Wrong Way Alerting Solution User Guide



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Record of Revisions

Revision	Date	Affected Pages	Description
А	12/2017		Initial release.
В	07/2017	2-7, 3-1, 3-3, 3-4, 4-3, 4-16	Updated for Supervisor version 2.5.0.x.
С	12/2018	1-1, 2-7, 2-10, 3-1 thru 3-6, 3- 17	Updated for Supervisor version 2.6.1.x and the addition of IntellitraffiQ.
D	06/2020	1-1, 3-6, 4-16, 4-17	Removed IntellitraffiQ.
E	08/2020	2-9, 3-2	Added default IP address.
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Н	06/2022	3-14 thru 3-19	Added camera installation and guidelines.
I	05/2023	Chapter 6	Added troubleshooting/maintenance guide.

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Chapter 1: Introduction

General

The Wrong Way Alerting Solution is a robust system that provides reliable wrong way driver detection on ramps. The wrong way module detects wrong way vehicles and sends an automated message alert with an image snapshot to ISS Alert Trust[®], where event verification occurs reducing the time consuming task of having agency operators validate events. Once the event has been confirmed, an automated message alert with an image snapshot is sent via email, multi-media message (MMS), or the wrong way API to the Traffic Management Center central management software. The system also provides a 30-second four-quadrant video of the event, allowing traffic operators to visually observe if the vehicle has self-corrected or continued onto the highway.

Features

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

- Provides single zone wrong way detection on a ramp covering four areas with a single camera
- Automated message alerts with snapshot via email and SMS
- REST API
- 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
- ISS Alert Trust provides a highly accurate and validated true wrong way event

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 <u>"Archive Files" on page 5-7</u>.
- 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 <u>"Operations</u> <u>Log" on page 5-12</u>.

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

ltem	Description		
Electrical	Operates on 5 VDC @ 1.5 W max standard		
	Power supply operates on 110 - 240 VAC		
Environmental	Temperature: -40° F to $+165^{\circ}$ F (-40° C to $+74^{\circ}$ C)		
	Relative Humidity: Meets TS2 standards		
Dimensions	Height: 4.5 in. (114 mm)		
	Width: 3 in. (76 mm)		
	Length: 1.125 in. (29 mm)		
	Weight: 0.5 lbs (0.23 kg)		
Regulatory	FCC		
	NEMA TS2-2003		
	CE EN 55032, EN 55024, EN 61000-3-2, EN 61000-3-3		
	ICES 003		

Table 1-1: Wrong Way Module Specifications

ltem	Description
Electrical	Input voltage: 12 to 36 VDC
	Input current: 188mA @24VDC(4.51W @ 24VDC)
Environmental	Temperature: -40° F to +167° F (-40° C to +75° C)
	Relative Humidity: Meets TS2 standards
Dimensions	Height: 1.1 in. (27.8 mm)
	Width: 3.3 in. (84 mm)
	Length: 5.2 in. (132 mm)
Regulatory	Safety: UL 508
	EMC: EN 55032, EN 55024, EN 61000-3-2/3-3, EN 61000-6-2/ 6-4
	EMI: CISPR 32, FCC Part 15B Class A
	EMS:
	 IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV
	 IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m
	 IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV
	 IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV
	 IEC 61000-4-6 CS: 10 V IEC 61000-4-8
	Hazardous Location: Class 1 Division 2, ATEX Zone 2
	Green Product: RoHS, CRoHS, WEEE

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

ltem	Description
Electrical	Power over Ethernet (POE) IEEE 802.3at Type 2 Class 4
	IR illumination on: class 4, typical 11.1 W, max 17.0 W
Dimensions	Height: 91.5 mm (3.6 in)
	Radius: 255 mm (10.04 in)
	Weight: 2.0 kg(4.4 lb)
Regulatory	EN 55032 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024, EN 61000-6-1, EN 61000-602,
	FCC Part 15 Subpart B Class A
	IP66/67, NEMA 250 Type 4X, NEMA TS 2
	(2.2.7-2.2.9)

Table 1-3: AXIS Camera Specifications

Chapter 2: Wrong Way Module 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 software.

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.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.

B ISS Supervisor vx.x.x.x - InstallShield Wizard		
	Welcome to the InstallShield Wizard for ISS Supervisor vx.x.x.x	
	The InstallShield(R) Wizard will install ISS Supervisor vx.x.x.x on your computer. To continue, click Next.	
ImageSensing systems	WARNING: This program is protected by copyright law and international treaties.	
	< Back Next > Cancel	

2. Click Next.

The following appears.

B ISS Supervisor vx.x.x InstallShield Wizard			
License Agreement			
Please read the following license agreement carefully. ImageSensing systems			
AUTOSCOPE Vision (TM) SOFTWARE			
Autoscope Vision(TM) Limited Use License Agreement and Limited Warranty.			
Please read all terms and conditions before installing this software. Utilization of the software in any part indicates complete acceptance of the terms disclosed herein			
I accept the terms in the license agreement Print I do not accept the terms in the license agreement			
InstallShield 			

- 3. Select the **l accept the terms ...** check box.
- 4. Click Next.

The following appears.

1	ISS Super	visor vx.x.x.x - InstallShield Wizard	x
	Destination Click Nex	on Folder t to install to this folder, or click Change to install to a different folder. ImageS	ensing
F	\triangleright	Install ISS Supervisor VX.X.X.X to: C:\Program Files (x86)\ISS\Supervisor VX.X.X.X\ Change	ems
Ins	stallShield —	< Back Next > Cance	2

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

Yes	No
Proceed to <u>Step 9</u> .	Continue with the next step.

- **NOTE:** The firmware update files will be installed in the *InstallFiles* folder in this location.
- 6. Click Change.

The following appears.

B ISS Supervisor vx.x.x.x - InstallShield Wizard	×
Change Current Destination Folder	\diamond
Browse to the destination folder.	ImageSensing systems
Look in:	
Supervisor vx.x.x.x	t 🖻
Eolder name:	
C:\Program Files (x86)\ISS\Supervisor vx.x.x.x\	
InstallShield	
ОК	Cancel

- 7. Enter or select the new location.
- 8. Click **OK**.

9. Click Next.

The following appears.

B ISS Supervisor vx.x.x InstallShield Wizard	×
Ready to Install the Program	0
The wizard is ready to begin installation.	ImageSensing systems
If you want to review or change any of your installation settings, click Bac exit the wizard.	k. Click Cancel to
Current Settings:	
Setup Type:	
Typical	
Destination Folder:	
C:\Program Files (x86)\ISS\Supervisor vx.x.x.	
User Information:	
Name: ISS	
Company: Microsoft	
InstallShield	
< Back Install	Cancel

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.



Wrong Way Module



Din Rail Power Supply



Power Cord



Wrong Way I/O Module



DIN Rail Ground Connector

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

- A network switch with open ports for the Wrong Way Module, AXIS camera 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.
- A cell modem or router if required.
- PoE injector to power the camera.

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 (192.168.0.10 is the default IP of the Wrong Way Module).
- 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**.

Network

Network	LAN Interface						
IP Address	10].[10].[40].[101
Subnet Mask	255].[255].[255].[0
Default Gateway	10].[10].[40].[1
Primary DNS	10].[10].[5].[52
Secondary DNS	10].[10].[5].[53
Enable DHCP							

- 11. In the Network section, enter the IP Address, Subnet Mask and Default Gateway to be used by the device in the 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. In the left panel under Commands, click **Apply Changes**.
- 14. Close the Supervisor software.
- 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. After all hardware has been installed, configure the Wrong Way Module (see <u>Chapter 4: "Wrong Way Module Setup"</u>).

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.

ΜΟΧΛ°		ioLogik R	ioLogik Remote Ethernet I/O Server				
Model Name Location	- E1214 E1 - -	thernet IO Server		IP Serial No. System Elapsed Time			
		Ethernet Configur	ation				
- Main Menu - E1214		Ethernet Paramete	rs				
Overview		IP Configuration		Static	~		
- Network Settings		IP Address		10.10.40.1	05		
General Settings		Subnet Mask		255.255.25	55.0		
Ethernet Configura	ation	Gateway		0.0.0.0			
- User-defined Modb	us Addressin	g					
- AOPC Server Settin	ngs						
- I/O Settings		Submit					

- 7. On the left, click **Network Settings**.
- 8. Click Ethernet Configuration.
- 9. The IP Configuration should be set to **Static**; if not, select it.
- Enter the IP Address, Subnet Mask and Gateway for the device. Note, the IP address will be required when configuring the Wrong Way Module (<u>Step 6</u> on <u>page 4-5</u>).
- 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.



14. Close the ioLogik window.

Chapter 3: AXIS Camera Installation & Setup

General

This document describes how to install and set up the AXIS camera. The following equipment is required to install the AXIS camera.

- Provided:
 - camera unit
 - Connector guard
 - TR20 Torx bit
 - pole mount kit
 - pendant kit
- Not Provided:
 - Bolts to mount to a pole. The bolt specifications depend on the mounting requirements: for example, different bolts may be required when the camera is mounted on a wooden pole than when mounted on a concrete wall.
 - TR20 Torx driver
 - CAT5e or CAT6 cable that provides both power and Ethernet communications (PoE)
 - Power over Ethernet (PoE) IEEE 802.3at Type 2 Class 4 injector
 - Power supplies, etc.

Installing the Camera



Installation of the AXIS camera may require that you work above the ground on a ladder or bucket truck. Please make sure you have all the required equipment and are aware of potential safety issues before starting any installation. DO NOT install the camera if you are unsure how to complete the installation or lack appropriate safety equipment. It is recommended that you do NOT install this hardware during inclement weather.

NOTE: Always follow local wiring codes and local standards that apply to the location in which the AXIS camera is being installed.



1. Route the cable up the pole.

2. Push the PoE cable through the Cable Gland.



3. Push the cable through the Pole Bracket until there is 22 - 23 inches (56 - 58 cm) of cable showing.



- 4. On the inside of the Pole Bracket, secure the Cable Gland.
- 5. Loosen the Torx screw and open the latch.



- 6. Slip the cable inside.
- 7. Close the latch and tighten the screw making sure not to crimp the cable.



8. Secure the Pole Bracket to the pole using two steel bands.

NOTES:

- Ensure that the cable does not get pinched by the bracket.
- Ensure that the mounting does not allow for excessive camera movement as this can result in false detections and reduced performance.



9. Connect the Pendant to the Pole Bracket Extension by twisting it counterclock wise (when viewed from above) until it is snug against the Pole Bracket Extension.



10. Tighten the Torx screw.



- 11. Undo the four Torx screws from the camera assembly.
- 12. Separate the three component parts of the camera.



13. Using two TR20 Torx screws, connect the Mounting Bracket to the Pendant.



14. Clip the Camera Unit to the Mounting Bracket.



15. Route the PoE cable around the Mounting Bracket.



- 16. Slide the Cable Guard over the end of the RJ-45 connector on the cable.
- 17. Remove the nipple from the Cable Gasket.
- 18. To avoid tearing the gasket, slowly and carefully insert the cable through the Cable Gasket.
- 19. Remove the Cable Guard from the RJ-45 connector.



20. Insert the cable into the Camera Unit.



21. Connect the cable to the PoE connector in the Camera Unit.



22. Secure the Cable Gasket.



23. Push the Camera Unit into the Mounting Bracket until the securing clips snap in place.



24. Adjust each of the four cameras for the desired views.



25. Using the four TR20 Torx screws secure the Dome Cover to the Camera Unit.

Installation Guidelines

The recommendations outlined below are to be used as guidelines only. Each proposed site should have an individual site survey performed prior to any installation of equipment so ISS can ensure your installation goes smoothly and that system performance is optimized.

Installation needs to take into consideration the many possible variations of freeway exit ramp geometry, such as:

- The number of active lanes
- Shoulders
- Possible bi-directional traffic
- Other obstacles such as trees, barriers, signs, etc.

Camera Placement

The ISS solution uses a 4-lens camera. One lens is focused on the area of detection, while the others are directed to capture where the wrong way vehicle originated, as well as down ramp to verify if countermeasures were effective. Please consider the following guidelines when selecting camera placement:

• The camera is generally placed 50 – 75 ft from the intersection / wrong way driver entry point to the ramp and should not be placed closer than 20 ft from the intersection / wrong way driver entry point.

This placement ensures that wrong way drivers are detected quickly while avoiding detection of cross traffic and pedestrians.

• If there is an option to install on the right or left side of the exit ramp, the left side is preferred, as wrong way drivers tend to drive on the right.



(List continues on the next page.)

If possible, avoid areas with moving shadows or visual obfuscations:



Detection Coverage of the Roadway

•

With the correct installation parameters and ramp geography, our system can detect the following:

- Maximum of 100 ft from the camera (measured perpendicular across the roadway)
- Maximum of 4 lanes (including lanes of travel and shoulders)



- All lanes for detection need to be traveling in the same direction
- Detection lanes should be first lanes



Camera Mounting Height

Existing infrastructure can be utilized to mount the camera and cabinet if suitable. If not available, a new pole must be installed.

Height and Setback	Recommendations
General mounting height	20-30 ft above roadway surface depending on width of the area to be detected
Height for high volume truck traffic	40 ft to prevent occlusion
Height based on lanes of traffic to be covered	1 lane: 20 ft
	2-3 lanes: 20 ft-30 ft
	4 lanes: 30 ft+
Setback Minimum	5 ft, closer is possible but more mounting height may be needed
Setback Maximum	30 ft

NOTE: Excessive camera movement may cause false detections. Do not mount to poles that have excessive vibration. Wooden poles and standard ped poles are great options.

Lighting

ISS uses a camera system with an Infrared capability to be able to detect in low light scenarios; however, more lighting is always recommended. If a street light pole is nearby, it may be an excellent spot to install the camera system. Ambient light from the intersection can also be used and taken into consideration when placing the camera system.

If there is no ambient light, detection range is reduced to 50 ft measured perpendicular across the roadway. Consult with ISS for site with detection ranges greater than 50 ft and have illumination levels less than 18 lux.

Camera Aiming

For ramps with bi-directional, divided traffic such as partial cloverleaf interchanges, aim the camera so that both directions of traffic are visible in the detection camera field of view. This provides better shadow rejection.

For example:



IMPORTANT: Camera used for detection must be aimed perpendicular to the roadway.


Aiming 2-4 Cameras For wrone

For wrong way vehicle traffic from right to left:



Camera	Aiming Objective
Camera 1	Detection camera (aimed perpendicular to the ramp lanes)
Camera 2	View of the wrong way driver origin (typically pointing at the intersection at the end of the ramp)
Camera 3	View of where the exit ramp intersects the mainline
Camera 4	View of the countermeasures

For wrong way vehicle traffic from left to right:



Camera	Aiming Objective
Camera 1	View of the wrong way driver origin (typically pointing at the intersection at the end of the ramp)
Camera 2	Detection camera (aimed perpendicular to the ramp lanes)
Camera 3	View of the countermeasures
Camera 4	View of where the exit ramp intersects the mainline

Countermeasure Placement

Generally, the countermeasures are flashing signs or lights. They need to be installed at a point down the ramp where the wrong way driver will have enough time to view and react to them prior to entering the actual freeway and make corrections.

We recommend that the countermeasures are installed a minimum distance of 200 ft with an ideal range of 250-300 ft from the camera detection area or 3-4 seconds of drive time.

- After detection, the system takes roughly 1 second to activate the signs.
- If RF countermeasures are being used, there is often about a 1/2 second of latency in wireless transmission.
- Typically, it will require 2 seconds of drive time for human perception & reaction.

Logging in to the Camera

Communications with the AXIS camera is across an Ethernet network. To log in to the camera, do the following.

- 1. Connect the Ethernet cable from the camera to the PoE port on the injector.
- 2. Connect the computer to the LAN only port on the injector.
- 3. Apply power to the injector.
- 4. When connecting for the first time, set up the IP addressing of your computer using the following:
 - for IP address: **192.168.0.100**
 - for Subnet mask: **255.255.255.0**
 - for Gateway: **192.168.0.1**

For information on how to set the IP address of your computer, consult the documentation for your operating system.

- 5. Start an Internet browser.
- 6. In the address field, type 192.168.0.90 (this is the default IP of the camera).
- 7. Press Enter.
- 8. The login window appears.

et a password for the root account.	
L root	
Password	0
Repeat password	٢
assword strength: Blank. Type a passwor	d.
English	

9. Is this your first time logging into the camera?

Yes	No
Continue with the next step.	Proceed with your login credentials.

- 10. Enter a new password.
- 11. Re-enter the new password.
- 12. Click Create login.

Get started	
	Select your power line frequency

- 13. Select the power line frequency for your region.
- 14. Click Next.

IPv4	Date and time
Automatic IP (DHCP) and DNS (DHCP)	Automatic date and time
	Year Month Day Hour Min 2021 08 16 9 39 AM Y
	Time zone
	America/Chicago
	Connect to NTP-server
	Automatically (DHCP)
	Manually
	NTP sync
	NTP servers:
	Synced: No
	Due for next sync: 0 sec
	Time offset: -

- 15. Is the correct date and time displayed? If not, turn **Automatic date and time** off and set the correct date and time.
- 16. Click Next.

Changing Camera Settings

The following settings should be changed after the camera is installed.

1. Log in to the camera.



2. In the lower right click **Settings**.

Image	Stream	Overlay	Privacy mask	Apps	System						
	Appearance				F	ocus			Wide dynamic ra	nge	
:	Saturation		0	100 6	0	Show AF area	Autofocus		Local contrast		100 20
	Contrast				N	ear		Far	White balance		
) Brightness			100 4	5 Z	oom			Light environment	Automatic	T
(0		0	100 6	0 V	/ide 🔵		Tele			
	Sharpness D		0	100 6	0						

- 3. Under **Appearance**, change the following settings to the values indicated.
 - Saturation: 60
 - Contrast: 45
 - Brightness: 60
 - Sharpness: 60

4. Under **Wide dynamic range**, change Local contrast to **20** for the forward facing camera.

NOTE: For all other cameras set the value to 50.

5. Click the arrow all the way to the right.

Exposure mode	Blur-noise trade-off Low noise	Low motion blur
Automatic *	Exposure level	
Exposure zone Automatic T	0	100 60
Max shutter 1/120 V s		/
Max gain 18 🔻 dB		

- 6. Under **Exposure**, change the following settings to the values indicated.
 - Max shutter: 1/120
 - Max gain: 18
 - Blur/noise tradeoff: move the slider to approximately the 80% level
 - Exposure level: 60
- 7. Select the **Stream** tab.

General -	
Stream pr	ofiles
Resolution	1280x720 (16:9) 🔻 i
Frame rate	30 [030] (0 = ∞) fps (i)
Compression Low	High 30

- 8. Under **Stream profiles**, change the following settings to the values indicated.
 - Resolution: **1280x720 (16:9)**
 - Frame rate: 30

IMPORTANT: The Wrong Way device will not function properly using any other resolution.

9. Select the System tab.

		33	*	Crivie	SNMP
Language	Date and time	Orientation	Users	ONVIF	SNMP
۲	<u>ل</u>	۲			٢
TCP/IP	AVHS	Security	Storage	Events	Detectors

- 10. Click TCP/IP.
- 11. In the IPv4 section, select Manual IP and manual DNS.

PV4 Manual IP and manual DNS P address S 192.168.150.165	Subnet mask 255.255.255.0
Manual IP and manual DNS P address S 192.168.150.165	Subnet mask 255.255.255.0
P address S 192.168.150.165	Subnet mask 255.255.255.0
192.168.150.165	255.255.255.0
Default reuter	
Jerault router	
192.168.150.1	
Domain name	
Domain name	
+	
Primary DNS server S	Secondary DNS server
	0.0.0.0

- 12. Enter the IP address, Subnet mask and Default router (Gateway) to be used by the camera.
- 13. Click Save.
- 14. Do you want to set a date/time overlay?

Yes	No
Continue with the next step.	Proceed to Step 21.

- 15. Select the **Overlay** tab.
- 16. Click Create overlay.

Create overlay		
TextImage		
	Cancel	Create

- 17. Select Text.
- 18. Click Create.

Text		
%F %X		
Date Time A	▼ 48 ▼ Cus	tom 🔻
	Cancel	Create

19. Click Date, then Time.

20. Click Create.

The current data and time will appear in the upper left corner of the video.

- 21. Close the Settings area.
- 22. On the home screen, click the play button start the video.



- 23. On the bottom left of the image, expand the camera list.
- 24. Select the next camera in the list.
- 25. Repeat Steps 2 24 for each camera in the list.

Streaming Video From a Media Player

Video from the AXIS camera can be streamed through a third party media player such as VLC.

1. Start VLC.

4	VLC	media play	er						
Med	dia	Playback	Audio	Video	Subtitle	Tools	View	Help	
Þ	Ор	en File			Ctrl+C)			
Þ	Ор	en Multiple	Files		Ctrl+S	hift+0			
Þ	Ор	en Folder			Ctrl+F				
٠	Ор	en Disc			Ctrl+D)			
÷	Ор	en Network	Stream		Ctrl+N	1			
1	Ор	en Capture	Device		Ctrl+C	Ctrl+C			
	Open Location from clipboard			Ctrl+V					
	Ор	en Recent N	/ledia			•			
	Save Playlist to File			Ctrl+Y	,				
	Convert / Save			Ctrl+R					
((-))	Str	eam			Ctrl+S				
	Qu	it at the end	l of playli	st					
œ.	Qu	iit			Ctrl+C	2			
:									
			H 13	t1t	II II II	~			

2. Select Media, then click Open Network Stream.

🛓 Open Media				-	• ×			
🖻 File 🛛 📎 Disc	🚏 Network	Capture Device						
Network Protocol								
Please enter a netwo	ork URL:	edia/media.amp?camera	=x		~			
http://@www.example rtp://@i1234 mms://mms.example rtsp://server.example http://www.yourtub	http://www.example.com/stream.avi rtp://@:1234 mms://mms.example.org:8080/test.sdp http://www.yourtube.com/watch?v=gg64x							
Show more options			Play	(\	Cancel]		

3. For the URL enter the following:

rtsp://user:pass@ip addr:554/axis-media/media.amp?camera=x

	rtsp://	= mandatory entry					
	user:	= username for logging in to the AXIS camera					
	pass	= password associated with the username					
	@	= mandatory entry					
	ip addr	= IP address of the camera					
	:554	= default port number					
	axis-media = mandatory entry						
	media.am	p = mandatory entry					
	?	= mandatory entry					
	camera=	= mandatory entry					
	х	= camera number; 1, 2, 3, 4 or quad					
4.	Click Play .						

Chapter 4: 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 AXIS 3717-PLE Network Camera. For complete information on installing and configuring the camera, see <u>Chapter 3: "AXIS Camera Installation & Setup</u>".

Application Notes

To obtain the optimum system performance, please follow these guidelines.

- Limit zone configurations to a single zone. A single zone can cover multiple lanes of traffic moving in the same direction.
- Limit the detection area to the zone closest to the camera.
- Moving shadows or reflections cast into the detection area can cause false detections. Some common causes of this include:
 - Vehicles traveling in the opposite direction casting shadows from a lane adjacent to the detection zone.
 - From objects casting moving shadows into the detection zone (e.g., a tree in the wind).

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, unless the Wrong Way Module is connected through a routed network.
- 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 <u>"Supervisor Home Screen" on page 5-1</u>.

All detected devices appear in the device list.

3. If devices do not appear in the list, click Learn Network.

4. Did the Wrong Way Module appear in the list?

Yes	No
Proceed to <u>"System Setup" on page 4-3</u>	Continue with the next step.

5. In the left panel under commands, click Add Device By IP.

dd Devid	e by IP	Addres	s			
0		0		0		0
Port	B	30000	¢			
			ОК		CA	NCEL

- 6. Enter the IP address of the Wrong Way Module. The default IP address is 192.168.0.10.
 - **NOTE:** If the Wrong Way Module is connected through a routed network, the IP address entered must be the public IP address of the router or cell modem the Wrong Way Module is connected to.
- 7. Click **OK**.

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**.

Regional Preferences					
Language	English 👻				
Units of Measurement	English 👻				
Description Preferences					
Naming Scheme	Default 👻				
Description 1 Name	Device Name				
Description 2 Name	Description 2				
Description 3 Name	Description 3				
Description 4 Name	Description 4				

- **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. If **Custom** is selected, enter a name for each of the four descriptions.
- 4. 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**.

User Descriptio	ns					
Device Name						
Description 2						
Description 3						
Description 4						
Time						
Time Source	Manual	i)				
0	NTP				A	DD
					DEI	LETE
Time Zone	JTC-06:	00) Centr	al Time	(US & Ca	nada) 👻	
Network						
Network	LAN	nterface		•		
IP Address	10	. 10	. 40	. 101		
Subnet Mask	255	. 255	. 255	. 0		
Default Gateway	10	. 10	. 40	. 1		
Primary DNS	10	. 10	. 5	. 52		
Secondary DNS	10	. 10	. 5	. 53		
Enable DHCP						
Video						
Bitrate					5000	kbps RESET
					El Contra	
External I/O						
Name						
IP Address 0	. 0	. 0	. 0)		
						ADD
						DELETE
						ottere
Communicatio	n Por	ts				
communicatio				33 3/2		
Communication I	Ports	300	\$ 000	through	30009	
Webserver						
and second	_					
Status Enabled						

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.
 - **NOTE:** If the Wrong Way Module is connected to a cell modem or routed network, the Gateway specification must match in order for alerts to be correctly routed.
- 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?

Yes	No
In the External I/O section, do the following:	Continue with the next step.
a) Enter a name for the Wrong Way I/O Module.	
 b) Enter the IP address of the Wrong Way I/O Module (from <u>Step 10</u> on <u>page 2-10</u>). 	
c) Click Add to add the address to the list.	
d) Continue with the next step.	

10. The **Communication Ports** area is used when the Wrong Way Module is connected to a routed network and port forwarding is required.

Select or enter the starting port number in the sequence to be used. The system will register 3 concurrent port numbers that must be the same as specified in the router/cell modem forwarding configuration.

For additional information, see <u>"Port Forwarding Through a Routed Network"</u> on page 5-21.

- 11. In the **Webserver** section, select whether clients can access the Wrong Way Module through the RESTful web service APIs. For information about the APIs see the Wrong Way Alerting Solution API Programmers Guide.
 - **Status** select whether the Webserver is **Enabled** or **Disabled**. Must be enabled when using Alert Trust.
 - Port enter the port number used to access the Webserver.
 Valid entries are 8080, 8008 or a number between 41952 and 65535. The default is 80. If the port specified is already in use, a message will be posted to the Operations Log and the value will revert back to the last working port.
 - **NOTE:** If port forwarding is used, the Web Server port must be configured as part of the router/cell modem forwarding configuration.
- 12. Click Apply Changes.
- 13. Return to the Device screen.
- 14. If the Time Source selected was Manual, click **Set Time** in the Commands section.
- 15. Set up notifications.

Notification Settings

Notifications are emails and/or API messages that are sent whenever a wrong way event is detected.

For API messages, the Wrong Way Module pushes POST incident messages to the user's API server defined in the Alert Trust section.

1. On the Device screen for the Wrong Way Module, click **Notification Settings**.

Email		
From Name		
From Address		
Server		
Port	0	
Encryption Type	● None ○ SSL ○ TLS	
Username		
Password		
		ADD
		DELETE
Recipient Addresses		
	CLEAR ALL	
Alert Trust ™		
Enabled		
Device Id		
Host		
Port	0	

- 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 email 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. In the Alert Trust section, select **Enabled** to have the Wrong Way device begin pushing POST messages to the Alert Trust server.
 - **NOTE:** These values are typically configured with the API by the customer event management software. These fields allow the values to be configured before integration into the event management software once it has been completed.
- 12. Enter a user-assigned **Device Id** for the Wrong Way Module.

This identifies the Wrong Way Module to Alert Trust and the customer alert management software. If no specific value is known, use the Device ID of the wrong way processor which can be found on the device info page of the Supervisor software.

13. For **Host**, enter the host name or IP address of the user's web server.

NOTE: For connections to Alert Trust, use 173.11.52.169.

14. For **Port**, enter the port number used by the user's web server to receive Endpoint POSTs from the Wrong Way Module.

NOTE: For connections to Alert Trust, use 47775.

- 15. After all recipients have been added, in the left panel under Commands, click **Apply Changes**.
- 16. To verify that the recipients are notified, click **Test Notification**.
- 17. 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 camera.

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

Settings	
RTSP Address	192 . 168 . 0 . 168
RTSP Port	554
RTSP Presentation	axis-media/media.amp?camera=1
RTSP Username	<user defined=""></user>
RTSP Password	<user defined=""></user>
Alternate Incident URL	×
Incident RTSP Address	192 . 168 . 0 . 168
Incident RTSP Port	554
Incident RTSP Presentation	axis-media/media.amp?camera=quad
Incident RTSP Username	<user defined=""></user>
Incident RTSP Password	<user defined=""></user>

- 2. For RTSP Address, enter the IP address of the camera.
- 3. For **Port**, enter the port number used to access the camera. The default is 554.
- 4. For **RTSP Presentation**, enter the presentation name of the stream to be displayed (e.g.axis-media/media.amp?camera=1).
- 5. For **RTSP Username**, enter the name used to log in to the camera.
- 6. For **RTSP Password**, enter the password associated with the Username.
- 7. To record a video from a field of view different from the primary, select the **Alternate Incident URL** check box.
- 8. For Incident RTSP Address, enter the IP address of the camera.
- 9. For **Incident RTSP Port**, enter the port number used to access the camera. The default is 554.
- 10. For **Incident RTSP Presentation**, enter the presentation name of the stream to be displayed (e.g.axis-media/media.amp?camera=quad).
- 11. For **Incident RTSP Username**, enter the name used to log in to the camera.

- 12. For **Incident RTSP Password**, enter the password associated with the Username.
- 13. In the left panel under Commands, click **Apply Changes**.
- 14. 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.
- On the Device screen for the Wrong Way Module, click Camera Calibration. The following appears.



- 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. In the left panel under Commands, 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 <u>"Save Archive" on page 5-7</u>).
- 8. When complete, in the left panel under Commands, 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 <u>"Notification Settings"</u> 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: <u>"Easy</u> <u>Setup"</u>, <u>"Zones Explorer"</u>, <u>"Actions Explorer"</u> and <u>"Video Overlays"</u>.

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.



- **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 <u>"Operations Log"</u> screen. Additionally, an email notification of the incident will be sent to all recipients on the <u>"Notification Settings"</u> 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 <u>"Save Archive" on page 5-7</u>).

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.
- Enable email notifications to be sent.
- 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.

EASY SETUP	
ZONES EXPLORER	
Zone	+ ×
Wrong Way in Zone	+ ×
Display Zone 📒 🔳	×
🚹 Incident in Zone 🗷 🔀	×
Set Output 3 💌	×
<	

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 <u>"Easy Setup"</u> 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 enable email notifications to be sent, select the check box to the right of Incident in Zone.

NOTE: The check box is selected by default if recipients are defined on the <u>"Notification Settings"</u> screen.

5. 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.



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

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

EASY SETUP		
ZONES EXPLORER		
Zone	+ × 1	
Wrong Way in Zone	+ ×	
Display Zone 📒 🔳	New Actions	
🔒 Incident in Zone 🗷 🔀	Timed Set Output	
Set Output 3 🔹	×	

- 7. To change the zone description, condition or action, highlight it and type a new description. For additional information about changing descriptions, see <u>"Changing Zone, Condition and Action Descriptions" on page 4-24</u>.
- 8. 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 <u>"Save Archive" on page 5-7</u>).

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.

EASY SETUP		
ZONES EXPLORER		
ACTIONS EXPLORER		
✓ Set Output ≪3 ▼	× 💿	
Wrong Way in Zone	۲	
Wrong Way in Zone	۲	
 Set Output 	× 💿	
Wrong Way in Zone	۲	

- 2. To change the description of an output or condition, highlight it and type a new description. For additional information about changing descriptions, see <u>"Changing Zone, Condition and Action Descriptions" on page 4-24</u>.
- 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.



- 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.



ltem	Description
1	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.

(Table continues on the next page.)

ltem	Description
2	Select the size of the font in which the text is to be displayed. The default is 20 point.
3	Select if the text is to be displayed in bold type.
4	Select if the text is to be displayed in Italic type.
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 <u>"Save Archive" on page 5-7</u>).

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.

EASY SETUP
ZONES EXPLORER
ACTIONS EXPLORER
VIDEO OVERLAYS
Show Device Name
Show System Time
Show Firmware Version
ADD STATIC TEXT

- 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.



ltem	Description
1	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.
2	 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
3	Select if the text is to be displayed in bold type.
4	Select if the text is to be displayed in Italic type.
Б	 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.

NOTE: After all zones are defined and configured, it is recommended that the configuration be archived (see <u>"Save Archive" on page 5-7</u>).

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, de-select 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 set up 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 5: 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.



Figure 5-1: 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.

ltem	Description
1	Navigation: Links to other operational screens.
2	Commands: Click to perform the specific operation.
3	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 <u>"Operations Log" on page 5-12</u>).
4	Click to access the Device screen for the device.
5	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.
6	Name of the device as entered in the first User Description field on the Device Settings screen.
7	Shows status information about the device.
8	Firmware version currently installed in the device. For information on upgrading the firmware, see <u>"Firmware Update" on page 5-10</u> .
9	Live video stream URL.
10	Version of the Supervisor software currently running on the computer.
11	Search field: Used to search for devices based on model, description, firmware version, device ID, etc. A maximum of 30 characters can be entered.

Table 5-5: Home Screen Descriptions

Device Screen

Supervisor		– ø ×
Supervisor	<u>م</u>	ImageSensing systems
Navigation 1	Home / Device	_
DEVICE SETTINGS	Device Name	. 4
FIRMWARE UPDATE	Active Config: Primary	
OPERATIONS LOG		
⇔ _i device info		
CONFIG MANAGEMENT		
Commands 2		
	•	
CLEAR CONFIGURATION		
Incidents 3		
	§ 9 7	9
	H CAMERA SETUP CAMERA CALIBRATION	
	CLEAR STATUS Read Detection Configuration: Completed (8)	10 Version:

This screen is used to set up the configuration for the device.



ltem	Description
1	Actions that can be performed. For more information see:
	<u>"Wrong Way Device Settings"</u>
	<u>"Firmware Update"</u>
	<u>"Operations Log"</u>
	<u>"Device Info"</u>
	<u>"Incidents"</u>
	<u>"Notification Settings"</u>
	<u>"Config Management"</u>

ltem	Description
2	Commands that can be executed.
	<u>"Restart Device"</u> - Restarts device.
	<u>"Save Archive</u> " - Captures the current state of a device.
	<u>"Restore Archive"</u> - Downloads the contents of a previously saved archive file into the selected device.
	<u>"Set Time"</u> - Synchronizes the clock of the selected device to the clock on the connected computer when Manual is selected as the Time Source on the Device Settings screen.
	<u>"Clearing the Configuration"</u> - Removes the configuration set for a Wrong Way Module.
3	List of defined incidents that have been detected. Click on an incident to view more information.
4	Display window - Shows a snapshot from the device and any detection zones that are already defined.
5	Used to define the IP address of the device from which the video stream is received. See <u>"Camera Setup"</u> .
6	Perform <u>"Camera Calibration"</u> for the device. Required before Zone Setup can be done.
7	Set up the detection zones. Requires that <u>"Camera Calibration"</u> be done before option is active.
8	Shows device status messages.
9	Snapshot/video controls. Click to refresh the image, play video, record video and stop video.
10	Version of the Supervisor software currently running on the computer.

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.

Supervi	sor					×
Add Devi	te by IP	Address				
0		0		0		0
Port	2	30000 🗘				
			ок		CA	NCEL

- 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. Select or enter the port number used by the Wrong Way Module when doing port forwarding. This would be the number for the Communication Ports field on the Device Settings screen for the Wrong Way Module.
- 4. 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.

- 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
 - Timeb 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**.
- 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.



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.

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.

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.

Commands Commands Start Install	Kernic Contemporate Contemporat							
	Description:							
		Device Name	Device ID	Firmware Version	Status			
	- 4	Snelling - North Bound	8796763877030	x.x.x.x				
	- 4	Snelling - South Bound	8796760795973	x.x.x.x				

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.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.

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 are selected on the Home screen when **OPERATIONS LOG** is clicked, then all of the devices listed on the Home screen when **OPERATIONS LOG** is clicked, then all of the devices listed on the Home screen when **OPERATIONS LOG** is clicked, then all of the devices listed 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 5-3: Operations Log Screen

ltem	Description
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.

Table 5-7: Operations Log Field Descriptions

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.

Supervisor									
Supervisor							A	🗢 Image	Sensing systems
Commands	<	Home / Operatio	ns Log						
		Device Name		Device ID	Status			Messages	Active Severe Errors
	-	🗲 FAP - South Bound	Snelling	87967585	75568 Read Ope	erations Log: Co	ompleted	2445	1
START LIVE LOG		·	-			-			
		Time	Device Name		Device ID	Severity	Messages		
	A	9/1/2017 5:36:14 AM	FAP - South Boun	d Snelling	8796758575568	Warning	(1011) NTP server 10.99.20.1 not synced. Ser	ver may be i	nvalid, unreacha 🔺
		9/1/2017 5:35:14 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(100E) NTP configured		
		9/1/2017 5:35:14 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(100D) Adding NTP server(s): 10.99.20.1		
		9/1/2017 5:35:14 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1017) Time zone set to (UTC-06:00) Central	Time (US & (Canada)
		9/1/2017 5:35:14 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1012) Time source set to NTP		
		9/1/2017 5:35:13 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1008) Version: Bootloader: SimBootloaderVe	ersion iss_r3	
		9/1/2017 5:35:13 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1008) Version: TimeSink: 1980		
		9/1/2017 5:35:13 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1008) Version: SimMainBoard: 4		
		9/1/2017 5:35:13 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1008) Version: PowerDigressor: 8		
		9/1/2017 5:35:13 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1008) Version: MainBoard: 0		
		9/1/2017 5:35:13 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1008) Version: FluxCapacitor: 2015		
		9/1/2017 5:35:13 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1008) Version: AvidDeviceModule: 3		
		9/1/2017 5:35:13 AM	FAP - South Boun	d Snelling	8796758575568	Informational	(1008) Version: SW: 2.3.0.52		
	Θ	9/1/2017 5:35:13 AM	FAP - South Boun	d Snelling	8796758575568	Severe Error	(101B) License Failure		-
	к	< 1 of 9	>)						
									Version:

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.

Start/Stop Live Log

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

- 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 **Start Live Log**.

Clear Log

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

- 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.

Device Info

This function indicates how busy the device is and what percentage of the device's memory is being used. To display the information, click **Device Info** in the Navigation section on the Device screen.

Device Information
Firmware Version: 3.0.1.82
Device ID: 110461395536
Serial Number: 17090072
Time: 2021/08/24 11:37:55
Device Status
CPU Load:
36%

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 5-8: Incidents Screen Descriptions

ltem	Description
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.
3	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.

(Table continues on the next page.)

ltem	Description
4	Snapshot icon - Click to view the snapshot associated with the incident. An arrow indicates the direction traffic is supposed to travel.
5	Type of incident detected.
6	Date and time stamp of when the incident was detected.
7	Size of the video file associated with the incident.
8	Indication of whether or not the video is ready to be saved to the computer. To save the video, select the incident and click Save Video in the Commands section.

Table 5-8: Incidents Screen Descriptions (Cont'd)

Config Management

This operation is initiated from the Device screen. It is used to create and save multiple zone configurations that can be activated at different times of the day, weekdays, weekends and specific times during the week. The following is an example of how this could be used.

- A reversible HOV ramp has traffic that travels different directions depending on the time of day.
- 1. Create a zone configuration (see <u>"Adding a Wrong Way Zone" on page 4-12</u>).
- 2. On the Device screen, click **Config Management**.

Name	d Configs	
Active	Name	
•	Primary D	
Sched	ule	
		+
		1

- 3. In the **Named Configs** section, select and change the name for the first configuration from the default name of "Primary" to something else (e.g., Daytime config, Nighttime config, etc.).
- 4. Click the page icon to the right to create a copy.



- 5. Highlight the copy and change the name for the second configuration.
- 6. Repeat Steps 4 and 5 for other configurations.
- 7. In the **Schedule** section, click the plus sign to the right to add a schedule.

Schedule			
Weekday 1:00 AM 🗢 🗸 AM	♥ 3/18/2021 1:00:00 AM	09:52:59	× +
Daily 3:00 PM 😴 🕶 PM	✓ 3/18/2021 3:00:00 PM	23:52:59	× Ξ
Weekend 7:00 PM 文 🗸 Saturday PM	✓ 3/20/2021 7:00:00 PM	03:03:52:59	×
Monday 👻 5:00 PM 文 Y PM	✔ 3/22/2021 5:00:00 PM	05:01:52:59	×

- 8. Choose an option from the drop down menu: Daily, Weekday, Weekend, or Day of the Week.
- 9. For each schedule created, select the configuration to which the schedule is associated.
- 10. Select the starting time when the configuration is to be active.

NOTE: The timer (green box) indicates when the next expected config change will occur based off the schedule.

11. After all configurations and schedules have been created, return to the Device screen.



The currently active configuration is shown and scheduling is disabled.

- 12. To set up zones for a configuration, select the configuration in the Active Config field, then click **Zone Setup** on the bottom of the screen.
- 13. On the Zone Setup screen, configure zones as desired.
- 14. When complete, return to the Device screen.
- 15. Repeat <u>Steps 12 14</u> for each defined configuration.
- 16. To activate the configuration schedules, click the icon to the left of **Active Config**.



The name of the currently active configuration and an indication that scheduling is enabled is displayed. In addition, at the bottom of the screen, Zone Setup will be grayed out and a lock icon will appear next to it. Zone setups cannot be edited while scheduling is enabled.

NOTE: If you try to enable a configuration that has a schedule different from the current configuration, a pop-up warning appears. Selecting Yes changes the Active Config; selecting No keeps the current Active Config.

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 <u>"Zones Explorer"</u> (see <u>page 4-17</u>).

The output to be activated if the Wrong Way I/O module is included in the system can be set in either the <u>"Easy Setup"</u>, <u>"Zones Explorer"</u> or <u>"Actions Explorer"</u> 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.

Port Forwarding Through a Routed Network

Port forwarding is used when the Wrong Way Module is connected to a routed network (e.g., router or cell modem) and needs to communicate with the Supervisor software located at the TMC.

An example of a routed network is shown in Figure 5-4.



Figure 5-4: Wrong Way System Routed Network

Wrong Way Module Setup

The following must be set up using the Supervisor (see <u>Chapter 4: "Wrong Way</u> <u>Module Setup"</u>):

- IP Address, Subnet Mask and Default Gateway: must be compatible with the private side settings in the Wrong Way System Gateway.
- Communication Ports must be defined. These are the ports that must be forwarded through the Gateway.

Wrong Way System Gateway Setup

The following must be set up for forwarding:

- The 3 ports defined as the Communication Ports in the Wrong Way Module setup.
- The port number specified for RTSP Port on Camera Setup screen in the Supervisor.
- The Webserver port defined in the Supervisor on the Device Settings screen.

For complete information on setting up the router or cell phone modem, consult the manufacturers documentation.

TMC Gateway Setup

The gateway must be set up to allow communication between the two gateways.

Video Operations

The video operations enable the user to play and/or record live video from a camera connected to the Wrong Way Module.

Control	Description
N	This control refreshes the image displayed on the screen.
•	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.
	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 (\$) • 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.
	This control stops the play and record operations.

Chapter 6: Troubleshooting/Maintenance

AXIS Camera

Reset to Factory Default Settings



IR emitted from this product. Do not look at the operating lamp.

IMPORTANT: Reset to factory default should be used with caution. A reset to factory default resets all settings, including the IP address, to the factory default values.

To reset the product to the factory default settings:

- 1. Press and hold the control button and the restart button at the same time.
- 2. Release the restart button but continue to hold down the control button for 15–30 seconds until the status LED indicator flashes amber.
- 3. Release the control button. The process is complete when the status LED indicator turns green. The product has been reset to the factory default settings. If no DHCP server is available on the network, the default IP address is **192.168.0.90**.
- 4. Use the installation and management software tools to assign an IP address, set the password and access the video stream.

It is also possible to reset parameters to factory default through the web interface. Go to **Settings > System > Maintenance** and click **Default.**

Check the Current Firmware

Firmware is the software that determines the functionality of network devices. One of your first actions when troubleshooting a problem should be to check the current firmware version. The latest version may contain a correction that fixes your particular problem.

To check the current firmware:

- 1. Go to the product's webpage.
- 2. Click on the help menu.
- 3. Click About.

Upgrade the Firmware

IMPORTANT: Preconfigured and customized settings are saved when the firmware is upgraded (provided that the features are available in the new firmware) although this is not guaranteed by Axis Communications AB. Make sure the product remains connected to the power source throughout the upgrade process.

NOTE: When you upgrade the product with the latest firmware in the active track, the product receives the latest functionality available. Always read the upgrade instructions and release notes available with each new release before upgrading the firmware. To find the latest firmware and the release notes, go to <u>axis.com/support/firmware</u>.

AXIS Device Manager can be used for multiple upgrades. Find out more at <u>axis.com/products/axis-device-manager</u>.

To watch this video, go to the web version of this document. axis.com/products/online-manual/44506#t10095327

How to upgrade the firmware

- 1. Download the firmware file to your computer, available free of charge at <u>axis.com/support/firmware</u>.
- 2. Log in to the product as an administrator.
- 3. Go to **Settings > System > Maintenance**. Follow the instructions on the page. When the upgrade has finished, the product restarts automatically.

Technical Issues, Clues and Solutions

If you can't find what you're looking for here, try the troubleshooting section at <u>axis.com/support</u>.

Problems Upgrading the Firmware

Symptom:	Firmware upgrade failure.
Suggested Action:	If the firmware upgrade fails, the device reloads the previous firmware. The most common reason is that the wrong firmware file has been uploaded. Check that the name of the firmware file corresponds to your device and try again.
Symptom:	Problems after firmware upgrade.
Suggested Action:	If you experience problems after a firmware upgrade, roll back to the previously installed version from the Maintenance page.

Problems Setting the IP Address

Symptom:	The device is located on a different subnet.
Suggested Action:	If the IP address intended for the device and the IP address of the computer used to access the device are located on different subnets, you cannot set the IP address. Contact your network administrator to obtain an IP address.
Symptom:	The IP address is being used by another device.
Suggested Action:	Disconnect the Axis device from the network. Run the ping command (in a Command/DOS window, type ping and the IP address of the device):
	 If you receive: Reply from <ip address="">: bytes=32; time=10 this means that the IP address may already be in use by another device on the network. Obtain a new IP address from the network administrator and reinstall the device.</ip>
	• If you receive: Request timed out , this means that the IP address is available for use with the Axis device. Check all cabling and reinstall the device.
Symptom:	Possible IP address conflict with another device on the same subnet.
Suggested Action:	The static IP address in the Axis device is used before the DHCP server sets a dynamic address. This means that if the same default static IP address is also used by another device, there may be problems accessing the device.

The Device Cannot Be Accessed From a Browser

Symptom:	Cannot log in.
Suggested Action:	When HTTPS is enabled, ensure that the correct protocol (HTTP or HTTPS) is used when attempting to log in. You may need to manually type http or https in the browser's address field.
	If the password for the user root is lost, the device must be reset to the factory default settings. See <u>"Reset to Factory Default Settings" on page 6-1</u> .
Symptom:	The IP address has been changed by DHCP.
Suggested Action:	IP addresses obtained from a DHCP server are dynamic and may change. If the IP address has been changed, use AXIS IP Utility or AXIS Device Manager to locate the device on the network. Identify the device using its model or serial number, or by the DNS name (if the name has been configured).
	If required, a static IP address can be assigned manually. For instructions, go to <u>axis.com/support</u> .

The Device is Accessible Locally But Not Externally

To access the device externally, we recommend using one of the following applications for Windows[®]:

- AXIS Companion: free of charge, ideal for small systems with basic surveillance needs.
- AXIS Camera Station: 30-day trial version free of charge, ideal for small to mid-size systems.

For instructions and download, go to <u>axis.com/vms</u>.

Problems With Streaming

Symptom:	Multicast H.264 only accessible by local clients.
Suggested Action:	Check if your router supports multicasting, or if the router settings between the client and the device need to be configured. The TTL (Time To Live) value may need to be increased.
Symptom:	No multicast H.264 displayed in the client.
Suggested Action:	Check with your network administrator that the multicast addresses used by the Axis device are valid for your network.
	Check with your network administrator to see if there is a firewall preventing viewing.

Symptom:	Poor rendering of H.264 images.
Suggested Action:	Ensure that your graphics card is using the latest driver. The latest drivers can usually be downloaded from the manufacturer's website.
Symptom:	Color saturation is different in H.264 and Motion JPEG.
Suggested Action:	Modify the settings for your graphics adapter. Go to the adapter's documentation for more information.
Symptom:	Lower frame rate than expected.
	• See <u>"Performance Considerations" on page 6-6</u> .
	• Reduce the number of applications running on the client computer.
	• Limit the number of simultaneous viewers.

- Check with the network administrator that there is enough bandwidth available.
- Lower the image resolution.

Performance Considerations

When setting up your system, it is important to consider how various settings and situations affect the performance. Some factors affect the amount of bandwidth (the bitrate) required, others can affect the frame rate, and some affect both. If the load on the CPU reaches its maximum, this also affects the frame rate.

The following factors are the most important to consider:

- High image resolution or lower compression levels result in images containing more data which in turn affects the bandwidth.
- Rotating the image in the GUI will increase the product's CPU load.
- Access by large numbers of Motion JPEG or unicast H.264 clients affects the bandwidth.
- Simultaneous viewing of different streams (resolution, compression) by different clients affects both frame rate and bandwidth. Use identical streams wherever possible to maintain a high frame rate. Stream profiles can be used to ensure that streams are identical.
- Accessing Motion JPEG and H.264 video streams simultaneously affects both frame rate and bandwidth.
- Heavy usage of event settings affects the product's CPU load which in turn affects the frame rate.
- Using HTTPS may reduce frame rate, in particular if streaming Motion JPEG.
- Heavy network utilization due to poor infrastructure affects the bandwidth.
- Viewing on poorly performing client computers lowers perceived performance and affects frame rate.
- Running multiple AXIS Camera Application Platform (ACAP) applications simultaneously may affect the frame rate and the general performance.

Wrong Way I/O Module

Symptom:	No Power.
Suggested Action:	Ensure DC voltage range is 12V to 36V.
Symptom:	IP recovery.
Suggested Action:	Download ioSearch Configuration Utility from Moxa website:
	moxa.com/en/support/product-support/software-and-documentation
Symptom:	No I/O output.
Suggested Action:	Check that zone has been configured in Wrong Way module (via Supervisor).
	Ensure that I/O has been assigned to detection zone.
Symptom:	Forgot password.
Suggested Action:	If you forget the password, the ONLY way to configure the ioLogik E1200 is by using the Reset button to load the factory default settings.

Wrong Way Module

Symptom:	Software version incorrect.
Suggested Action:	Download latest version from imagesensing.com.
Symptom:	Unable to connect.
Suggested Action:	Ensure computer is on same network as wrong way module.
	If device still does not appear, click Learn Network.
Symptom:	No image from camera.
Suggested Action:	Ensure IP address and port number is correct.
	Verify user name and password is correct by connecting directly to Axis camera via web browser.
	Check RTSP Presentation is entered correctly.
Symptom:	Lost/forgotten IP.
Suggested Action:	Use ISSDeviceLocator tool – directly connected to device.
Symptom:	Not detecting wrong way vehicles.
Suggested Action:	Ensure Axis camera settings are per the guidelines outlined in <u>Chapter 3: "AXIS</u> <u>Camera Installation & Setup"</u> .
	Ensure zone placement is correct and that direction is also set correctly.
	Ensure Wrong Way condition is selected in Zone Setup.
Symptom:	Wrong Way events are not being sent.
Suggested Action:	Wrong way module is in failsafe mode – continually rebooting system trying to self correct.
	 Check connections to camera and I/O device – ensure all are communicating individually and through the Wrong Way module.
	Check email configuration of notification server.

Check port forwarding conditions if utilized.

Symptom:

Operations Log shows errors.

Suggested Action:

Occasional errors reports are possible due to many factors. The Wrong Way module has self healing capabilities and upon noticing issues will reboot to reestablish correct operation. Check which level of log message is presented.

• Informational or Error.

Continuous rebooting may be an issue with loss of video stream from camera – check connections, power to camera. Ensure correct setup of camera in Wrong Way module (see <u>Chapter 4: "Wrong Way Module Setup</u>").

Error messages with code in the 3000's would indicate an issue with the communication system.

Maintenance

The operation of the Wrong Way system requires very little in regards to maintenance. The only regularly suggested maintenance is the cleaning of the camera dome once per year.