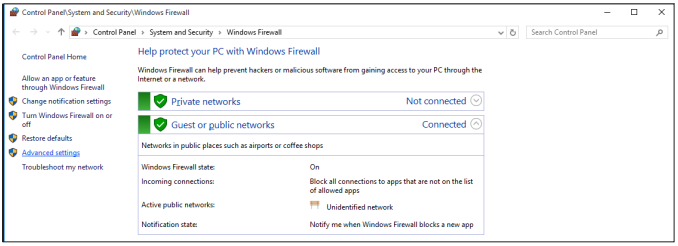
2. In the Settings window, click the **Network & Internet** icon.



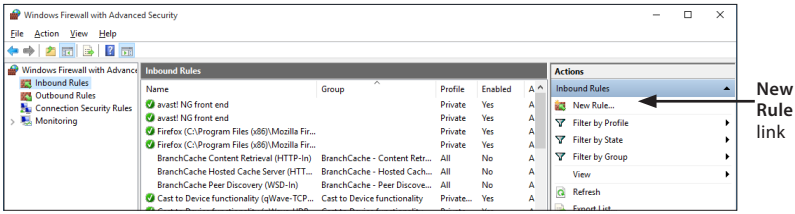
3. In the **Network & Internet** window, click the **Ethernet** link in the left frame, and then click on **Windows Firewall**.



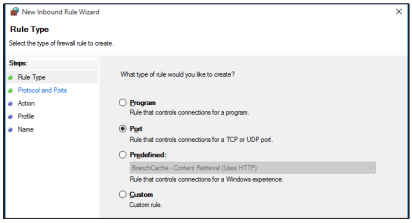
4. In Windows Firewall, click **Advanced Settings**.



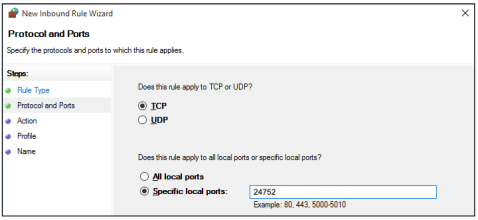
5. Click on **Inbound Rules**, and then select **New Rule** from the **Actions** menu on the right side of the window.



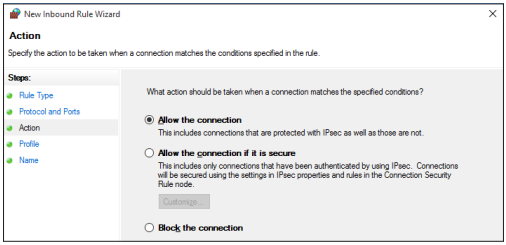
6. In the **New Inbound Rule Wizard**, choose **Port** and then click the **Next** button at the bottom of the window.



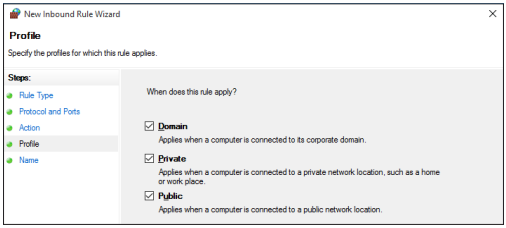
7. Set the protocol to TCP and then enter the TCP port number configured for the data device. Click **next**.



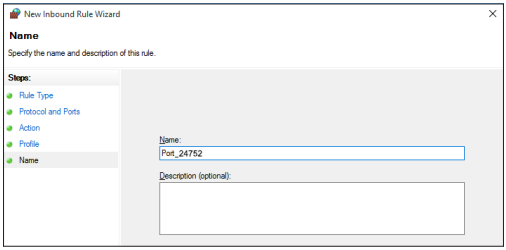
8. Choose **Allow the connection**, and then click the **Next** button at the bottom of the window.



9. Select all profiles (**Domain**, **Private**, and **Public**), then click the **Next** button at the bottom of the window.



10. Give the rule a unique name, and then click **Finish**.



APPENDIX E
DIGIOP® Software Upgrades

To upgrade your existing server, verify that it meets at least the minimum hardware specifications:

- **CPU**: Intel® Core™ i3 or equivalent processor (Core™ i7 recommended)
- **RAM**: 4GB RAM (8GB or more recommended)
- **HDD**: 250GB, 7200 RPM (add additional HDDs for more storage space)
- **Video Card**: 256MB (or better)
- **OS**: Microsoft® Windows 10 Professional (with 64 bit OS).
  DIGIOP® server also runs on Microsoft® Windows 7/8/8.1, Server 2012, and Server 2016.

Please contact DIGIOP Support for the latest version of the DIGIOP Application Installers.

For DIGIOP Elements hosted servers

Please contact DIGIOP Support to have them assist with the upgrade.

For Stand-Alone servers running DIGIOP Server software V9.0 – V9.6

Installation method: These systems can be upgraded by running the DIGIOP Server Application Installer.

For Stand-Alone servers running DIGIOP Server software V8.5 - V8.8

Installation method:

1. Stop all DIGIOP services. Run the DIGIOP Server V9.0 Application Installer.
2. After the upgrade to V9.0 is complete, run the latest DIGIOP Server Application Installer.

For servers running DIGIOP Server software V8.0 or V8.1

DIGIOP Servers with V8.0 or V8.1 cannot be directly upgraded to Digiop Server 9.6 because of a difference in database types. With these servers, you must perform a complete uninstall and reinstall of the software, or do a system re-image.

For servers running Digiop Server software V6.x – V7.x

Please contact your DIGIOP® sales representative for upgrade options.

DIGIOP CONNECT

DIGIOP Connect must be at the same version or a higher version than the version of DIGIOP Server it is connecting to.

APPENDIX F
Using Viewer

Viewer is the video player included when you export a video recording in its native format (.dsf).

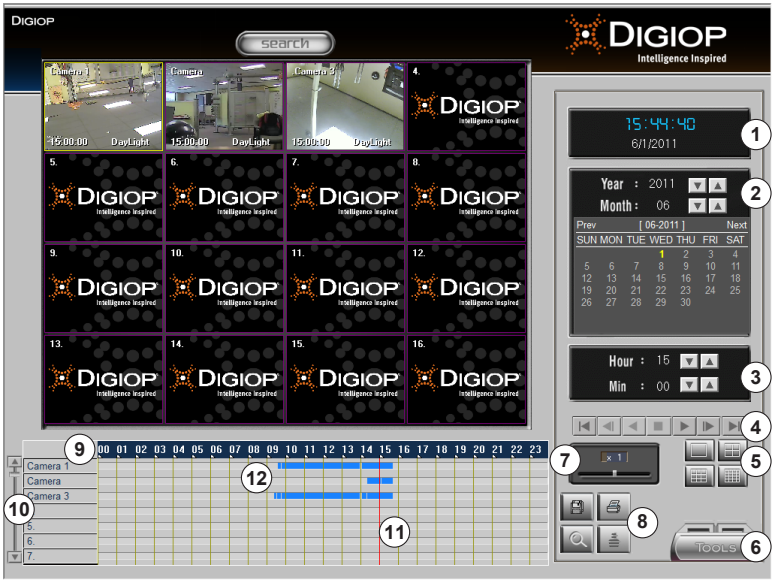


Table 2. Search Preferences

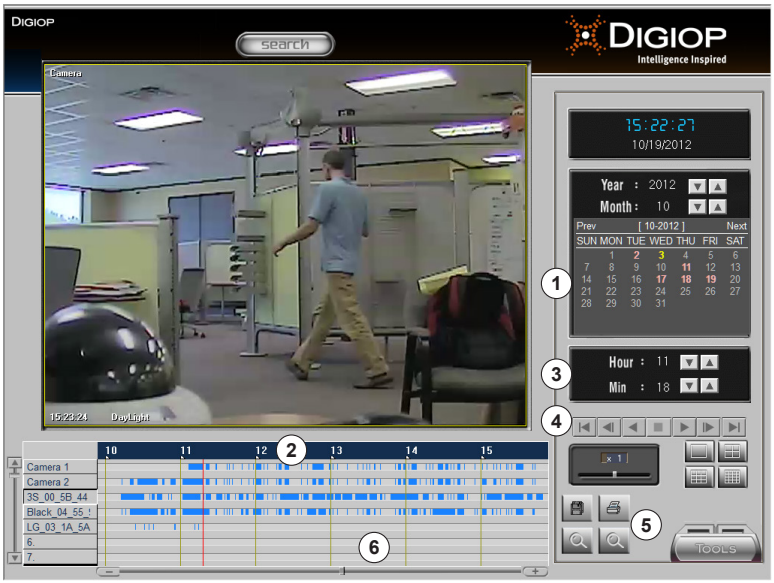
Item	Name	Description
1	Current Date & Time	Displays the PC date and time
2	Record calendar	Use the calendar to find recorded video on the desired search date. Use the **Prev**(ious) or **Next** links to move the months forward or backward in time. Use the Up/Down arrows to adjust the Year and Month. Date codes: Pink – recordings available on that date Yellow – currently selected date Grey – no recordings on that date.
3	Time Line (Hour/Min)	Displays the current video time. Clicking anywhere on the time line causes the Scan Bar to jump to that position/time. Use the Hour and Minute up/down arrows to locate known records. This option is synchronized with the Scan Bar so any change to the Scan Bar position will be reflected here.
4	Playback Controls	Play, Stop, Pause, FWD, Step Forward, Step Backwards. See the section "Playback Controls" in this guide for more information about these controls.
5	Screen division display	Switches from 1, 4, 9, or 16 images. Individual images can be removed from the split screen by clicking the camera button (left of the graphical record log). The selected Screen Mode is highlighted.
6	Tools (image adjust)	Temporarily adjusts the image settings of the video recording being played. The image settings revert back to the default settings after playing the video. The image settings cannot be saved.
7	Playback speed	Lets you choose forward or playback at speeds of 1/8X, 1/4X, 1/2X, 1X, 2X, 4X, and 8X real-time speed. To adjust the playback speed, either drag the slide control or click on the slide control bar. The speed is displayed in the playback window.
8	Print, Zoom	Print – Prints the image
		Image Zoom – Magnifies the image in 48 incremental steps. Right-click with the mouse. When you place the mouse over the image, the cursor changes to the +/- magnifying glass. Clicking the left mouse button zooms out to a 1:1 ratio. By moving the mouse to different areas of the image, you can zoom in on parts on the image that you need to look at in more detail. This means that the zoom does not need to be centralized in the middle of the screen to work. See the section "Zoom" in this guide to see a zoomed image.
9	Graphical record log	Displays a 24 hour time period for the time and date selected. Double click to zoom in on the time line. The time zooms in from 24 hours to single hours. By double clicking the time line, the time line zooms in for searches in smaller time increments. Different colors represent different recording modes: pink=continuous; blue=motion; red=sensor. See the section "Manipulating the Graphical Record Log" in this guide for more information about how to use the timeline features.
10	Cameras selector and scroll bar	Displays camera images in multi-screen divisions of 1, 4, 9, and 16 cameras. Cameras not selected are not visible. For single images, use the camera selection buttons to move the displayed image from one camera to the next. For multi-screen divisions, use the camera selection buttons to select or de-select each camera from the search/display. The scroll bar can be used to access the other cameras not shown.
11	Scan bar (cursor)	Lets you slide a scan bar along the time line and quickly select and view video. A preview pane displays the images as soon as the files are accessed. By double clicking the time line, the time line zooms in for searches in smaller time increments.

F.1 Searching for Recorded Video

The Graphical Record Log is used to search for the video record you need. To search for a video record:

1. Select a camera whose video you want to search. The selected camera is outlined in yellow in the viewer.

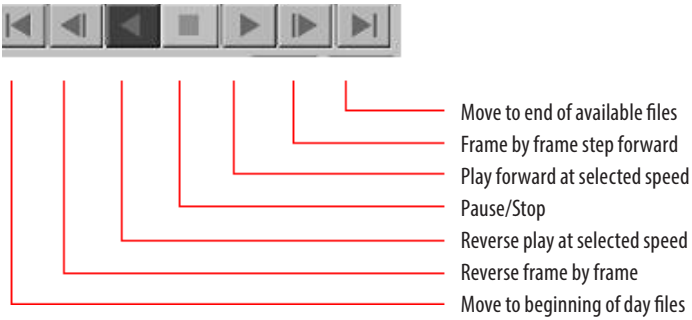
2. Look at the calendar [1] to see when recorded video for the camera is available. Dates in pink indicate video was recorded on that day.



3. Select a date from the calendar of the video event you want to see. The video begins to run in the viewer.

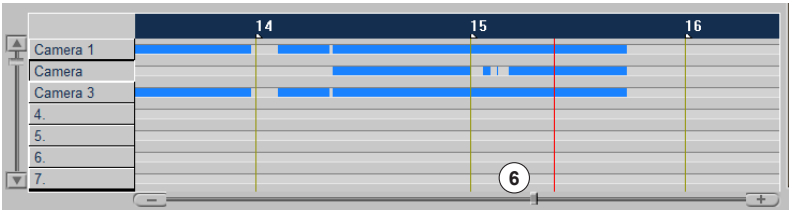
4. The timeline is first displayed in 24 hour intervals. Click anywhere on the timeline to select an hour [2]. You can also select the date from the calendar [1, above] and change the hour or minute with the up and down arrows on the Hour/Min clock [3].

5. Use the video controls [4] to control the video playback. Be prepared to stop and rewind the video, fast forward, etc., to locate the desired segment. Speed up or slow down the playback speed of the video [6] using the slide control. The maximum playback speed is "8X."



6. Double click once on the dark bar at the top of the time line to zoom in to a shorter time interval. The time zooms in (expands) from 24 hours to approximately six hours, with the selected time roughly in the center of the time line.

7. Slide the vertical scan bar along the time line to another time. You can also move the slide control below the time line [6] to the right or left to change the time.



8. Double click a second time to zoom to a shorter time interval. The time line now shows slightly more than three hours. (The next time you double click, the time line returns to the 24 hour time period).

9. When you locate the desired section of video, you can zoom in to see more details. Zoom magnifies the image in 48 incremental steps.

10. The buttons [5] at the bottom of the window are used to print a still image and zoom into (or out from) the video image in the frame.