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SECTION 1

Introduction

SC Black Reflection is an intelligent video dashboard that allows you to remotely manage live and recorded video from SC Black digital video recorders.

Reflection uses a tabbed interface design that permits multiple layouts of up to 36 cameras per tab, which provides flexibility when monitoring cameras from many DVRs concurrently. You can create groups of cameras from a single DVR or from multiple DVRs across your network.

Powerful search features enable you to quickly find segments of video. Reflection includes features such as Replay search for the last 1, 2, 5, or 15 minutes of recorded video, a complete timeline slider tool for precise time-based searching, and an innovative thumbnail search that displays images from the defined time segment.

1.1 Installing Reflection

Download Reflection from the SC Black web site at: www.sc-black.com. During the installation process, essential software components (Microsoft® .NET Framework, etc.) may also be downloaded and installed.

After the download is complete, perform the following steps to install Reflection:

1. Double click (or Run) the ReflectionInstaller.exe file.

2. Follow the installation prompts to install the Reflection on your computer. After you click the Finish, the Reflection icon will appear on the desktop and in the Windows Start Menu.

1.1.1 Software updates

Check for software updates after installing Reflection, and then regularly afterwards. Updated software ensures that you have the most recent enhancements for both the Reflection software and online help.

NOTE

Installing a Reflection software update will not change any of your configuration settings (including video and data source settings) made previously.
To update Reflection software:

1. Launch Reflection by double clicking the desktop icon or opening it from the Start menu. The Reflection login window will open. See Figure 1.

2. On the Language line of the Welcome window, click the down arrow to open a dropdown list, and then click the language you prefer to use.

3. Click Login to start Reflection.

4. Click the SC icon in the upper-left corner of the Reflection window, and then click Check For Updates in the dropdown list. See Figure 2.

Figure 1: Reflection Login window
5. Click Check For Updates.

6. If the Reflection software is current, a message prompt will be displayed stating Your software is up to date.

If the Reflection software needs to be updated, a message prompt similar to that shown in Figure 3 will be displayed.
SECTION 1: INTRODUCTION

7. Click the Next button and then follow the other update prompts. When finished, the Welcome to the Reflection Setup Wizard will be displayed. See Figure 4.
8. Click the Next button and then follow the on-screen instructions to complete update process.

### 1.1.2 Login

To login to Reflection:

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

2. If your language preference is other than that shown on the Language line, click the down arrow to open a dropdown list and then click the language you prefer to use.

3. If the site you want to connect with is not shown on the Site line, click the down arrow to open the dropdown list and then click the site you want to view.

   - If choosing (local), no other entries may be required. Click Login to open Reflection.
   - If choosing a site other than (local), the Username, Password, and Customer lines are highlighted. Enter the appropriate information on these lines, and then click Login.

### 1.1.3 Online help

Online Help is available within the Reflection software window. To access the Help feature:

1. Either click the Help icon in the upper right-hand side of the Reflection window, or click the SC icon in the upper left-hand corner and then select View Help. A Reflection Help window will open. See Figure 5.
2. Each item in the Contents tab can be expanded by clicking the + symbol. Clicking the - symbol collapses the content. Index and Search methods are also available within Help.

1.1.4 Logout

To log out of Reflection and return to the Reflection Login window, click the SC icon in the upper left corner of the Reflection window, and then click Logout.
SECTION 2
Configuring Reflection

When Reflection is installed and launched for the first time, the Configuration tab is displayed. See Figure 6. After the initial DVR is configured, DVRs can be added by following the steps in the Adding Additional Sources section.

2.1 Initial DVR configuration

To enter a DVR or Data Server to Reflection after the initial installation, perform the following steps:

1. Launch Reflection by double clicking the Reflection icon on the desktop.
2. Click Login.
3. Click the Configuration tab. The Manage Resources icons are displayed.
4. Enter the DVR configuration fields with the information necessary to identify your source. It may include:

   - IP Address or Hostname – This is the IP address or the host name of the DVR.
   - Username – This is the username that is to be used to access the DVR.
   - Password – This is the password associated with Username.
   - Port – (Visible for data servers only.) The TCP/IP port number that Reflection will use to connect to the data server. The default port number used by Reflection is 24752.
   - Time zone – (Visible for Video Servers only). Select the time zone where the DVR is located.
   - Name (optional) – This is the name that identifies the DVR or Data Server within Reflection.
   - Description (optional) – This is a description for the system.

5. Click Save. Reflection will connect to the DVR or Data Server and display the Name in the left panel Systems list. See Figure 7.

![Figure 7: List of Available Systems](image)

### 2.2 Adding additional sources (DVRs or Data Servers)

To add additional DVRs or Data Servers to Reflection:
2.3 Editing and deleting sources

To edit a source, perform the following steps:

1. Click the Configuration tab.
2. Click the Manage Sources icon.
3. Select (click to highlight) the item within the Systems or Groups lists to be edited.
4. Click Edit.
5. Make the necessary changes to the information in the configuration fields, and then click Save.

To delete a source, perform the following steps:

1. Click the Configuration tab.
2. Click the Manage Sources icon.
3. Select (i.e., click to highlight) the item to be deleted within the Systems or Groups lists.
4. Click Delete.
5. Click OK to confirm the deletion.

### 2.4 Refreshing sources

The Refresh feature updates the Reflection window after changes were made to the DVR or data sources. For instance, if a camera name in a DVR to which Reflection is connected was changed, then the new name will appear after the Reflection window is refreshed.

To perform a refresh, do the following:

1. Click the Configuration tab.

2. Click the Manage Sources icon.

3. Select the source to be updated within the Systems or Groups lists.

4. Click Refresh to update Reflection.
SECTION 3

View Video or Data

With Reflection you can view video from multiple cameras, or from multiple sources, in a variety of viewing layouts, with up to 36 camera images on a single tab.

To view video or data:

1. Click the triangle to the left of a System Name to expand it’s list. For Video Servers, the camera list is displayed. For Data Servers, data channels are displayed. See Figure 8.

![Example of Available Systems with Camera List Expanded](image)

2. Click the Home tab, and then click the Live icon (or open the dropdown list under the Layout icon to select the layout of camera images to be shown).

3. 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. Repeat with other items listed in the Systems or Groups lists that you want to see. See Figure 9.
3.1 Creating Groups

Camera images in Reflection can be saved as a group. The name given to a group is displayed in the Groups list. Like a system, a group can be displayed at any time.

To save displayed camera images as a group name, do the following:

1. Open a selection of camera images or data sources in the viewing frames.

2. Click the Home tab, and then click the Save Group icon. See Figure 10.
3. Enter a group name and then click Save. The group name will appear in the Groups list. To see the cameras in the list, click the triangle to the left of the group name. See Figure 11.
To view the items in a group, do the following:

1. Click the Home tab, and then click the Live icon (or open the dropdown list under the Layout icon to select the layout of camera images to be shown).

2. Click and hold down the mouse button on an item listed in the Groups list and drag it to a viewing frame. The video or data stream from that item will appear. Repeat with other items listed in the Systems or Groups lists that you want to see.

### 3.2 Viewing frame functions

Video from individual cameras can be:

- double-clicked within the viewing frame to toggle to and from a single-pane view
- selected (highlighted) in the Systems or Groups lists and viewed as live video
- played back (simultaneously affects all displayed video panes) from 1, 2, 5, or 15 minutes
- searched

Viewing frames can be selected (i.e., highlighted) by mouse click and:
displayed as Full Screen (type the ESC key to revert back)
viewed in a variety of viewing layouts (up to 36 camera images on a single tab)
closed (which will remove the camera images as well as the viewing tab)
cleared

3.3 Undocking and re-docking viewing frames

An active (selected) viewing frame tab can be undocked from the Reflection software window. This feature allows the undocked viewing frame tab be moved freely around the desktop while simultaneously viewing other tabs still attached to the software window. The undocked tab can be re-attached (docked) at anytime with a single mouse click. See Figure 12.

![Viewing Tab](image)

To release a viewing frame tab so that it is unattached from the Reflection software window, perform the following steps:

1. Make sure the viewing tab to be released from the software window is active in the viewing area.
NOTE \textit{The undock feature affects all of the frames being displayed in the tab.}

2. Either click the Undock Tab icon, or click and hold the tab and drag it from the software window.

3. To re-attach the viewing tab to the Reflection software window, click the Dock Tab icon.
SECTION 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. See Figure 13.

NOTE

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

4.1 Using PTZ camera controls

PTZ camera controls become active when the Media tab is selected and the camera selected is a PTZ camera. See Figure 13.

The PTZ camera controls are:

- Motion Direction controls (directional arrows) – 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.
4.2 Using camera preset controls (PTZ cameras only)

The Preset Controls (Figure 14) allow a number to be assigned to a designated PTZ camera direction. Calling the number will move the camera to that direction.

- Set – Click to assign a number (1 to 32) to the position currently being used by the camera.
- Call – Click to move the camera to the pre-designated direction.

To assign a preset number to a camera direction:

1. Use the PTZ direction controls (see Figure 13) to aim the camera at a target.
2. Click the number (1 to 32) to assign to the camera direction.
3. Click Set to assign the set direction to the number.
4. Repeat Steps 1-3 above for each additional camera.

To Call the camera to a preset direction:

1. Select the camera viewing frame.
2. Click the number (1 to 32) assigned to the camera direction you want see. The number will appear in the blank box.
3. Click Call.
4.3 Using digital zoom camera controls

Digital zoom controls are enabled when the Media tab is selected and the camera selected has a digital zoom feature. See Figure 13.

The digital zoom video camera controls are:

- Maintain Aspect Ratio – Click this control to toggle between the original width and height of the video (the camera setting), and the width and height of the camera viewing frame
- Digital Zoom In – This feature is not available at this time.
- Digital Zoom Out – This feature is not available at this time.

4.4 Using audio controls

Audio controls are enabled for digital cameras that can record sound. Audio controls become active when the Media tab is selected and the camera selected has a audio features. See Figure 15.

![Figure 15: Audio controls](image)

The camera audio controls are:

- 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 and of the Reflection software can used to increase or decrease the volume level.
SECTION 5

Searching Recorded Video

Reflection provides different methods for finding recorded video. These methods include:

- Replay Search (Quick Video Search)
- Calendar Search
- Thumbnails Search

Use Replay Search find recorded live 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. Regardless of the type of search used, a user can switch from recorded video to live video by clicking a viewing tab. Also, live video and recorded video can 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.

NOTE  During a Search, camera(s) selected in the Systems or Groups lists are displayed above the Timeline. All cameras displaying images are selected during a search.

5.1  Playback (transport) controls

Video playback controls are displayed whenever the Replay or the Search icon is clicked, or when the Replay or Search viewing tabs are active. The playback controls for video searching 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, and 16x.

5.2  Replay search (quick video search)

Replay search allows a user to search for and replay video in the previous 1, 2, 5, or 15 minutes. To use Replay search, do the following:

1. Select the Live viewing tab with the cameras you want to use for the Replay search.
SECTION 5: SEARCHING RECORDED VIDEO

NOTE It does not matter if a camera frame is selected (highlighted). Replay affects all of the camera images being displayed.

2. With the Home tab selected, click the top half of the Replay icon to replay 1 minute of video or click and hold on the bottom half of the Replay icon to select 1, 2, 5, or 15 minutes of replay. See Figure 16.

3. Use the recorded video transport controls to pause, play, step forward or fast forward playback.

5.3 Calendar and Thumbnails searching

The Calendar and the Thumbnails searching methods allow a user to search recorded video in increments that can be set as seconds, minutes, hours, days, or months.

To implement one of these search methods, do the following:

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 in Figure 17 will be displayed.

![Figure 17: Searching video](image)

3. Click either the Calendar or Thumbnails tab. These tabs are located beneath the timeline.

4. Use the video transport controls review the video segments.

For details on using either search method, refer to the Calendar search method and Thumbnails search method sections below.

**NOTE**

Use the Calendar view first to establish the time range of video to be searched. The Thumbnails view is another way to view the video once the time range is determined. The Timeline is used to mark the time frame of the event until the exact time and video of the event or detail is found.
5.3.1 Calendar search method

Calendar video search allows you to search video by date, time, and duration with the use of a timeline. See Figure 18.

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

- In the Start field, click the date entry or 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.
- Clicking and holding the mouse pointer on the characters in the month, day, year, hour, minute, or second fields produces a selector cursor. Sliding the cursor upwards or downwards increments or decrements the value in that field.
- Use the Duration drop down list, select a time increment: seconds, minutes, hours, days, or months.
- Edit a duration number (length) in the Duration field.

After the time range is established, the timeline can be used to refine the search. The Start field can be collapsed (hidden) or expanded (shown) by clicking icon in the lower right corner.

5.3.2 Thumbnails search method

 Thumbnails search method presents 10 thumbnails of video frames, spaced across a defined time range, to help locate a detail or event of interest. See Figure 19.
Use the following guidelines to perform a Thumbnails search:

- Clicking the forward or backward arrow at either end of the thumbnails shifts the thumbnails left (forward in time) or right (back in time) within the time range of the video frames being searched. This also affects the timeline, increasing or decreasing the range of time shown.
- Clicking on a thumbnail also affects the time grid scrub bar, increasing or decreasing the range of time shown above the thumbnails.
- Dragging the cursor across thumbnails highlights the thumbnails. The highlighted thumbnails become the new range of video that is to be used. This is a fast way to narrow or expand the range of a search. See Figure 20.
SECTION 5: SEARCHING RECORDED VIDEO

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.

- Placing the cursor on a thumbnail and holding the cursor there for about one second will 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.

TIMELINE USAGE (CALENDAR AND THUMBNAILS)

The Timeline tool (see Figure 21) is a graphical representation of a defined time range of recorded video frames. Since recorded video frames are equal to a set amount of time, observing video within a timeline helps a user determine the exact time that an event or detail occurred.

![Figure 21: Timeline Tool](image)

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 recordings (cameras, viewing panes) are simultaneously being searched, all of the viewing panes will show the result of the scrub when the scrub bar is released.

- 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. See Figure 22.

  ![Figure 22: Dragging the scrub bar](image)

- Increasing or decreasing the range of the timeline determines how many frames of video are used within the time grid to show what is displayed.
- The time range can lengthened or decreased by dragging the handles at each end of the timeline. When using this feature, the handle is highlighted and the cursor changes to an increase/decrease cursor. See Figure 23.
SECTION 5: SEARCHING RECORDED VIDEO

Figure 23: Time range increase/decrease

- Use the mouse cursor to drag the timeline back and forth to adjust the start and end times of the video being searched. See Figure 24.

Figure 24: Dragging the Time Grid

- The Timeline Zoom In or Timeline Zoom Out buttons are used to expand (stretch) or contracts (shrink) the timeline displayed. One click on either button changes the compression by 50%. See Figure 25.

Figure 25: Narrowing the Search to an Event

- A record of each action taken during a search is recorded in a Timeline History. Each record includes the time the action was taken and the time range of the video searched. This feature allows you to quickly return to a point of interest during a search by clicking on the record. Click the History toggle button to display the record list; click it again to close it. Clicking the arrows on either
side of the toggle button moves forwards or backwards within the time ranges in the history. See Figure 26.

Figure 26: Example Timeline History

- The Timeline History is saved until the Search (tab) is closed, or until the top or bottom end-point of the history is highlighted and another action is taken on the timeline.

5.4 Exporting video from a search

A range of video selected during a search can be exported to a drive connected to the computer using Reflection. This is useful, for example, if the video needs to be given to police or other authorities. A viewer can be exported with the video.

NOTE A Replay Search (quick video search) can not be exported.

To Export video:

1. Establish the time range of the video to be exported. Refer to the Calendar and Thumbnails Searching.
SECTION 5: SEARCHING RECORDED VIDEO

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. See Figure 27.

![Figure 27: Selecting video range for export](image)

3. After the time range of the video is selected, an Export menu is displayed below the camera frames. Select the destination (Export Path) where the video will be sent. The Export button becomes active when the export path established. See Figure 28.

![Figure 28: Export menu](image)

4. If you want to include a video viewer with the video clip being exported, check the Include Viewer box.

5. Click Export. An Export Progress tab will appear.

6. When the Export process is complete, click OK.

![Figure 29: Export progress tab](image)
5.5 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. 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.