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Record of Revisions

<table>
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<th>Revision</th>
<th>Date</th>
<th>Affected Pages</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>12/2017</td>
<td></td>
<td>Initial release.</td>
</tr>
</tbody>
</table>
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**Reader’s Comment Form**
Chapter 1: Introduction

General

The Automatic Incident Detection (AID) Wrong Way Alerting Solution is an all-in-one system that provides reliable wrong way detection on highway off ramps. This system uses the RTMS Sx-300 HDCAM to detect, across multiple lanes, vehicles traveling in the wrong direction and sends an automated message alert with an image snapshot via E-mail or short message service (SMS). The system also provides a 30 second video of the event, allowing traffic operators to visually confirm the wrong way vehicle and provide emergency officials the details of the vehicle.

Features

The Wrong Way Alerting Solution provides the following additional functions and features.

- Automated e-mail alerts with a snapshot of the incident
- Simple to set up and configure
- Pre and post video event capture and storage of the incident
- Excellent image quality even in low light conditions
- High Definition video streaming of incident
- Detection of an event signals the contact closure to activate signs and/or flashing lights

In addition, the Supervisor software, which is used to configure the Wrong Way Module provides the following.

- Archiving: this feature allows the user to save and if needed restore the configuration for a device. This feature can also be used to create an archive device in the device list which allows users to navigate to other pages and view archived contents specific to those pages. For more information, see “Archive Files” on page 4-5.
- Operations log: each supported device maintains a log of messages about operational errors, warnings, and helpful information for system operators and support personnel. For more information, see “Operations Log” on page 4-8.

Accessing Online Help

The Supervisor provides a help system for each screen and for various functions that can be performed. To access the help system, press F1 on the keyboard. A separate window appears with the help page for the screen currently being displayed in the Supervisor. Various tabs provide for locating and displaying specific information in the help system.
# Specifications

## Table 1-1: Wrong Way Module Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>• Operates on 5 VDC @ 1.5 W max standard</td>
</tr>
<tr>
<td></td>
<td>• Power supply operates on 110 - 240 VAC</td>
</tr>
<tr>
<td>Environmental</td>
<td>Temperature: −40° F to +165° F (−40° C to +74° C)</td>
</tr>
<tr>
<td></td>
<td>Relative Humidity: Meets TS2 standards</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Height: 4.5 in. (114 mm)</td>
</tr>
<tr>
<td></td>
<td>Width: 3 in. (76 mm)</td>
</tr>
<tr>
<td></td>
<td>Length: 1.125 in. (29 mm)</td>
</tr>
<tr>
<td></td>
<td>Weight: 0.5 lbs (0.23 kg)</td>
</tr>
<tr>
<td>Regulatory</td>
<td>FCC</td>
</tr>
<tr>
<td></td>
<td>NEMA TS2-2003</td>
</tr>
<tr>
<td></td>
<td>CE EN 55032, EN 55024, EN 61000-3-2, EN 61000-3-3</td>
</tr>
<tr>
<td></td>
<td>ICES 003</td>
</tr>
</tbody>
</table>

## Table 1-2: Wrong Way I/O Module Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>• Input voltage: 12 to 36 VDC</td>
</tr>
<tr>
<td></td>
<td>• Input current: 188mA @24VDC (4.51 W @ 24VDC)</td>
</tr>
<tr>
<td>Environmental</td>
<td>Temperature: −40° F to +167° F (−40° C to +75° C)</td>
</tr>
<tr>
<td></td>
<td>Relative Humidity: Meets TS2 standards</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Height: 1.1 in. (27.8 mm)</td>
</tr>
<tr>
<td></td>
<td>Width: 3.3 in. (84 mm)</td>
</tr>
<tr>
<td></td>
<td>Length: 5.2 in. (132 mm)</td>
</tr>
</tbody>
</table>

(Table continues on the next page.)
### Table 1-2: Wrong Way I/O Module Specifications (Cont’d)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory</td>
<td>Safety: UL 508</td>
</tr>
<tr>
<td></td>
<td>EMC: EN 55032, EN 55024, EN 61000-3-2/3-3, EN 61000-6-2/6-4</td>
</tr>
<tr>
<td></td>
<td>EMI: CISPR 32, FCC Part 15B Class A</td>
</tr>
<tr>
<td></td>
<td>EMS:</td>
</tr>
<tr>
<td></td>
<td>• IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV</td>
</tr>
<tr>
<td></td>
<td>• IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m</td>
</tr>
<tr>
<td></td>
<td>• IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV</td>
</tr>
<tr>
<td></td>
<td>• IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV</td>
</tr>
<tr>
<td></td>
<td>• IEC 61000-4-6 CS: 10 V IEC 61000-4-8</td>
</tr>
<tr>
<td></td>
<td>• Hazardous Location: Class 1 Division 2, ATEX Zone 2</td>
</tr>
<tr>
<td></td>
<td>• Green Product: RoHS, CRoHS, WEEE</td>
</tr>
</tbody>
</table>
Chapter 2: Installation

General

This chapter describes how to install the Wrong Way Module, Wrong Way I/O Module and Supervisor software.

NOTE: You must have Administrator rights on the computer in order to install the Supervisor.

Installing the Software

The Supervisor software must be installed on the computer that will be used to setup the configuration on the Wrong Way Module.

1. Locate and double-click the file ISSSupervisorSetup_vx.x.x.x.exe (where x.x.x.x is the version number).

   NOTE: If the .NET framework and/or C++ Redistributable dependencies are not on the computer, pop ups will appear indicating they need to be installed. If they appear, click Install.

   The following appears.

   2. Click Next.
The following appears.

3. Select the **I accept the terms**... check box.
4. Click **Next**.
The following appears.

5. Do you want the files installed in the default location?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proceed to</td>
<td><strong>Step 9.</strong></td>
<td>Continue with the next step.</td>
</tr>
</tbody>
</table>

**NOTE:** The firmware update files will be installed in the `InstallFiles` folder in this location.

6. Click **Change**.
The following appears.

7. Enter or select the new location.
8. Click OK.
9. Click **Next**.
   
The following appears.

![InstallShield Wizard](image)

10. Click **Install**.

11. When the “Completed” screen appears, click **Finish**.

   A shortcut for the Supervisor is placed on the desktop.
Installing the Hardware

The following are the hardware components that come in the box for the Wrong Way system.

In addition to the above, the following must be provided by the user.

- A network switch with open ports for the Wrong Way Module, HDCAM and computer.
- A 3-wire, 18 gauge power cable to connect power to the Wrong Way I/O Module.
- A 3-wire, 18 gauge power cable to connect cabinet power to the Din Rail Power Supply.
- Ethernet cables for connecting all devices to the cabinet network.

HDCAM Installation

When installing the SX-300 HDCAM, it is important to try and aim the camera such that only the detection area (off ramp) is in the field of view.
Wrong Way Module Installation

To install and set up the Wrong Way Module, do the following.
1. Set the Wrong Way Module on a shelf in the Controller Cabinet.
2. Install the Din Rail Power Supply and Ground Connector on the din rail.
3. Connect the Power Supply Cord to the Din Rail Power Supply.
   a) Connect the white wire to the front slot (V–).
   b) Connect the red wire to the back slot (V+).
4. Connect the input power cord to the Din Rail Power Supply.
   a) Connect the line wire to the front slot (L).
   b) Connect the neutral wire to the back slot (N).
c) Connect the ground wire to one side of the Din Rail Ground Connector.

5. Connect the ground wire from the back of the Wrong Way Module to the other side of the Din Rail Ground Connector.

6. Set up the address of the computer using 192.168.0.100 as the IP address and 255.255.255.0 as the subnet mask.

7. Connect one end of an Ethernet cable to the computer and the other end to the Wrong Way Module.

8. Start the Supervisor software.

9. On the Home screen, click the icon for the Wrong Way device.

10. On the Device screen, click **Device Settings**.
    
    The following appears.
11. Enter the IP Address, Subnet Mask and Default Gateway to be used by the device in your network.

12. Enter the DNS server information if a domain name instead of an IP address is specified for an NTP time server or for the email server on the Notifications screen.

13. Click **Apply Changes**.


15. Disconnect the Ethernet cable from the computer and connect it to the network switch in the cabinet or to the Wrong Way I/O Module.

16. Configure the Wrong Way Module (see Chapter 3: “Wrong Way Module Setup”).
Wrong Way I/O Module Installation

If the Wrong Way I/O Module is to be included in the system, do the following.

1. Set the Wrong Way I/O Module on a shelf in the Controller Cabinet.

2. Set up the address of the computer using 192.168.127.100 as the IP address and 255.255.255.0 as the subnet mask.

3. Connect the I/O module to a 12 - 24 VDC power source.
   
   a) Connect the line wire to the V+ slot.
   b) Connect the neutral wire to the V– slot.
   c) Connect the ground wire to ground (GND) slot.

4. Connect one end of an Ethernet cable to the computer and the other end to the Wrong Way I/O Module.

5. Start a network browser.

6. In the URL field type 192.168.127.254 and press Enter.
   The ioLogik Remote Ethernet I/O Server screen should appear.
7. On the left, click **Network Settings**.

8. Click **Ethernet Configuration**.

9. The IP Configuration should be set to **Static**; if not, select it.

10. Enter the IP Address, Subnet Mask and Gateway for the device. Note, the IP address will be required in Section 5.

11. Click **Submit** and close the browser.

12. Disconnect the Ethernet cable from the computer and connect it to the network switch.

13. Connect the wires for the output relays that are to be activated. Two wires per relay, starting with R0.

Chapter 3: Wrong Way Module Setup

General

The purpose of this chapter is to describe how to set up a Wrong Way Module. The video source for the Wrong Way Module is an RTMS Sx-300 HDCAM. For complete information on configuring the HDCAM, see the HDCAM chapter in the RTMS Sx-300 Optional Configurations User Guide. For information on installing the Wrong Way Module, see the Wrong Way Module Quick Start Guide.

Starting the Supervisor

To start the Supervisor software, do the following.

**NOTE:** The IP address of the computer must be set to match that of the network to which the Wrong Way Module is connected.

1. Using an Ethernet cable, connect the computer to the same network switch the Wrong Way Module is connected to.
2. Double-click the Supervisor shortcut on the desktop.

The Home screen appears. For a description of the various areas, see "Supervisor Home Screen" on page 4-1.

All detected devices appear in the device list. If devices do not appear in the list, click Learn Network.
**System Setup**

The following defines parameters that are used by the Supervisor, regardless of the connected devices.

1. In the Commands section of the Supervisor Home screen, click **Program Settings**.
   The following appears.

![Supervisor Home screen](image)

**NOTE:** The **Language** field is used to select the language in which Supervisor screens will be displayed. At present, English is the only supported language.

2. Select the measurement units for distances.
   - **English** – translates all distance measurements into feet.
   - **Metric** – translates all distance measurements into meters.

3. For **Naming Scheme**, select the scheme to be used for the heading names of the four description fields.
   **NOTE:** If **Custom** is selected, enter a name for each of the four descriptions.

4. When finished, return to the Home screen and perform the setup for each device.
Wrong Way Device Settings

The Device Settings screen for the Wrong Way Module is used to assign names to the user description fields for the module, set the time source, time zone and network addressing to be used by the Wrong Way Module.

1. On the Home screen, click the device icon for the Wrong Way Module to be configured.

2. In the Navigation section of the Devices screen, click Device Settings.

   The following appears.

3. In the User Descriptions section, enter descriptions for each field as needed.

   The description entered for the first field is what appears as the Device Name in the other Supervisor screens.
4. For **Time Source**, select the method to be used to synchronize the clock in the Wrong Way Module.
   
   - **Manual** – Select to synchronize the clock to the connected computer. After applying changes you must click **SET TIME** in the Commands section of the Device or Home screen.
   
   - **NTP** – Select if the clock is to be synchronized with an NTP server. Enter the URL or IP address of the NTP time server to be used and click **ADD**. At least one (and up to five) NTP servers must be added. If more than one NTP server is entered, the first is used as the primary. If for some reason the server can not be contacted, the second will be tried and so on. To delete a time server from the list, select it and click **DELETE**.

   **NOTE:** If a URL is entered instead of an IP address, the DNS fields in the Network section must be filled in.

5. For **Time Zone**, select the time zone where the Wrong Way Module is installed.

6. Enter the IP Address, Subnet Mask and Default Gateway for the device.

7. If required, enter the IP addresses of the primary and secondary DNS servers.

   **NOTE:** DNS servers are required if the domain name instead of an IP address is used for an NTP server or the email server on the Notifications screen.

8. In the **Video** section, move the slider or enter a value from 100 to 5000 to set the rate, in kilobits per second, to be used when viewing video from the Wrong Way Module. The default is 2048 kbps.

   The bitrate has no effect on the static image (snapshot). It only has an effect when playing video and the incident recording, and it should be set according to what the viewing device or network can handle.

9. Is the Wrong Way I/O Module installed?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the <strong>External I/O</strong> section, do the</td>
<td>Continue with the next step.</td>
</tr>
<tr>
<td>following:</td>
<td></td>
</tr>
<tr>
<td>a) Enter a name for the Wrong Way I/O</td>
<td></td>
</tr>
<tr>
<td>Module.</td>
<td></td>
</tr>
<tr>
<td>b) Enter the IP address of the Wrong</td>
<td></td>
</tr>
<tr>
<td>Way I/O Module.</td>
<td></td>
</tr>
<tr>
<td>c) Click <strong>Add</strong> to add the address to</td>
<td></td>
</tr>
<tr>
<td>the list.</td>
<td></td>
</tr>
<tr>
<td>d) Continue with the next step.</td>
<td></td>
</tr>
</tbody>
</table>
10. Click **APPLY CHANGES**.


12. If the Time Source selected was Manual, click **SET TIME** in the Commands section.

13. Set up notifications.

**Notification Settings**

Notifications are emails that are sent whenever a wrong way event is detected. The text that is sent is: “A Wrong Way incident was detected at Incident in Zone on device xxx yyy” (where xxx is the device ID and yyy is the Device Name specified in the Descriptions section on the Device Settings screen).

1. On the Device screen for the Wrong Way Module, click **NOTIFICATION SETTINGS**.
   
   The following appears.

   ![Notification Settings](image.png)

2. For **From Name**, enter the name of the person or facility that is sending the notification.

3. For **From Address**, enter the sender’s e-mail address.

4. For **Server**, enter the address of the sender’s email server.

   **NOTE:** If a domain name is used instead of an IP address, the location of a DNS server must be included on the Device Settings screen.
5. For **Port**, enter the port number for the email server.

6. For **Encryption type**, select the type of encryption to be used for the notification.

7. For **Username**, if required, enter the user name for the sender's account.

8. For **Password**, if required, enter the password for the sender's account.

9. In the Recipient Addresses area, enter the email address for a recipient of the notification and click **Add**.

10. Enter additional email addresses as required. It is recommended that no more than five addresses be entered.

11. After all recipients have been added, click to **APPLY CHANGES**.

12. To verify that the recipients are notified, click **SEND TEST EMAIL**.

13. Return to the Device screen and check the camera setup.
Camera Setup

The Camera Setup screen is used to set the RTSP address and extension for receiving video from the RTMS Sx-300 HDCAM.

1. On the Device screen for the Wrong Way Module, click **Camera Setup**. The following appears.

2. For **RTSP Address**, enter the IP address of the RTMS sensor.
3. For **RTSP Extension**, enter the port number and stream to be displayed.
   
   The port number must be the same as specified in the Streaming Media Port field on the Remote Setting screen in the HDCAM set up. The stream number must be separated from the port number by a forward slash. Stream number 0 indicates the main stream; 1 indicates the substream.

4. Click **Apply Changes**.
5. Return to the Device screen and set the camera calibration.
Camera Calibration

Before detection zones can be defined for the Wrong Way Module, the camera must be calibrated in order to teach the camera how to translate from flat 2D video to 3D space. The ultimate goal of the calibration step is to identify sets of vertical and horizontal parallel lines on the ground plane and a second vertical set that point upwards, perpendicular to the first set. The combination of these lines allow the user to calibrate a 3D space.

RECOMMENDATIONS:

- The width of the entire calibration area should be about 15 - 20 ft. (4.6 - 6.1 m) and the depth should cover the entire area to be monitored.
- For accurate measurements, place cones equal distances apart for the four corners of the calibration area.

1. On the Device screen for the Wrong Way Module, click **CAMERA CALIBRATION**.

   The following appears.

   ![Camera Calibration Screen](image)

   2. Move the cursor to one of the corners then click and drag to the desired location.

   3. Repeat for each corner until the zone covers the detection area.

   **NOTE:** DO NOT rotate the calibration zone.

   4. Edit the distance measurements as required by clicking on a value and typing a new one.
5. Align the two bars with the red arrows as perpendicular to the plane of the image as possible.
6. Click **APPLY CHANGES**.
7. Return to the Device screen and set up detection zones.

### Adding a Wrong Way Zone

This type of zone is defined across the lanes of traffic and detects the presence of vehicles traveling the wrong way in the zone. One or more zones can be defined; the number is dependent on the requirements of the site. After laying out the physical zones, conditions and actions can be defined for each zone.

**NOTES:**

- Before a zone can be added, the camera setup and camera calibration operations must be done.
- Including overlapping zones in a configuration is not recommended as this can cause poor detection performance.
- The recommended width of the zone is two car lengths (30 - 40 ft. [9.1 - 12.2 m]) and the depth should cover the entire area to be monitored.

1. On the Device screen for the Wrong Way Module, click **ZONE SETUP**.

2. Using the arrows at the corners of the zone, rotate the zone.
3. Continue to rotate until the zone is pointing to the direction of traffic.
4. Move the cursor to one of the corner markers then click and drag to the desired location.

5. Repeat for each corner until the zone covers the detection area.

6. To change the zone description, highlight the description in the Easy Setup section and type a new description. Any number of alphanumeric and special characters can be used.

7. Assign Conditions, Actions and Video Overlays as required.

**NOTE:**

- By default the wrong way condition is selected for each zone. In addition, orange is selected for the zone display color when a wrong way vehicle is detected and gray when no wrong way vehicle is present in the zone.
- The incident recording function, designated by the exclamation point in the triangle, is active. When a wrong way incident is detected a still snapshot and video are recorded and can be saved and viewed on the Incidents screen. Additionally, an email notification of the incident will be sent to all recipients defined on the Notification Settings screen. If the Wrong Way I/O module is installed, the output from the module can be selected from the drop-down field to the right of the exclamation point.
• The Show Video Overlay check box is used to display overlays only when video is playing. The Show Setup Controls check box is used to display overlays on the Zone Setup screen for both static images and video.

• After all zones are defined and configured, it is recommended that the configuration be archived (see “Save Archive” on page 4-5).

8. When complete, click **APPLY CHANGES**.

Changes go into effect immediately and can be viewed live.

**Assigning Conditions, Actions and Overlays**

Under most conditions, each zone will have conditions and actions associated with it in the following structure.

```
Zone
  Condition 1
  Action 1
  Action 2
```

The zone is the defined area of detection.

A condition defines the purpose of the zone. For Wrong Way Modules, the purpose of the zone is to detect vehicles traveling in the wrong direction (Wrong Way in Zone).

An action defines what the system is to do when a condition is activated. Currently, the actions that can be defined include:

- Display Zone: on the video, the zone is outlined in the selected colors. One color indicates when the condition is active, and a second color indicates when the condition is not active. Only one Display zone action can be associated with a condition.
- Incident in Zone: when a wrong way vehicle is detected an email is sent to the recipients defined on the “Notification Settings” screen.
- Set Output: used if the Wrong Way I/O module is installed.

An overlay is something that can be defined to appear on the video image. This includes the outline of the zone and/or user-defined text.

The Show Video Overlay check box is used to display overlays only when video is playing. The Show Setup Controls check box is used to display overlays on the Zone Setup screen for both static images and video.

The types of overlays that can be added to a video image are:

- Zone outline: this overlay shows the lines that define the zone.
- Output LED: added from the Actions Explorer section, this overlay provides an LED icon for the selected output. The LED changes intensity when the output is activated.
• Condition LED: added from the Actions Explorer section, this overlay provides an LED icon for the selected condition. The LED changes intensity when the condition is activated.

• Device Name: added from the Video Overlays section, this overlay displays the name of the sensor on the video image.

• System Time: added from the Video Overlays section, this overlay displays the current date and time on the video image.

• Firmware Version: added from the Video Overlays section, this overlay displays the firmware version of the sensor on the video image.

• Static Text: added from the Video Overlays section, this overlay displays user-defined text on the video image.

There are four sections in the conditions, Actions and Overlays panel: “Easy Setup”, “Zones Explorer”, “Actions Explorer” and “Video Overlays”.

Easy Setup

When a zone is added to the configuration, the wrong way condition is automatically selected and the display action is set to orange and gray.

To set conditions and actions using Easy Setup, do the following.

1. Select a zone, either in the image or by clicking the zone description in the Easy Setup section.

   ![Easy Setup](image)

   **NOTE:** A Wrong Way condition is automatically selected for each defined zone. When a wrong way incident is detected a still snapshot and video are recorded and can be saved and viewed on the “Incidents” screen. Additionally, an email notification of the incident will be sent to all recipients on the “Notification Settings” screen.

2. To define what color the zone is to be outlined in on the video, click a color block and select a color. Click elsewhere on the screen to close the color selection pop-up.

   The first block defines the display color when a vehicle traveling the wrong way is detected in the zone and the second block defines the color when no wrong way vehicles are detected.

   **Note,** it is recommended that red not be used as that is the color used by the system to indicate failsafe.

3. In the field to the right of the exclamation point, select the output that will be used if the Wrong Way I/O Module is included in the system.

   **NOTE:** After all zones are defined and configured, it is recommended that the configuration be archived (see “Save Archive” on page 4-5).
Zones Explorer

The Zones Explorer section provides greater control than the Easy Setup over the assignment of conditions and actions. Use this section to do the following:

- Assign more than one Set Output action to a single condition if the Wrong Way I/O module is installed.
- Remove Set Output actions from a condition.
- Remove the Display Zone action from a condition.
- Remove the Incident in Zone notification from a condition.

To use the Zones Explorer to assign conditions and actions, do the following.

1. Click the Zones Explorer heading to expand the section.

2. Select a zone, either in the video image or by clicking the zone description in the Zones Explorer.

   A wrong way condition and the same display coloring as explained for the “Easy Setup” section are already assigned to each zone.

3. To define what color the zone is to be outlined in on the video, click a color block and select a color. Click elsewhere on the screen to close the color selection pop-up.

   The first block defines the display color when a vehicle traveling the wrong way is detected in the zone and the second block defines the color when no wrong way vehicles are detected.

   **Note**, it is recommended that red not be used.
4. To assign an output that will be activated by the I/O module when detection takes place, select it from the drop-down menu.

If a symbol appears to the left of the number it indicates that the output is used by more than one condition.

Set Output <1> 

To see all of the conditions/zones that use the same output, open the "Actions Explorer".

5. To add more output actions, select the condition, click the plus sign (+) then select Timed Set Output.

6. To change the zone description, condition or action, highlight it and type a new description. For additional information about changing descriptions, see “Changing Zone, Condition and Action Descriptions” on page 3-21.

7. When all conditions and actions have been defined, click APPLY CHANGES.

NOTE: After all zones are defined and configured, it is recommended that the configuration be archived (see “Save Archive” on page 4-5).
**Actions Explorer**

The Actions Explorer section is used to:

- View, by output, which conditions/zones an output is assigned to.
- Remove Set Output actions from a condition.
- Set an extended time delay.
- Add a digital LED overlay for output and/or presence conditions on the video. The LED indicator associated with the overlay will light up when the output or condition is activated.

To use the Actions Explorer, do the following.

1. Click the Actions Explorer heading to expand the section.

2. To change the description of an output or condition, highlight it and type a new description. For additional information about changing descriptions, see “Changing Zone, Condition and Action Descriptions” on page 3-21.

3. To change the output assigned to a zone/condition combination, select the output then use the drop-down menu to select the new output.

   If a symbol appears to the left of the number it indicates that the output is assigned to more than one condition/zone, which are listed below the output.

   Changing the output changes it for all conditions that use the output.
4. To set an extend time for an output click the drop-down arrow to the left of Set Output.

![Actions Explorer](image)

5. In the **Extend** field, enter the number of seconds that the output is to remain on after the incident has been detected.

6. To add an output LED overlay on the video, click the red button on the right side.

7. To display the overlay, select one or both of the following. **Note**, both are selected by default.
   - **Show Video Overlay**: The icon and overlay text will appear on the image when video is played.
   - **Show Setup Controls**: The icon and overlay text will appear on the static image.

8. To change the text and appearance of the overlay, click on it.

![Item Description](image)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Highlight the text and type what is to be displayed. Any number of alphanumeric and special characters can be entered. To move the overlay grab the green circle and place the overlay anywhere on the image.</td>
</tr>
</tbody>
</table>

(Table continues on the next page.)
### Item Description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Select the size of the font in which the text is to be displayed. The default is 20 point.</td>
</tr>
<tr>
<td>3</td>
<td>Select if the text is to be displayed in bold type.</td>
</tr>
<tr>
<td>4</td>
<td>Select if the text is to be displayed in Italic type.</td>
</tr>
</tbody>
</table>
| 5    | Select the font family.  
  - Sans (default): the typeface does not use serifs, small lines at the ends of the characters.  
  - Serif: the typeface uses small lines at the ends of the characters.  
  - Mono: the typeface is non-proportional (each character occupies the same width). |
| 6    | Click to select the color the text is to be displayed in. The default is white. |
| 7    | Click to remove the overlay from the image. |

9. If any changes are made, click **Apply Changes**.

**NOTE:** After all zones are defined and configured, it is recommended that the configuration be archived (see “Save Archive” on page 4-5).
Video Overlays

Overlays are supplemental text that can be added to the video image. The types of overlays that can be added are:

- Device Name: Adds the name of the sensor to the video display.
- System Time: Adds the current date and time to the video display.
- Firmware Version: Adds the version of the firmware installed on the sensor to the video display.
- Static Text: Adds user-defined text to the video display.

To add overlays to the video display, do the following.

1. Click the Video Overlays heading.

2. To add the standard overlays, select the check box.
3. To display the overlay, select one or both of the following.
   - Show Video Overlay: The icon and overlay text will appear on the image when video is played.
   - Show Setup Controls: The icon and overlay text will appear on the static image
4. To add a user-defined overlay, click Add Static Text.
5. Overlay text appears on the image. To change the text and appearance of any of the overlays, click on it.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The text of the overlay. To change the static text, highlight the text and type what is to be displayed. Any number of alphanumeric and special characters can be entered. To move the overlay grab the green circle and place the overlay anywhere on the image.</td>
</tr>
<tr>
<td>2</td>
<td>Select the size of the font in which the text is to be displayed. Default sizes are: • 30 point: Device Name and System Time • 24 point: Static Text • 20 point: Firmware Version</td>
</tr>
<tr>
<td>3</td>
<td>Select if the text is to be displayed in bold type.</td>
</tr>
<tr>
<td>4</td>
<td>Select if the text is to be displayed in Italic type.</td>
</tr>
<tr>
<td>5</td>
<td>Select the font family. • Sans (default): the typeface does not use serifs, small lines at the ends of the characters. • Serif: the typeface uses small lines at the ends of the characters. • Mono: the typeface is non-proportional (each character occupies the same width).</td>
</tr>
<tr>
<td>6</td>
<td>Click to select the color the text is to be displayed in. The default is white.</td>
</tr>
<tr>
<td>7</td>
<td>Click to remove the overlay from the image.</td>
</tr>
</tbody>
</table>

**NOTE:** After all zones are defined and configured, it is recommended that the configuration be archived (see “Save Archive” on page 4-5).
Changing Zone, Condition and Action Descriptions

The descriptions of all zones, conditions and actions can be changed by the user. To change any description, highlight it and type a new description. Any number of alphanumeric and special characters can be used; however the displayed string is limited to the size of the Supervisor screen. The results of description changes are dependent on the order in which changes are made.

Zone Descriptions

Zone descriptions can be changed in either the Easy Setup, Zones Explorer or Actions Explorer sections. Changes made in one section automatically appear in the other section. In addition, the zone description change also appears in the default condition description if the condition description has not been changed. The default descriptions are dependent on how the zone is created. If the zone is created by selecting Add Zone, the default description is “Zone.”

Condition Descriptions

Condition descriptions can be changed in the Zones Explorer or Actions Explorer section. The default description is Wrong Way in xxxx.

The xxxx is the description of the zone to which the condition is associated. When using the default condition descriptions, if the zone description is changed the condition description is automatically updated to reflect the change. However, if the condition description is changed first and then the zone description second, the condition description will not be updated with the new zone description.

Action Descriptions

The two default action descriptions are Display Zone and Incident in Zone. Both descriptions can only be changed in the Zones Explorer.

Removing Zones, Conditions, Actions and Overlays

Zones

Removing a zone removes any conditions and actions assigned to the zone.

1. On the Zone Setup screen, select the zone.
2. Click Remove Zone in the Commands section or the X to the right of the zone description in the Easy Setup, Zones Explorer or Actions Explorer sections.
3. Click Apply Changes.
Conditions
Removing a condition removes any actions/outputs associated with the condition.
1. Select the condition.
2. In the Easy Setup section deselect the check box, or in the Zones Explorer or Actions Explorer sections click the X to the right of the condition description.
3. Click APPLY CHANGES.

Display Actions
Display actions are automatically removed if the zone or condition associated with it is removed.
1. In the Zones Explorer or Actions Explorer sections, select Display Zone then click the X to the right of the color blocks.
2. Click APPLY CHANGES.

Video Overlays
1. For standard overlays, in the Video Overlays section, deselect the check box for the overlay or click the text on the video image then click the X on the right side.
2. For LED overlays, click the LED symbol in the Actions Explorer or click the text on the video image then click the X on the right side.
3. For static text overlays, click the text on the video image then click the X on the right side.
4. Click APPLY CHANGES.

Clearing the Configuration
This operation clears (removes) the configuration set for a Wrong Way Module. This includes all zone setup information and the camera calibration for the sensor. To clear a configuration, do the following.
1. On the Device screen, in the Commands section click CLEAR CONFIGURATION.
2. When the pop up window appears, click Yes to clear the configuration or No to cancel the operation.
Chapter 4: Operations

General

This chapter describes the operations that can be performed with the Supervisor software.

Supervisor Home Screen

The Home screen is displayed each time the Supervisor is started. This screen lists all of the devices that are within the same network segment as the Supervisor. This screen is also the starting point for configuring the Wrong Way Module.

![Home Screen](image)

**Figure 4-1: Home Screen**

To sort the order of devices, click on a column heading to sort the devices according to the column information.

To select multiple devices, use the Shift and Ctrl keys. To select all devices, select any device then press Ctrl+A. To deselect a device, press the Ctrl key and click on the Device Name.

To remove a device from the list, right-click on it and select **Remove Device**.

Only the devices selected on the Home Screen will appear in the Device Name list of the Operations Log and Firmware Update screens.
### Table 4-3: Home Screen Descriptions

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Navigation: Links to other operational screens.</td>
</tr>
<tr>
<td>2</td>
<td>Commands: Click to perform the specific operation.</td>
</tr>
<tr>
<td>3</td>
<td>List of incidents that have been detected since the Supervisor was started. Only appears when an incident has been detected by a Wrong Way Module. Click on an incident to view additional information (see “Incidents” on page 4-14).</td>
</tr>
<tr>
<td>4</td>
<td>Click to access the Device screen for the device.</td>
</tr>
<tr>
<td>5</td>
<td>Communication indicator. Solid blue lightning bolt indicates communications with the device is established. Grayed out with a red line through it indicates communications is not established.</td>
</tr>
<tr>
<td>6</td>
<td>Name of the device as entered in the first User Description field on the Device Settings screen.</td>
</tr>
<tr>
<td>7</td>
<td>Shows status information about the device.</td>
</tr>
<tr>
<td>8</td>
<td>Firmware version currently installed in the device. For information on upgrading the firmware, see “Firmware Update” on page 4-12.</td>
</tr>
<tr>
<td>9</td>
<td>The unique ID assigned to the device.</td>
</tr>
<tr>
<td>10</td>
<td>Click to display additional device information:</td>
</tr>
<tr>
<td>11</td>
<td>Version of the Supervisor software currently running on the computer.</td>
</tr>
<tr>
<td>12</td>
<td>Search field: Used to search for devices based on model, description, firmware version, device ID, etc. A maximum of 30 characters can be entered.</td>
</tr>
</tbody>
</table>
Add Device by IP

This operation is initiated from the Home screen and is used to add, to the device list, a Wrong Way Module that is connected to a routed network.

1. On the Home screen, click **ADD DEVICE BY IP**.

   The following appears.

   ![Add Device by IP](image)

2. Enter the network IP address of the LAN port for the Wrong Way Module to be added to the device list.

   **NOTE:** The address must be a Class A, B, or C address. For information on address classes, consult your IT department.

3. Click **OK**.

   The Wrong Way Module is added to the list.

Learn Network

This operation is executed from the Home screen, and is used to locate devices that are installed in the network segment. The Supervisor sends out a broadcast message on all active Ethernet and WiFi networks, and any device that responds is shown in the device list.

Learning the network is usually not required, as the devices normally 'announce' themselves on the local network segment. This allows the device list to populate automatically, in most cases.

To perform a learn, click **LEARN NETWORK** in the Commands section of the Home screen. Any device found in the network appears in the device list.
Restart Device

This command is initiated from either the Home or Device screen, and is used to restart one or more selected devices.

To perform a restart, do the following.

1. On the Home screen, select the device(s) to be restarted.
   Use the Shift or Ctrl keys to select multiple devices. To select all devices, select any device then press Ctrl+A.

2. In the Commands section, click **RESTART DEVICES**.
   The Status column will indicate that a restart is in progress and the communications icon will indicate no connection.

3. Wait for the status message to disappear and for the communications icon to indicate that a connection has been re-established.

Set Time

This command is initiated from either the Home or Device screen, and is used to initiate time synchronization for the device when the time source specified on the Device Settings screen is set to Manual.

The Manual selection synchronizes the clock in the Wrong Way Module to the connected computer. After the selection is applied, the **SET TIME** command must be initiated in the Commands section of the Device or Home screen.
Archive Files

An archive file captures the current state of a device. An archive file can be added to the device list in order to view the information it contains. It can also be used to restore settings to a device or to clone settings for a replacement device.

Save Archive

This operation is initiated from the Device screen, and is used to save the device state to an archive file (xxx.arch). The following information is saved.

- Detection configuration
- Camera setup
- Camera calibration
- Zone setup, including output assignments, advanced output settings and any defined overlays
- Image snapshot
- Device settings
  - User descriptions
  - Time zone
  - Time source
  - Bitrate
  - External I/O Name
  - External I/O IP Addresses
- Device properties
  - Device ID
  - Firmware version
  - Model
  - Archive date
- Notification settings
- List of incidents

1. On the Home screen, click the icon of the device for which the archive file is to be created.
2. On the Device screen, in the Commands section click SAVE ARCHIVE.
3. In the Save Archive window, select where the file is to be stored.
   The default is the Documents folder.
4. In the File name field, enter a name for the file or keep the default.
5. Click Save.
Open Archive

This operation is initiated from the Home screen, and is used to open a previously saved archive file and create an archive device in the device list. An archive device is not connected to a real device and has a slightly different icon to differentiate it from real devices.

![Real device](image1.png) ![Archive device](image2.png)

Despite not being connected, users can navigate to other pages and view archived contents specific to those pages. Users are not able to make changes and save them back into the archive file.

To open an archive file, do the following.

1. On the Home screen, click **OPEN ARCHIVE**.
2. When the Open window appears, locate and select the archive file (xxx.arch) to be opened.
3. Click **Open**.

A new device appears in the device list on the Home screen. **Note**, since this is not a real device, the communication icon (lightning bolt) will have a red line through it.
Chapter 4: Operations

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Restore Archive

This operation is initiated from the Device screen, and is used to download the contents of a previously saved archive file into the selected device.

If the model of the archive does not match the model of the device, then a message will be displayed indicating that the archive cannot be restored.

The settings that get restored are as follows.

- Detection configuration
- Camera setup (zoom setting or RTSP address and extension)
- Camera calibration
- Zone setup, including output assignments, advanced output settings and any defined overlays
- Image snapshot
- Device settings
  - User descriptions
  - Time zone
  - Time source
  - Bitrate
  - External I/O Name
  - External I/O IP Addresses
- Device properties
  - Device ID
  - Firmware version
  - Model
  - Archive date
- Notification settings
- List of incidents

To restore an archive file, do the following.

1. On the Home screen click the icon for the device for which the archive file is to be restored.

2. On the Device screen, click **RESTORE ARCHIVE**.

3. When the Open window appears, locate and select the archive file (xxx.arch) to be restored.

4. Click **Open**.

   The archive settings are downloaded into the device.
Operations Log

Each device maintains an operations log which contains messages about operations errors, and warnings, and other helpful information about device operations. When the log gets full the oldest 10 percent of the messages are deleted to make room for new entries.

The Operations Log can be reached from either the Home screen or Device screen. If reached from the Device screen, only that device will be listed. If reached from the Home screen, the devices listed on the Operations Log screen is dependent on the selection made on the Home screen. If one or more devices is selected on the Home screen when Operations Log is clicked, then all of the selected devices will appear in the Device Name list on the Operations Log screen. If no devices are selected on the Home screen when Operations Log is clicked, then all of the devices listed on the Home screen will appear on the Operations Log screen.

![Figure 4-2: Operations Log Screen](image-url)
### Table 4-4: Operations Log Field Descriptions

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1    | Device list – Displays the following information for each listed device.  
  • Name of the device  
  • Device's identifier  
  • Status of the last action performed  
  • Number of messages in the log  
  • Number of active severe errors in the log |
| 2    | Commands: Click to perform the specific operation. |
| 3    | Date and time the message was issued. |
| 4    | Name and ID of the device from which the message was read. |
| 5    | Severity of the message:  
  • Informational: Helpful information that requires no action.  
  • Error: Indicates a problem that may prevent proper operation and should be fixed.  
  • Fatal Error: Indicates a problem that caused the device to reboot in order to attempt to fix itself.  
  • Severe Error: In some circumstances this type of error can prevent proper operation of the device. However, this type of error is also generated when the device reboots, even when the reboot is user initiated (e.g., device restart, firmware update, etc.).  
  • Warning: Indicates something that may require attention, but that does not prevent the device from operating properly. |
| 6    | The message that was issued. There are four levels of log messages:  
  • 1000s: main, general purpose messages  
  • 2000s: detailed log messages  
  • 3000s: communications related messages  
  • 4000s: diagnostic messages |
| 7    | Paging navigation options.  
  • Enter a number to go to that page.  
  • Click the single arrows to go back or ahead one page at a time.  
  • Click the arrows with a bar to go to the first or last page. |
Retrieve Log

This operation retrieves and displays the current log for the selected device(s).

1. In the Navigation section of either the Home or Device screen, click OPERATIONS LOG.

   The following appears.

2. Select the device for which the log is to be displayed.

   Use the Shift or Ctrl keys to select multiple devices. To select all devices, select any device then press Ctrl+A.

3. In the Commands section, click RETRIEVE LOG.

   The log is displayed.

4. To display updated log messages, click RETRIEVE LOG again.

5. To copy messages, do the following.

   a) Select the message to be copied. To select more than one message, use the Shift and Ctrl keys.

   b) Right-click one of the selected messages and click Copy or press Ctrl+C on the keyboard.

   c) Paste the messages into any word processor, text editor, spreadsheet, or database application.
Chapter 4: Operations

Start/Stop Live Log

This operation retrieves the current log for the selected device(s) and continues to update as events occur.

1. Select the device for which the log is to be displayed.
   Use the Shift or Ctrl keys to select multiple devices.

2. In the Commands section, click **START LIVE LOG**.
   The current log is displayed. The display is updated as events occur.

3. To stop displaying live messages, click **STOP LIVE LOG**.

Clear Log

This operation clears the current log for the selected device(s).

1. Select the device for which the log is to be cleared.
   Use the Shift or Ctrl keys to select multiple devices.

2. In the Commands section, click **CLEAR LOG**.

3. When the confirmation message appears, click **YES** to clear the log, or **NO** to cancel the operation.
Firmware Update

This operation is used to change the version of the firmware running in the Wrong Way Module.

The Firmware Update screen can be reached from either the Home screen or Device screen. If reached from the Device screen, only that device will be listed. If reached from the Home screen, the devices listed on the Firmware Update screen is dependent on the selection made on the Home screen. If one or more devices is selected on the Home screen when Firmware Update is clicked, then all of the selected devices will appear in the Device Name list on the Firmware Update screen. If no devices are selected on the Home screen when Firmware Update is clicked, then all of the devices listed on the Home screen will appear on the Firmware Update screen.

1. In the Commands section of either the Supervisor Home or Device screen, click Firmware Update.
   The following appears.

   2. In the Device Name list, select the devices to receive the firmware update.
      Use the Shift or Ctrl keys to select multiple devices. To select all devices, select any device then press Ctrl+A.

   3. In the Commands section, click OPEN.
      Windows Explorer should open to the InstallFiles folder for the version of the Supervisor currently running. If not, navigate to where the Supervisor was installed. The default is: C:\Program Files (x86)\ISS\Supervisor vx.x.x.x\InstallFiles (where vx.x.x.x is the firmware version number).

   4. Select the file wrongway_device_vx.x.x.x.issf
5. Click **Open**.

6. In the Commands section, click **START INSTALL**.

   **Note**, **CANCEL INSTALL** becomes disabled once the firmware file transfer is completed and the install begins.

7. The update is complete when the Status column indicates “**Firmware Install Completed**” and the communications icon indicates that the device is connected.
Incidents

This screen displays the incidents that have been detected. Incidents remain in the list for seven days or until memory on the SD card is full, which ever occurs first.

Table 4-5: Incidents Screen Descriptions

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1    | Commands that can be executed. The commands are only active when an incident is selected.  
  • Save Video – Click to save the video associated with the selected incident to a location on the computer. **Note**, the Status column must show Ready before the video can be saved.  
  • Save Snapshot – Click to save the snapshot associated with the selected incident to a location on the computer. |
| 2    | List of incidents that have been detected. |

(Table continues on the next page.)
### Table 4-5: Incidents Screen Descriptions (Cont’d)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Video icon - Click to view the video associated with the incident. The icon is not active until the video has been saved to the computer.</td>
</tr>
<tr>
<td>4</td>
<td>Snapshot icon - Click to view the snapshot associated with the incident.</td>
</tr>
<tr>
<td>5</td>
<td>Type of incident detected.</td>
</tr>
<tr>
<td>6</td>
<td>Date and time stamp of when the incident was detected.</td>
</tr>
<tr>
<td>7</td>
<td>Size of the video file associated with the incident.</td>
</tr>
<tr>
<td>8</td>
<td>Indication of whether or not the video is ready to be saved to the computer. To save the video, select the incident and click <strong>Save Video</strong> in the Commands section.</td>
</tr>
</tbody>
</table>
Outputs and Failsafe For Wrong Way Devices

Outputs are actions that are assigned to wrong way detection conditions defined for each zone in a Wrong Way Module configuration. For Wrong Way operations there are two types of actions that can be defined; sending an email notification and/or setting an output if the Wrong Way I/O Module is configured in the system.

By default, the send email action is set to ON if the Notifications Settings are configured for the device. The action can be turned on or off by selecting the check box in the “Zones Explorer” (see page 3-14).

The output to be activated if the Wrong Way I/O module is included in the system can be set in either the “Easy Setup”, “Zones Explorer” or “Actions Explorer” sections of the Zone Setup.

Failsafe is the mode of operation that the Wrong Way Module enters when there is a failure or communication loss with the following:

- Wrong Way Module detection abilities
- Wrong Way I/O Module
- Notifications email server

When in failsafe, the Wrong Way Module is no longer detecting. If after 15 minutes the condition that caused the failsafe does not correct itself, the Wrong Way Module will reboot.
Video Operations

The video operations enable the user to play and/or record live video from an RTMS Sx-300 HDCAM connected to the Wrong Way Module.

**Table 4-6: Video Control Operations**

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Refresh" /></td>
<td>This control refreshes the image displayed on the screen.</td>
</tr>
<tr>
<td><img src="image" alt="Play" /></td>
<td>This control starts live video. To halt the video and return to a static image, click the Stop control. The bit rate of the video is determined by the Bitrate setting on the Device Settings screen.</td>
</tr>
</tbody>
</table>
| ![Record](image) | This control causes live video to be recorded. When clicked the Save As window appears. Select the location where the file is to be saved, then enter a name for the video capture. The name cannot contain the following special characters:  
  - Asterisk (*)  
  - Back slash (\)  
  - Closed brace (})  
  - Dollar sign ($)  
  - Forward slash (/)  
  - Greater than (>)  
  - Less than (<)  
  - Percent sign (%)  
  - Pipe (|)  
  - Question mark (?)Click **Save** to begin playing and recording live video. Click the stop control to stop recording and return to a static image. |
<p>| <img src="image" alt="Stop" /> | This control stops the play and record operations. |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are there any technical errors or misrepresentations in the document?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the material presented in a logical and consistent order?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is it easy to locate specific information in the document?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was any of the information inaccurate or confusing?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there any information you would like to have added to the document?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were additional illustrations or examples needed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any general comments?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
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