Strike View Server 9

USER'S GUIDE

Strike View Server enables the user to connect a computer to a Strike Guard Lightning Data Receiver, monitor incoming data, and share data across a LAN.

StrikeGuard®
Strike View Pro Software

Strike View Pro Server runs on a Windows® computer connected to the Strike Guard Lightning Data Receiver to display lightning data, issue e-mail notifications, relay audible and visual lightning alarms, and record lightning data.

Strike View helps the end-user to categorize lightning data, analyze storm progression, and estimate the time to resume operations. Strike View expands upon the information presented by the Lightning Data Receiver.

The network feature allows for multiple Strike View Servers to be viewed on a single Strike View Client display page.

Strike View Server during an active local thunderstorm.

STRIKE VIEW DELIVERS:

- Lightning counts in three range categories: Caution (<20 miles), Warning (<10 miles) and Alarm (<5 miles)
- User-defined e-mail notification for lightning and all-clear conditions
- User-set audible and visual alarms
- System state indicators, lightning data logging, and histogram
- Countdown to "No Lightning Detected"
- Lightning-proof fiber-optic link between Lightning Data Receiver and computer
- Strike View Server and Strike View Client applications operate across a local area network (LAN) for multiple access points
- Strike View Widget to display lightning status in real time on user controlled website.

Strike View Client software shows three Strike Guard sensors across a LAN.

Strike View Client easily toggles between different Strike View Servers.

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Warranty Summary

Wxline, LLC warrants that the products it distributes, and sells will be free from defects in materials and workmanship for a period of one year from the date of receipt by the end-user. If a product proves defective within the respective period, Wxline, LLC will provide timely repair or replacement of the product. The effectiveness of the Strike Guard and WAVE system is dependent on proper design, installation, monitoring, and maintenance for each unique facility.

Wxline, LLC makes no warranty of any kind, express or implied, except that the goods sold under this agreement shall be of the standard quality of Wxline, LLC and the buyer assumes all risk and liability resulting from the use of the goods, whether used singly or in combination with other goods. Wxline, LLC neither assumes nor authorizes any person to assume for Wxline, LLC any other liability in connection with the sale or use of the goods sold and there are no oral agreements or warranties collateral to or affecting this agreement.

The Strike View widget and email or text notifications are not intended for personal safety applications. Widget, text, email and SMS notification delivery relies on infrastructure outside the control of Wxline, LLC. Monitor the Strike Guard Lightning Data Receiver for current system status.

CHAPTER 1

INTRODUCTION

Strike View Software expands on the capabilities of the Strike Guard Lightning Data Receiver. Strike View offers comprehensive data viewing options, alerting, data logging, Email notification, Strike Guard Receiver testing, and networking of multiple computers and Strike Guards.

Strike View Software is a suite of tools available in three distinct software packages:

- Strike View Server enables the user to monitor a local Strike Guard by connecting a computer to a Strike Guard Receiver. Strike View server allows the user to monitor incoming data and share data across a LAN. Registration of Strike View Server is required for use 14 days after installation.

- Strike View Client enables the user to monitor one or multiple Strike View Servers across a LAN. Registration of Strike View Client is required for use 14 days after installation.

- Strike View Simulator enables the user to learn the functions of the software using keystrokes that simulate Sensor messages. Strike View Simulator can send serial data to the Strike Guard Receiver to help the user learn and test the functions of the Receiver and test relay functions. Strike View Simulator is available without a license for testing and evaluation purposes. Strike View Simulator cannot receive data via a serial port or a LAN.

This User's Guide assumes that the Strike Guard System is installed and functioning. General computer knowledge on the part of the reader is assumed. If further assistance is required, contact Wxline, LLC or your local representative.

CHAPTER 2

HARDWARE REQUIREMENTS

Strike View Software is designed to work on PCs or Macs and may be networked between platforms.

COMPUTER REQUIREMENTS

PC REQUIREMENTS	
MEMORY	*2 GB RAM or better*
PLATFORM	*Windows® 10 or newer*
INTERFACE	*One unoccupied RS-232 serial communications port with 9 or 25 contact, D-subminiature connector, or USB port (requires serial to USB Adapter – see Adapter Requirements in this section).*
DRIVE/MEDIA	*Wxline thumb drive / online download*

MAC REQUIREMENTS	
MEMORY	*2 GB RAM or better*
OPERATING SYSTEM	*OS X 10.7.5 or newer*
PHYSICAL PORT(S)	*One unoccupied RS-232 serial communications port with 9 or 25 contact, D-subminiature connector, or USB port (requires serial to USB Adapter – see Adapter Requirements in this section).*
DRIVE/MEDIA	*Wxline thumb drive / online download*

DISPLAY RECOMMENDATIONS	
RESOLUTION	*Strike View is optimized for 1024 x 768 or better resolution*

PHYSICAL PORT HARDWARE REQUIREMENTS

STRIKE GUARD RS-232 TO FIBER-OPTIC CONVERTER		
	OPERATING SYSTEM	*Windows 7 or later, OS X 10.7.5 or newer.* *Required for Strike View Server, may be needed for Strike View Simulator*
	PHYSICAL PORTS	*Fiber-Optic In, Out, and RS-232*
	DRIVER	*None required*

USB TO RS-232 ADAPTER		
	OPERATING SYSTEM	*Windows 7 or later, FTDI Chipset used* *OS X 10.7.5 or newer Required for Mac*
	PHYSICAL PORTS	*RS-232 to USB 1.1 or higher*
	DRIVER	*Driver is operating system specific, and are provided with Strike View Software*

CHAPTER 3

FIBER OPTIC LINK

This section details the installation of the Strike Guard RS-232 to Fiber-Optic Converter, needed to connect a Strike Guard Lightning Data Receiver to a computer running Strike View Server or Strike View Simulator (in Simulation Mode). A computer running only Strike View Client does not require the RS-232 to Fiber-Optic Converter.

NOTE | For instructions on Strike View Client, skip to Section 6.

RS-232 TO FIBER-OPTIC CONVERTER INSTALLATION

NOTE | If a USB Adapter is needed, install the correct driver prior to connecting the USB Adapter to the computer.

Verify that the computer meets the requirements listed in CHAPTER 2, and that one RS-232 (serial) port is available. Plug the Strike Guard RS-232 to Fiber-Optic Converter (the "Converter") into the open serial port on the computer. The USB to RS-232 Adapter (the "USB Adapter") is needed to convert a USB port to an RS-232 serial port if none is available. Refer to CHAPTER 2 for the Converter and USB Adapter specifications.

NOTE | The blue Fiber-Optic transmitter on the Converter can repeat the incoming data so that multiple computers may be "daisy chained" via Fiber-Optic links to run Strike View Server. One Converter is required for each computer in the chain. If a LAN is available, the Strike View network option may be preferred.

Just prior to inserting the Fiber-Optic cable into devices, remove the protective end cap. Protective caps preserve cleaved ends when routing the Fiber-Optic cable between devices.

Connect the Fiber-Optic cable to the Lightning Data Receiver. The Fiber-Optic transmitter on the Lightning Data Receiver is blue and is located at the bottom of the enclosure (labeled: FIBER OUT). The maximum interconnect distance between the Receiver and the PC is 90 meters using Wxline supplied Fiber-Optic cable that is cleaved and tested at the factory. The standard length supplied by Wxline is 10 meters, the recommended minimum length.

Using only gentle pulling forces, run the Fiber-Optic cable to the computer avoiding sharp bends in the cable run. Keep all bend radii greater than four inches.

Loosen the black ferrule on the Converter and connect the Fiber-Optic cable to the black Fiber-Optic receiver on the Converter. Insert the end of the fiber until it seats and tighten the ferrule with light finger force.

Connect the Converter to the serial port of the computer using a straight-through cable, if necessary.

NOTE | There is one-way communication between the Sensor to the Lightning Data Receiver and to the computer; the computer does not poll the Receiver or Sensor for data.

STRIKE VIEW/STRIKE GUARD ALARM RESET

If the system uses an Alarm Reset, reference wiring diagram and guide in Figure 25:Strike View Wiring Diagram

NOTE | Alarm Reset is provided with 4 - AA Alkaline batteries which require replacement on an annual basis.

STRIKE VIEW SIMULATOR HARDWARE SETUP

A computer may be used to send simulated Sensor messages to the Strike Guard Receiver or to another computer equipped with a Converter running Strike View Server.

For testing the Receiver, a Fiber-Optic cable is run from the blue Fiber-Optic transmitter port (labeled: T) on the Converter to the black Fiber-Optic receiver (labeled: SENSOR IN) on the Strike Guard Receiver.

NOTE | *To send keystroke-generated data within Strike View Simulator, Simulation Mode must be selected in the System Settings area.*

>> For more information on Strike View Simulator, see Section 9.

USB ADAPTER INSTALLATION

The USB to Serial Adapter (the "USB Adapter") is needed when the computer running Strike View Server does not have a 9-pin serial port available.

Before connecting the USB Adapter to a USB port, install the USB Adapter driver provided with the software. USB Adapter drivers are operating system specific. Install the proper driver before connecting the USB Adapter to the computer.

NOTE | Install driver before connecting the USB Adapter to the computer.

With the USB Adapter driver successfully installed, plug the USB Adapter into a free USB port on the computer running Strike View Server.

Connect the Converter to the USB Adapter. Refer to Chapter 3 for instructions to complete hardware installation and connection to the Strike Guard Receiver.

NOTE | Fiber Optic Connection Cable Lengths
- 30 m between Sensor and Receiver (standard)
- 10 m between Receiver and computer (standard)
- 90 m max between any two devices (standard)

NL201 SERIAL-LAN INTERFACE SETUP OPTIONS

Some setup situations may make it difficult to place hardware within the physical limitations noted above. In these cases, communication between hardware devices can be achieved using TCP Tunneling, assisted by one or more NL201 Serial-LAN Interface units.

NOTE | For more information and diagrams of setups using NL201 Serial-LAN Interface connections, see Application Note "NL201 Serial-LAN Interface", available separately.

TCP/TUNNEL

If the Strike View Server computer is not near the Strike Guard Data Receiver, or it is not practical to run a fiber-optic cable between the two, the customer's LAN can be used as part of the communication link. This option requires a serial/LAN interface combined with a fiber-optic converter.

The serial data flows in one direction, as follows:

SG Receiver > FO Converter > Serial/LAN Interface > Strike View PC

The fiber-optic connections between the Strike Guard Receiver and the Fiber-optic Converter are the same as described in Step 1 of this Chapter. Details to configure the Strike Guard PC with the Serial/LAN interface are covered in Chapter 5.

CHAPTER 4

SOFTWARE INSTALLATION

STRIKE VIEW SOFTWARE PACKAGES

Strike View Software Suite has 4 separate software packages specific to user applications.

- Strike View Server
- Strike View Client
- Strike View PRO
- Strike View Simulator

Install the necessary Strike View Software Package(s) on the computer. The software is provided either on USB thumb drive, or via online download. A software installation wizard guides the user through the installation process for each package.

The software installation wizard prompts the user to create an optional shortcut to Strike View on the desktop.

Launch Strike View Server, Strike View PRO or Client and follow the registration process. Registration of Strike View must be completed within 14 days after installation. To register software, obtain the Registration Code by contacting Wxline. Provide Wxline with the Machine ID supplied during the registration process, and then enter the Registration Code provided by Wxline to complete the registration process.

The Strike View Simulator does not require registration and is intended for evaluation and testing purposes.

NOTE

Before continuing, ensure that all Strike Guard hardware, physical port hardware and Strike View Server are installed according to the instructions provided in Sections 4 through 6 and in the Strike Guard Lightning Warning System documentation.

For instructions on use of Strike View Server, continue to Chapter 5. For instructions on use of Strike View Client, skip to Chapter 6.

CHAPTER 5

USING STRIKE VIEW SERVER

Strike View Server enables the user to connect a computer to a Strike Guard Lightning Data Receiver, monitor incoming data, and share data across a LAN. Registration of Strike View Server must be completed within 14 days after installation.

NOTE

For instructions on use of Strike View Client, skip to Chapter 6.
For instructions on use of Strike View Simulator, skip to Chapter 7.

SETTING UP STRIKE VIEW SERVER COM PORT

When launching Strike View Server for the first time, the software prompts the user to set up the COM port.

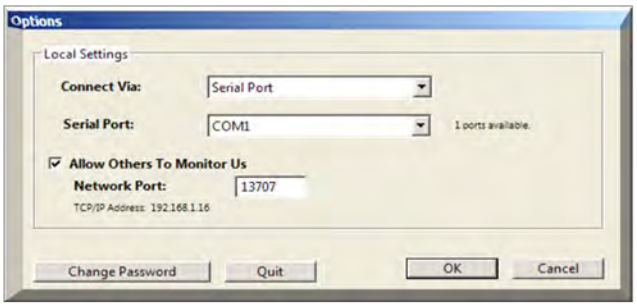


Figure 1: The Strike View Server COM port selection prompt.

The RS-232 to Fiber-Optic Converter (the "Converter") can be directly attached to a computer with a 9-pin serial port and is typically designated as COM1.

A USB to RS-232 Adapter (the "USB Adapter") attached to a Windows computer is typically designated as COM3 or higher.

A USB Adapter attached to a Mac computer is typically designated as "USB-Port".

NOTE

When selecting between multiple available COM ports on a Windows-based computer, the user may check the Device Manager within the Control Panel of the Windows operating systems to locate the correct COM port.

Once the correct COM port is selected, Strike View Server loads and is ready to collect data from the Strike Guard Receiver.
A Serial Port TCP/Tunnel requires an IP Address and a Port Number. The IP Address belongs to the Serial/LAN Interface (NL201). This identifies the Serial/LAN Interface

for the Strike View software on the user's LAN. The default port is "6784" and should normally be left as is.

NOTE

The IP Address of the Serial/LAN Interface should be static, or unchanging so that the Strike View software will automatically reconnect to it in the event the connection is interrupted.

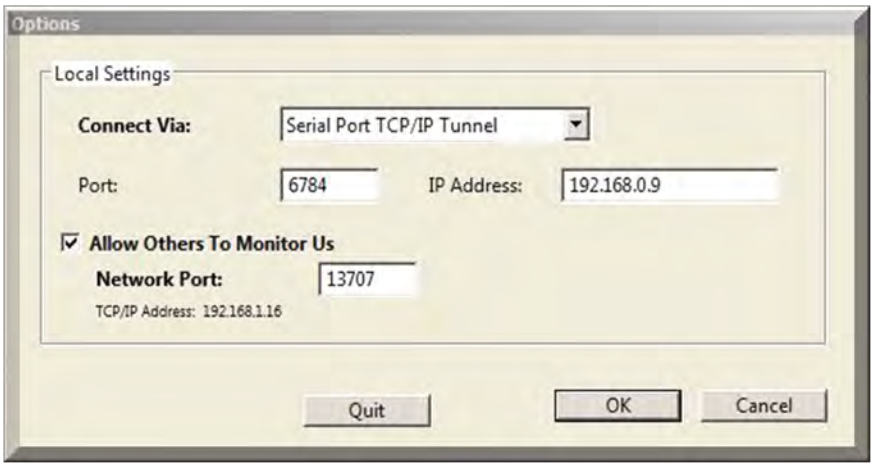


Figure 2: A Strike View Server Network Settings Window using a TCP/Tunnel to monitor a remote Strike Guard Sensor with NL201 Serial/LAN Interface.

UNDERSTANDING SYSTEM MODES

Strike View Server has six possible System Modes, each with a corresponding color: Awaiting Sensor Message, No Lightning Detected, Caution, Warning, Alarm, and Failure Modes.

Awaiting Sensor Message Mode is the first mode shown upon initial startup of Strike View Server. Awaiting Sensor Message Mode changes to No Lightning Detected Mode if no data is sent from the Strike Guard Receiver except Sensor Status information. If Sensor Status information is not received within 2 hours of operation of Strike View Server, Failure Mode is indicated (No Communication).

NOTE

No Lightning Detected Mode is normally green, with a checkmark icon. No Lightning Detected Mode appears grayed-out if Strike View is operational for less time than specified in the Mode Change Timer. A grayed-out System Mode indicates that Strike View does not have a definitive data set to confirm the System Mode.

No Lightning Detected Mode remains in effect provided that no data is sent from the Strike Guard Receiver except routine Sensor Status information. If lightning data is sent from the Strike Guard Receiver to the computer, Strike View Server changes to Caution, Warning, or Alarm Mode based on the lightning flash detected.

System defaults to the following settings: Caution Mode is triggered by lightning detected within nominally 20 miles, Warning Mode is triggered by lightning detected within nominally 10 miles, and Alarm Mode is triggered by lightning detected within nominally 5 miles.

NOTE

The Alarm Range Setting within the Strike View Server System Settings Window allows the user to change the default and expand Alarm Mode to include events detected in the Warning Range and/or Caution Range. For example, Warning Mode is eliminated as a System Mode when Alarm Range Setting is set to Alarm and Warning Range, however Warning Range data continue to be displayed in all other areas. In this case, the Mode indicates Alarm with a strike detected in the Warning Range. Email notifications based on Mode-Changes are dependent on these Alarm Range Settings.

Below the System Mode display is a countdown timer showing the number of minutes until the current Mode expires, based on the Timer's setting and assuming no further lightning events within the respective range. For example, if no additional lightning is detected for the duration of the Mode Change Timer setting when in Caution Mode, then the System Mode changes to No Lightning Detected Mode.

If in Alarm Mode no additional flashes within the Alarm Range are detected before the Mode Change Timer expires but additional Warning Strikes are detected, System Mode changes from Alarm Mode to Warning Mode.

NOTE

Caution, Warning, and Alarm Modes are normally Yellow, Orange, and Red icons, respectively. These Modes appear grayed-out if Strike View is operational for less time than specified in the Mode Change Timer. Grayed-out System Mode indicates that Strike View does not have a definitive data set to confirm the System Mode. This appearance is normal when the software is restarted during a storm.

Strike View Server goes into Failure Mode if no communication is received from the Sensor after 2 hours. Under normal operation, the Sensor sends a Pass Self-Test message approximately every 60 minutes. Failure is also indicated when the Sensor sends a Test Fail or Battery Low message. Failure Mode may indicate a loss of communication between the computer and the Receiver, or between the Receiver and the Sensor.

NOTE | Check to see if the Strike View system status matches the Receiver Indication.

STRIKE VIEW SERVER MAIN PAGE

The Strike View Server Main Page is divided into five functional areas: Menu Bar across the top, Recent Lightning Data (upper left area), System Mode (upper right

area), Histogram (lower left area), and Software Settings/Sensor Status (lower right area).

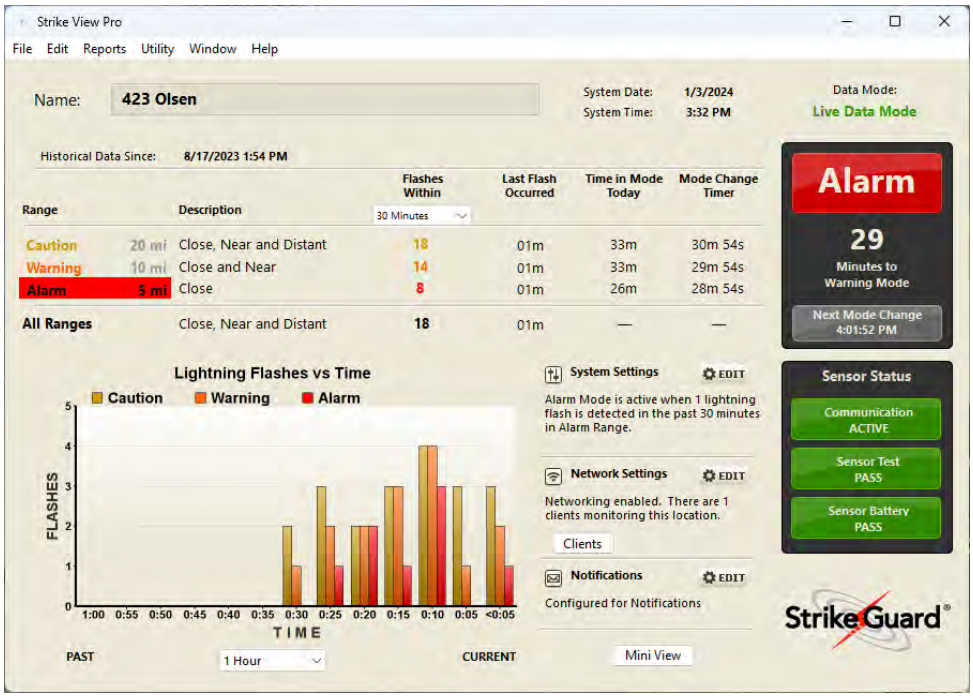


Figure 3: The Strike View Server Main Page appearance during a local thunderstorm.

The Recent Lightning Data area displays a table showing the number of lightning flashes detected during the selected time range (ranging from 1 minute to 24 hours, selectable from a pull-down menu) in the Caution, Warning and Alarm Ranges. Recent Lightning Data shows the time since the Last Flash Occurred, Time in Mode Today, and Mode Change Timer.

NOTE

The Caution, Warning and Alarm Ranges are independent data sets. Caution Range count shows all detected lightning within nominally 20 miles, Warning Range count shows all detected lightning within nominally 10 miles, Alarm Range count shows all detected lightning within nominally 5 miles. A detected lightning flash in the Alarm Range places a count in each of the three range categories. Therefore, the Caution count always equals the Total Flash count.

The System Mode displays Awaiting Sensor Message, No Lightning Detected, Caution, Warning, Alarm, or Failure, and a countdown timer to Next Mode Change. The Histogram allows the user to view the lightning data dynamically over a selectable, historical period (past 24,12, 8, 4, 2, 1 hours or 12 minutes) in the three range categories. Flash count is shown on the left, and time is on the bottom of the graph. New data appears on the right of the histogram while old data drops off on the left as time progresses.

NOTE

The default password for all Software Settings is "PASSWORD" (all caps).

The Software Settings area displays System Settings, Network Settings, and Notification Settings. The current Sensor Status is displayed in the lower right corner of the Main Page. Consult documentation for the Strike Guard System to learn more about default factory settings.

The Sensor Status box (lower-right hand corner of the Main Page) indicates the status of Communication with Receiver, Sensor Self-Test, and Sensor Battery status. If the software receives no Sensor message for two hours, the communication is deemed "inactive" and the software goes into Failure Mode.

NOTE

The standard Strike View settings match the standard Strike Guard Receiver factory settings. Changes to the Strike View Software or Strike Guard Receiver settings should be set to match each other.

The Strike View Main Page displays only the lightning data collected while the software is running. Exiting the software during data collection is not recommended and results in a 'grayed-out' System Mode to indicate potentially missing data.

STRIKE VIEW SERVER SETTINGS AND PASSWORDS

Strike View Server allows the user to adjust software settings, including audible and visual notifications, network settings, and Email notification settings. The user may control various software functions by clicking the "Edit" button next to the System Settings, Network Settings, and Notifications icons located in the lower right portion of the Strike View Main Page.

All settings areas are password-protected to limit access to authorized users. The default password is PASSWORD (case sensitive).

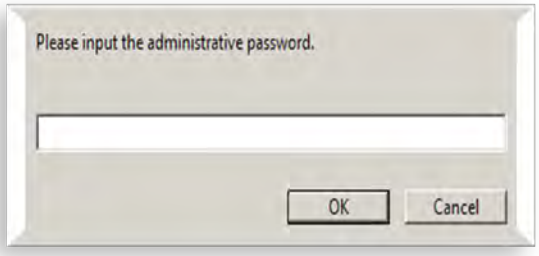


Figure 4: The password dialog box that appears when accessing System Settings, Network Settings, and Notification Settings areas.

User-specified passwords may be set for each setting area, within each setting area window.

NOTE | If a user-specified password is lost, contact Wxline, see Chapter 5.

STRIKE VIEW SERVER SYSTEM SETTINGS WINDOW

The Strike View Server Systems Settings Window enables the user to select audible and visual notification parameters and to control various software functions by clicking the Edit button next to the System Settings icon.

NOTE | System Settings access is denied during active lightning.

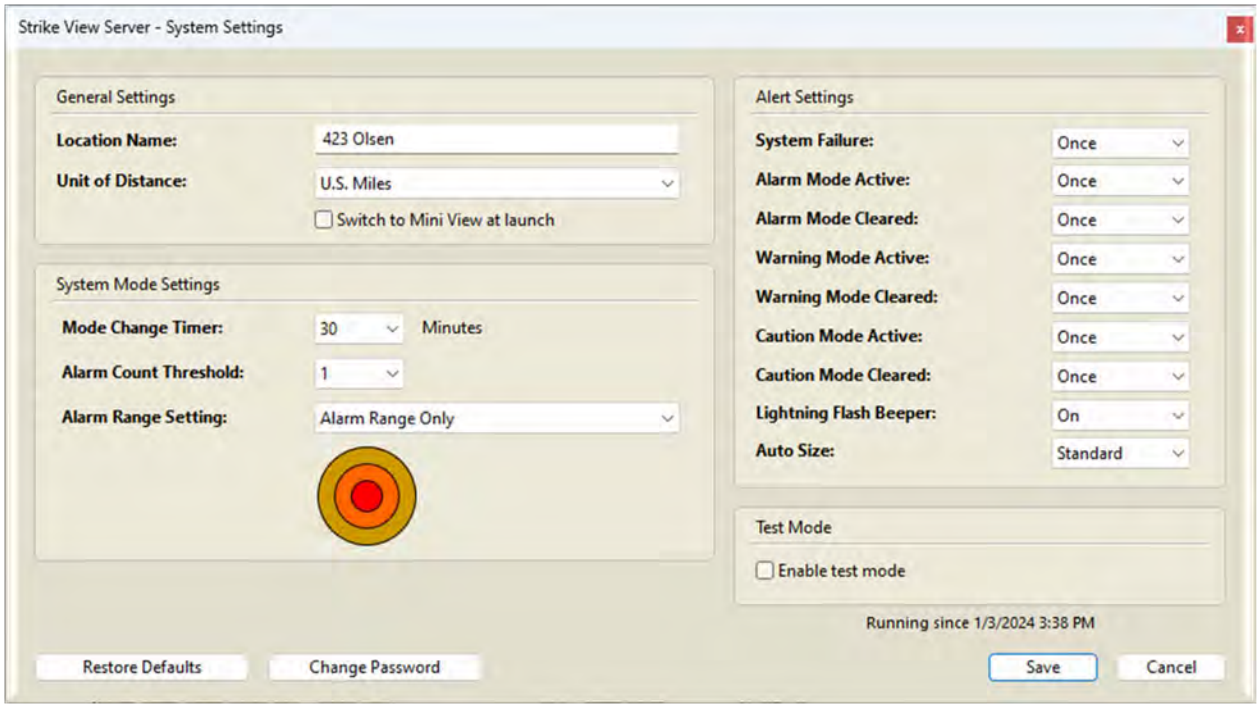


Figure 5: The System Settings Window with initial default settings.

Factory defaults can be restored using the "Restore Defaults" button in the lower left corner. Password for System Settings may be changed using the "Change Password" button.

SYSTEM MODE SETTINGS

System Mode Settings include Mode Change Timer, Alarm Mode Threshold, and Alarm Range Setting.

- The Mode Change Timer setting determines the interval in minutes to exit the current Mode after the last corresponding lightning event.
- The Alarm Count Threshold setting selects the number of lightning flashes detected as Alarm events within the Mode Change Timer period to enter the Alarm Mode.
- Alarm Range Setting allows the user to change the default and expand Alarm Mode to

include events detected in the Warning Range and/or Caution Range. For example, when Alarm Range Setting is set to Alarm and Warning Range, Warning Mode is eliminated as a System Mode, though Warning Range data continue to be displayed in all other areas (i.e. Recent Lightning Data, Histogram). In this case, Strike View goes into Alarm Mode when a strike is detected in the Warning or Alarm Ranges. Email notifications based on Mode-Changes are dependent on these Alarm Range Settings.

ALERT SETTINGS

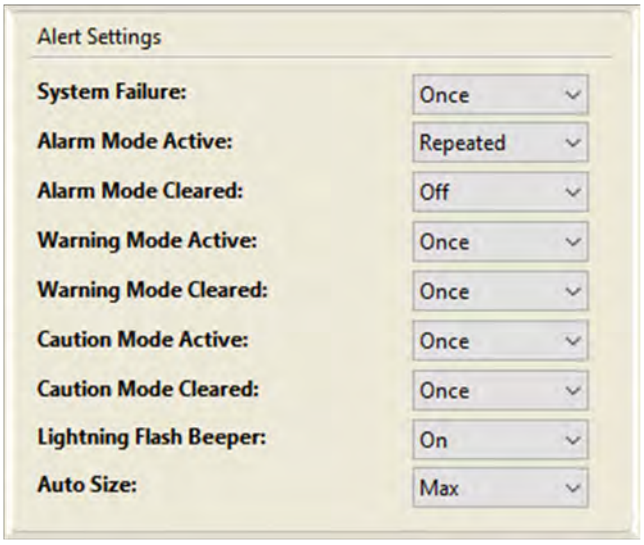


Figure 6: The drop-down window for each setting gives options.

Strike View Alert Settings choose between Once or Repeated audible alarms or audible alerts may be turned Off.

The Repeated setting sounds an audible alert after a Mode Change until the user clicks the "Silence Alarm" button in the System Status area of the Strike View Main Page.

NOTE | Clicking the System Mode indicator (Yellow Caution, Orange Warning, or Red Alarm symbol) in the System Mode area of the Main Page silences the audible alarm when Repeated Alarm notification option is selected.

A particular alert setting (Once, Repeated, Off) may be selected for any of the System Mode Changes.

Lightning Flash Beeper allows the user to select whether the software generates an audible alert (beep) with each lightning flash detected.

Auto Size set to Max causes the Strike View Server Main Page, previously minimized, to fill the desktop screen for any Mode Change. Auto Size set to Standard causes the

Strike View Server Main Page to maximize at the same windowpane size displayed when Strike View was last minimized. Auto Size set to None will result in no automatic maximization of the Strike View Server Main Page when a Mode Change happens.

NETWORK SETTINGS

Strike View Server (the "Server") is designed to share data with other computers running Strike View Client (the "Client") across a LAN.

NOTE

Wxline recommends using a dedicated computer with an uninterruptible power supply or laptop with battery backup for the Server, especially when communicating with Clients across the network or using Email notification. The Wxline PC is a consideration.

Computers operating Strike View Server on a Local Area Network (LAN), including wireless networks, may allow computers on the LAN running Strike View Client to view Server data.

Strike View Server Network Settings allow the user to change the COM port connected to the local Strike Guard Receiver, as well as allowing the Server data to be monitored by other Client computers, running Strike View Client.

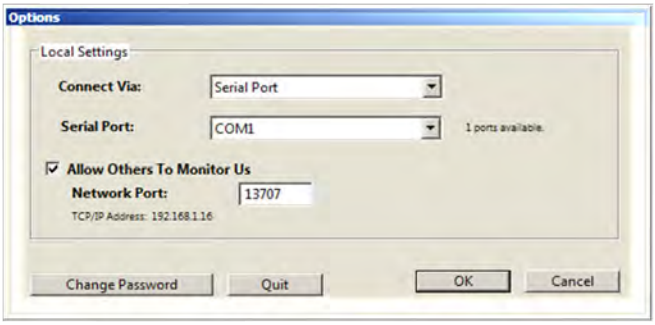


Figure 7: The Strike View Server Network Settings Window

By selecting "Allow Others To Monitor Us," the Server data becomes available for view on the LAN, by computers operating Strike View Client.

Upon initial startup, the Server requires the user to specify the appropriate COM port to monitor an attached Strike Guard Receiver.

NOTE

A USB Adapter shows as an additional COM port on the pull-down list.

IMPORTANT - An operating system specific driver must be installed on the computer before connecting the USB Adapter.

For more information, refer to Chapter 3, "USB Adapter Installation"

The "Allow Others to Monitor Us" option allows Strike View Client to monitor and display the Server data.

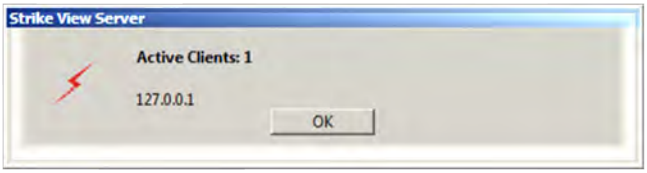


Figure 8: Strike View Server with one Active Client, shown by the Client TCP/IP addresses.

NOTE | The default Network Port is automatically set in Strike View Server. Do not change port settings without consulting the systems administrator.

Each Strike View Server on a network must have a static TCP/IP Address, which is then assigned, and shown under the Network Port. The TCP/IP address of the Server must be entered in the Client to connect the Client to the Server. The Strike View Client automatically searches for Servers across the LAN and initiates communication between Server and Client.

NOTE | The Server TCP/IP address field on the Client must match the static TCP/IP address of the Server. The TCP port number must match the TCP port number selected on the Server.

When running Strike View Server, the user may view Active Clients monitoring the Server. Clicking the "Clients" button reveals active Client connections to the Server.

STRIKE VIEW SERVER EMAIL NOTIFICATIONS

This section details Email notifications, configuring Email notification profiles and testing Email functionality. Strike View Server enables the user to automate Email notification.

To access Strike View Email Notifications Window, click the "Edit" button in the Notifications Settings area of the Main Page and enter your password.

NOTE | Email notification features are intended for informational purposes only and are not appropriate for personal safety applications. The reliability of this feature is dependent on technology outside the control of Wxline.

Email functionality requires Strike View Server software to be running.

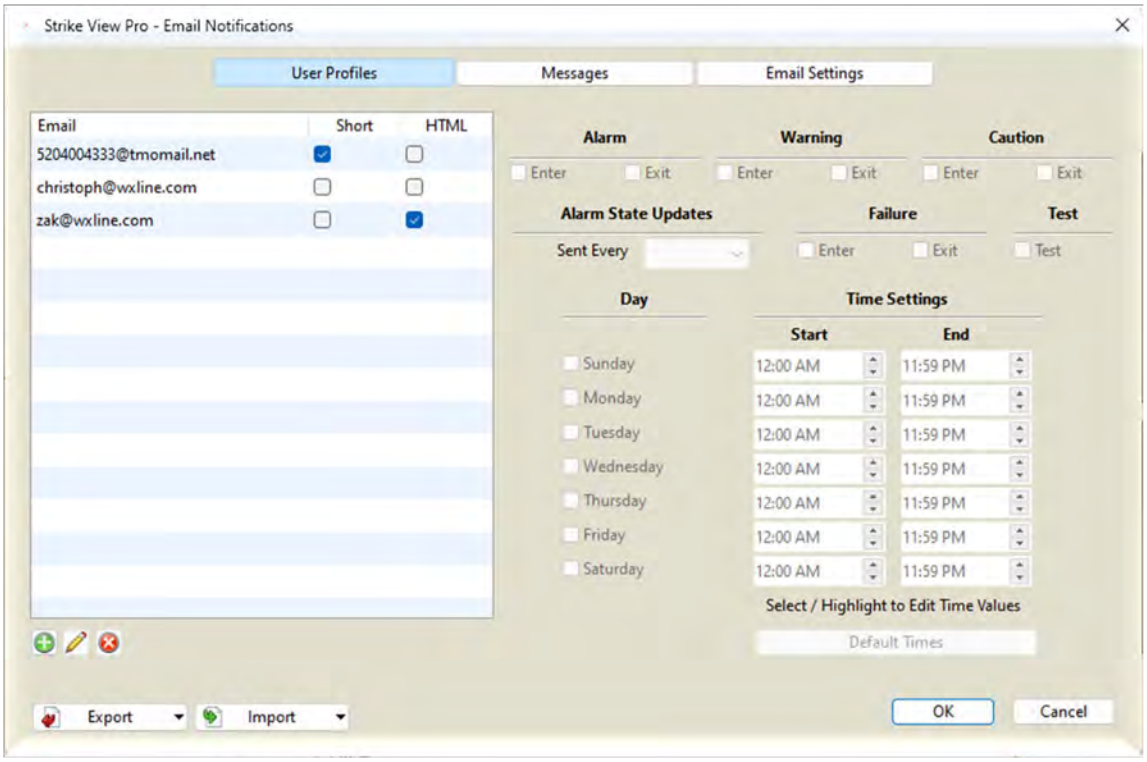


Figure 9: The User Profiles pane of the Notifications window

The User Profiles pane of the Notifications window allows users to designate email recipients to receive updates on Mode changes within Strike View.

Strike View allows for Emails to be sent for the following Mode Changes:

- Alarm: Enter & Exit
- Warning: Enter & Exit
- Caution: Enter & Exit

In addition, Strike View enables Emails to be sent during an Alarm State at a preset interval as specified under the Alarm State Updates dropdown menu.

Within the User Profiles Window the user may add, edit or remove a Email recipients to receive the selected Mode Change notifications. When an Email is highlighted in the list, the user may customize which Emails the recipient receives via selecting the appropriate check- boxes.

The Day and Time Settings determine the hours of operation for Email notifications for a given user's profile. Default settings show 24/7 notification enabled.

By checking the Test checkbox, the highlighted Email address receives Test Email messages when triggered.

Individual tabs enable customized messages for Mode changes, System Failure, System Failure Recovery as well as recurring Alarm State messages.

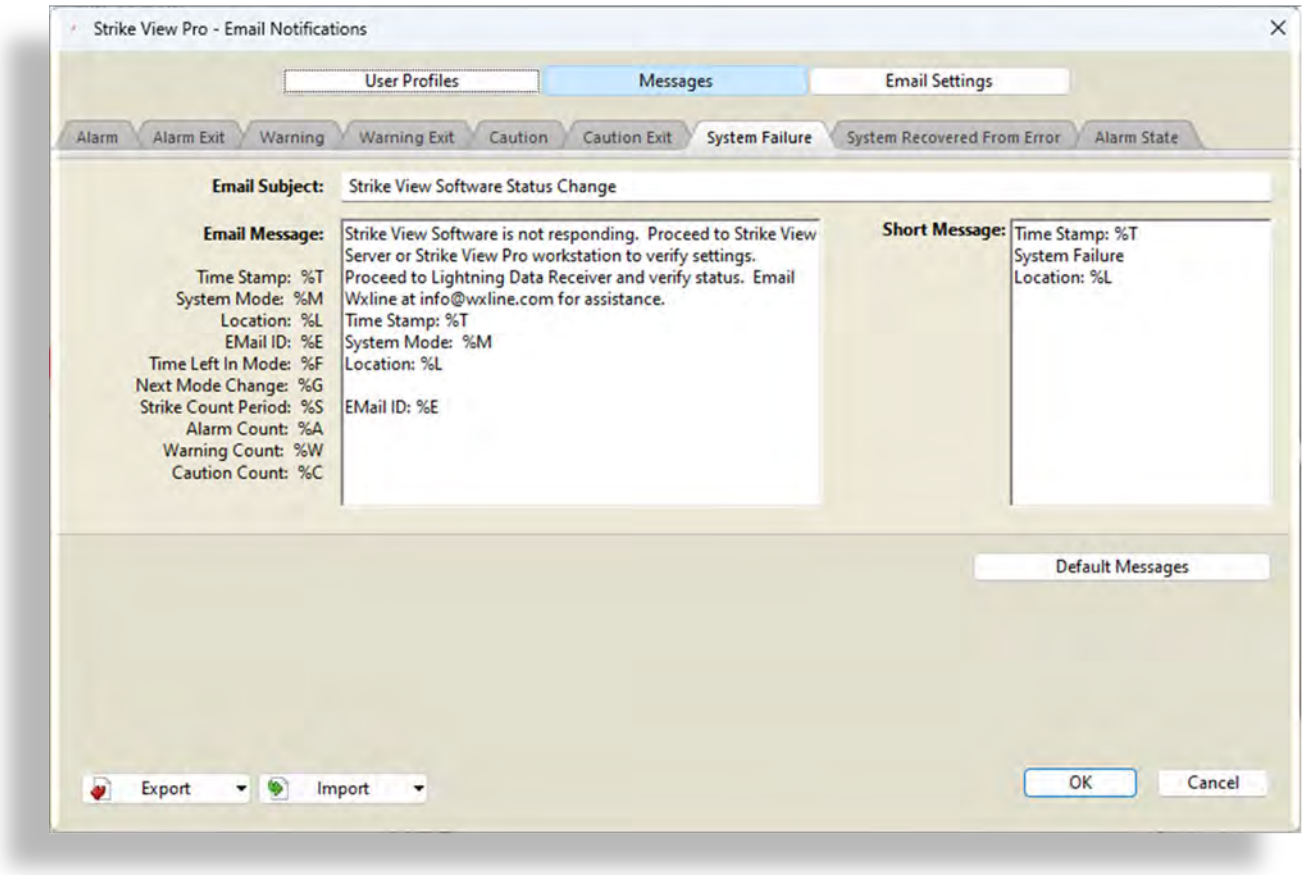


Figure 10: The Message pane of the Notifications window

The Messages pane of the Notifications window is where Email content for notifications is managed. Current data can be embedded into Emails using the code legend shown on the left side of the Email Message.

A simple code legend is shown right of the Recipients List. These codes may be entered into the Email Message field to generate a Time Stamp, show the System Mode, and Location.

Individual Email addresses may be sent "Short" or regular length "HTML" Emails as specified by checkboxes next to the Email address in the lefthand Email list. Short Email message option exists to send Email to SMS messages direct to a mobile device. Short messages are designed to be more readable on mobile devices.

NOTE	Strike View Email notification functions with Email systems that require authentication. Consult the network administrator to determine if the Email system operates with no authentication, or if Login and Password are required.

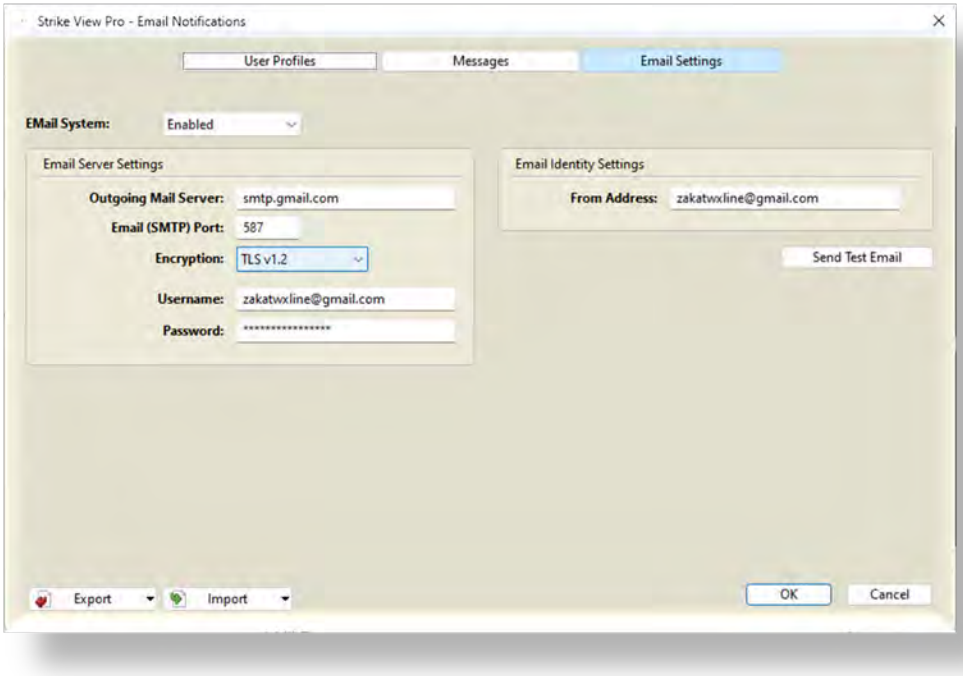


Figure 11: The Email Notifications pane

The Emails pane of the Notifications window is where outgoing Email server settings are managed.

Provide the required information under Email Server Settings to enable Email notifications. Contact the systems administrator to get the outgoing Email address, outgoing mail server (typically smtp.domain.com), appropriate port, as well as authentication information (user- name and password). Strike View Email notification may work without a resident Email program installed or set up but requires Internet service. Check with the Internet Service Provider to obtain the outgoing mail SMTP server information. Be advised that setting up a resident Email account may be required.

The Email server, or SMTP server, information may be obtained from within Outlook (for example) open Outlook, and access Tools > Accounts > Properties (of the appropriate account if more than one is set-up) > Servers. Note the outgoing (SMTP) server and copy that information to the Email Server field.

To send a test Email, select checkbox next to "Test" for each user intended to receive test emails in the User Preferences Pane. Click Send Test Email and verify receipt of the test Email(s). Consult the system administrator to troubleshoot Email notification functionality.

NOTE	Do not change the Email (SMTP) port: 25 unless directed by the systems administrator. If a secure connection is needed another port should be selected.

After software startup and until Mode Change Timer period expires, Email Notification appends a note to each Email sent that reads "Software activated within the past 30 minutes." The number of minutes listed in this "Software activated" note matches the user-specified Mode Change Timer duration. When the Mode Change Timer period expires after startup, this note is no longer appended to Email messages sent.

NOTE

Strike View does not append the "Software activated" note once an Alarm event occurs after startup. This note is designed to help contextualize automatic Email notifications when data may be missing due to Server startup or shutdown and restart during an active thunderstorm.

At the end of the Mode Change Timer duration, if no Mode Change occurs (and no Emails have been sent), an Email is automatically sent that indicates "No Lightning Detected" with the added note that "The Strike View software has been restarted within the past 30 minutes" (number of minutes matches user-set Mode Change Timer duration.

NOTE

The "No Lightning Detected" automatic Email is sent only when software startup occurs in a grayed-out Mode (Alarm, Warning, or Caution). If software startup occurs in the No Lightning Detected Mode, and no lightning occurs within the Mode Change Timer duration, no "No Lightning Detected" Email is sent.

Email settings can be exported and saved for backup purposes, for migration between computers running Strike View Server, or as a final step in implementing Email messaging set up originally within Strike View Simulator. The Email User Profile and Setup files may be transferred between Simulator and Server. The Email User Profiles can be exported to a CSV file. This provides a convenient means to edit long email address lists in a spreadsheet like Excel. After saving the edited CSV file, the revised list can be imported into Strike View.

The remainder of the Strike View settings can be exported to a Setup file in a TXT format. If an email login password is exported to the Setup file, it is encrypted such that it is not legible for security reasons.

EMAIL SETUP FORM

Wxline encourages the Strike View system administrator to manage the profile of users receiving notifications. The Strike Guard Email Notification Sign-Up Form assists the strike view administrator to determine settings desired by each user.

Find this form on the next page.

StrikeGuard

WXLINE

Strike Guard Email Notification Sign-up Form

Please fill out the information below and provide it to the Strike View Software Administrator to be added to the email notification list to receive lightning notifications from the Strike Guard Lightning Warning system.

Strike View notifications are email based. Emails may be sent in text format (SMS) directly to a mobile phone. Contact your mobile phone provider for details and applicable charges. See the bottom of this page for common mobile phone provider's email to text conventions.

Notifications can be sent for the following conditions. Select the box for the desired notification:

☐ Caution – Lightning detected within 20 miles of the Strike Guard Sensor Caution Exit
☐ No Lightning detected within 20 miles of the Strike Guard Sensor

☐ Warning – Lightning detected within 10 miles of the Strike Guard Sensor Warning Exit
☐ No Lightning detected within 10 miles of the Strike Guard Sensor

☐ Alarm – Lightning detected within 5 miles of the Strike Guard Sensor Alarm Exit
☐ No Lightning detected within 5 miles of the Strike Guard Sensor

Circle an option to receive lightning notification updates during Lightning Alarm condition in intervals of:

None – 1 – 5 – 10 – 15 – 20 – 25 – Minutes

Select the desired days and hours of operation during which notifications are sent: 12:00 – 12:00 = 24 hours

☐ ☐ Monday: ____ : ____ ☐ to ____ : ____ ☐
☐ ☐ Tuesday: ____ : ____ ☐ to ____ : ____ ☐
☐ ☐ Wednesday: ____ : ____ ☐ to ____ : ____ ☐
☐ ☐ Thursday: ____ : ____ ☐ to ____ : ____ ☐
☐ ☐ Friday: ____ : ____ ☐ to ____ : ____ ☐
☐ ☐ Saturday: ____ : ____ ☐ to ____ : ____ ☐
☐ ☐ Sunday: ____ : ____ ☐ to ____ : ____ ☐

Strike Guard Location Name: _____

Full Name: _____ Phone Number: _____

Email Address: _____

☐ Yes, please send email notifications ☐ No, do not send email notifications

Email to Text notification – (phonenumber@provider.com): _____

☐ Yes, please send emails via text ☐ No, do not send emails via text

Example: Verizon Wireless enables emails to be sent as text messages to a mobile phone number using this convention: phonenumber@vtext.com or 5205551212@vtext.com

AT&T: phonenumber@txt.att.net / T-Mobile: phonenumber@tmomail.net / Sprint: phonenumber@messaging.sprintpcs.com

Note that email or text notifications are not intended for personal safety applications. Emails and texts rely on infrastructure outside the control of Wxline, LLC. Monitor the Strike Guard Lightning Data Receiver and the WAVE Siren Stations for Lightning Alarm notifications.

Refer to the Strike Guard and Strike View User's Guides for details. Contact the Strike View Systems Administrator for assistance.

Figure 12: Strike Guard email Notification Sign-up Form

CHAPTER 6

USING STRIKE VIEW CLIENT

Strike View Client (the "Client") enables the user to monitor one or more Strike View Servers ("Servers") across a LAN. Registration of Strike View Client is required for use after 14 days.

Strike View Client has no COM port settings and does not communicate with an attached Strike Guard Receiver. Instead, a Client relies on TCP/IP communication across a LAN to receive data from a Strike View Server or Servers.

NOTE | Network integrity is important to the function of Strike View Client. Consult the system administrator to assure that TCP/IP communications across a LAN are not obstructed by firewalls or other security protections.

CONNECTING STRIKE VIEW CLIENT TO A SERVER

Upon initial startup, Strike View Client prompts the user to designate one or more Servers, from which to receive data.

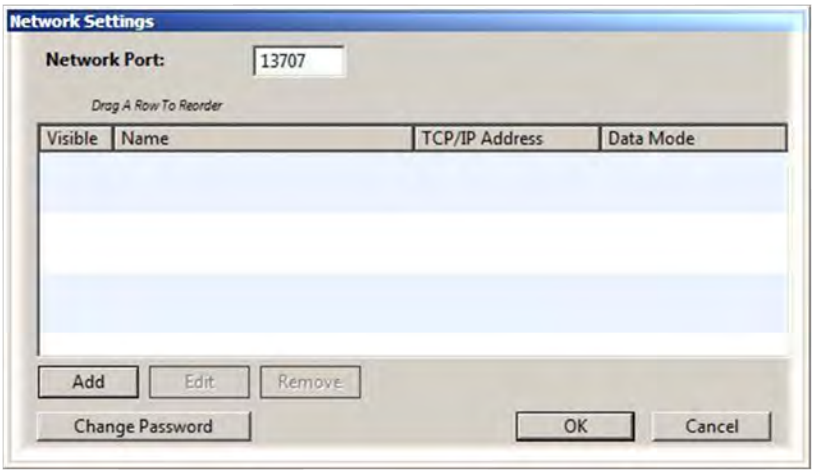


Figure 13: The Strike View Client Network Settings Window

By clicking "Add", a second dialog box opens, and Strike View Client attempts to auto dis- cover Servers on the LAN. Clicking the "Refresh" button forces attempted auto discovery of Servers on the network. Machine name and IP address information may be added manually.

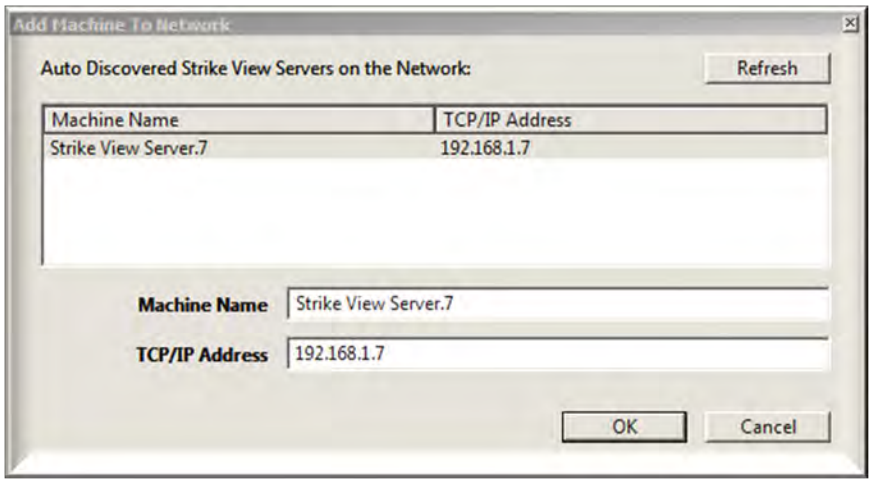


Figure 14: Adding Server to be monitored by the Client.

NOTE

When entering Server name and TCP/IP address, the TCP/IP address must be identical to the numerical address provided by the Strike View Server software (only digits and decimal points, no spaces).

The Machine Name does not need to match the name of the Strike View Server to gain connectivity.

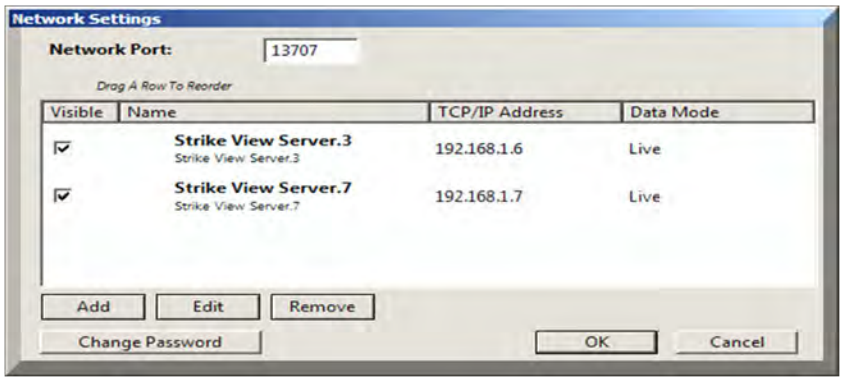


Figure 15: The Strike View Client Network Settings Window with two monitored Servers.

When one or more Servers are selected click "OK" to establish connectivity. A pop-up window in the Strike View Client shows connectivity status. In general, connectivity is established within one minute. If connectivity is slow or delayed, the Stop Trying button will halt attempts at connection. The Network Settings button allows for direct access to the network configuration dialog window.

NOTE

Strike View Client relies on communication with a Server. If communication is not established, Strike View Client gives the user the option to modify Network Settings or Quit.

STRIKE VIEW CLIENT MAIN PAGE

Strike View Client background color is white to distinguish it from Strike View Server, which appears with a tan or gray background on most computers. In the upper left, the "Name" field is populated with the Location Name of the Server. The Server TCP/IP address is shown to confirm identity of the Server.

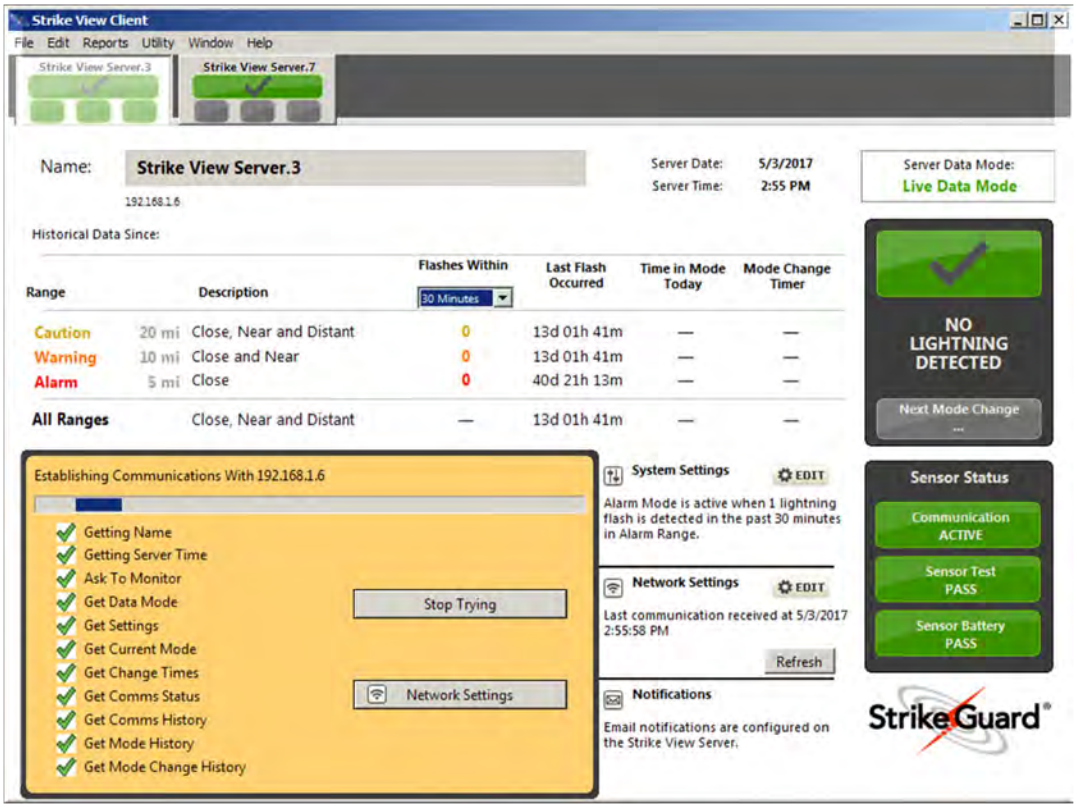


Figure 16: Strike View Client connecting to two Servers.

The orange Connectivity Status Window allows the user to modify Network Settings or Stop Trying to connect to a Server if connectivity is not established. Connectivity is typically established within one minute.

The Strike View Client Main Page is divided into four functional areas:

- Recent Lightning Data (upper left area)
- System Mode (upper right area)
- Histogram (lower left area)
- Software Settings/Sensor Status (lower right area)

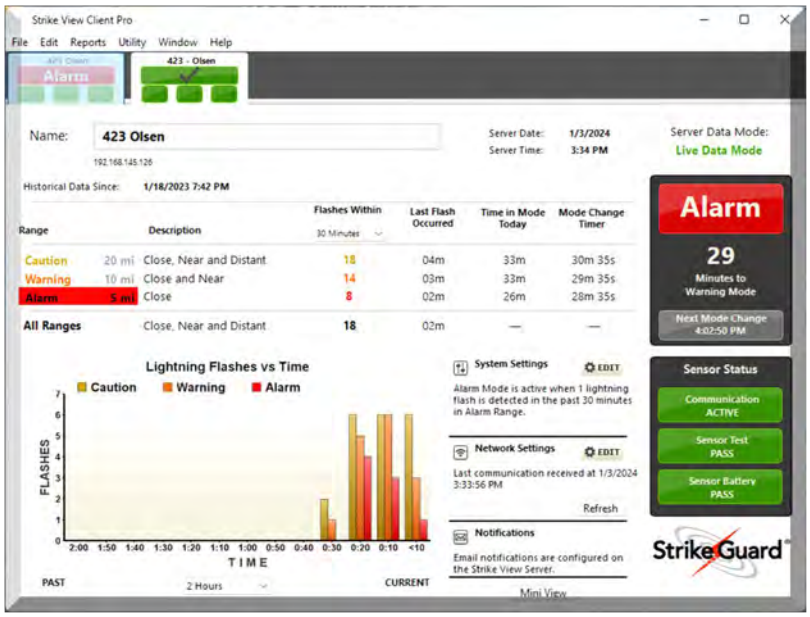


Figure 17: The Strike View Client connected to two Servers on the LAN.

Each server shows a different System Mode, as identified in the tabs above.

The Recent Lightning Data area displays a table showing the number of lightning flashes detected during the selected time range (ranging from 1 minute to 24 hours, selectable from a pull-down menu) in the Caution, Warning and Alarm Ranges. Recent Lightning Data shows the time since the Last Flash Occurred, Time in Mode Today, and Mode Change Timer.

NOTE | The Caution, Warning and Alarm Ranges are independent data sets. Caution Range count shows all detected lightning within nominally 20 miles, Warning Range count shows all detected lightning within nominally 10 miles, Alarm Range count shows all detected lightning within nominally 5 miles. A detected lightning flash in the Alarm Range places a count in each of the three range categories. Therefore, the Caution count always equals the Total Flash count.

The System Mode displays a countdown timer for the Next Mode Change along with one of the following status messages:

- Awaiting Sensor Message
- No Lightning Detected
- Caution
- Warning
- Alarm
- Failure

NOTE | For a complete description of System Modes, refer to Chapter 5.

The Histogram allows the user to view lightning data dynamically over a selectable, historical time range (past 24,12, 8, 4, 2, 1 hours and 12 minutes) in the three range categories. Flash count is auto-scaled on the left, vertical axis and time is shown below the graph. New data appears on the right of the histogram while old data drops off on the left as time progresses.

The Software Settings area displays:

- System Settings
- Network Settings
- Notifications

The current Sensor Status is displayed in the lower right corner of the Main Page. Consult documentation for the Strike Guard System to learn more about default factory settings.

NOTE | Default password for all Software Settings is "PASSWORD" (all caps).

The Sensor Status box (lower-right hand corner of Main Page) indicates the status of Communication with Receiver, Sensor Test, and Sensor Battery self-test results. If the Server receives no Sensor messages for two hours, the communication is deemed "inactive", and the Server goes into Failure Mode. Strike View Client shows the Strike View Server status.

NOTE | If a Client is closed during an active thunderstorm, the Client retrieves any missing data when reconnected with Server. The Client Data File is set to synchronize with Server data from the prior 24 hours upon connection.

Strike View Client can display data sets from multiple Servers. Each of these Servers has its own tab shown within Strike View Client. The user can reference System Mode and Sensor Status within each tab, or by clicking on a tab, view the full screen view for each Server.

STRIKE VIEW CLIENT SETTINGS AND PASSWORDS

Strike View Client allows the user to adjust software settings, including audible and visual notifications settings. The user may control various software functions by clicking the Edit button next to the System Settings or Network Settings icons located in the lower right portion of the Strike View Main Page.

All settings areas are password-protected to limit access to authorized users. The default password is PASSWORD (case sensitive).

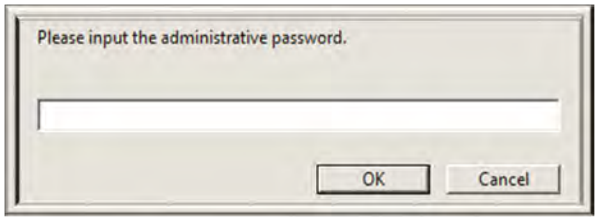


Figure 18: The password dialog box

The password dialog box appears when accessing System Settings and Network Settings areas.

User specified passwords may be set for each setting area within each Settings window.

NOTE | If a user specified password is lost, contact Wxline - Chapter 5.

STRIKE VIEW CLIENT SYSTEM SETTINGS WINDOW

Strike View Server determines certain System Settings that cannot be changed within Strike View Client. This section explains the System Settings that are adjustable within Strike View Client.

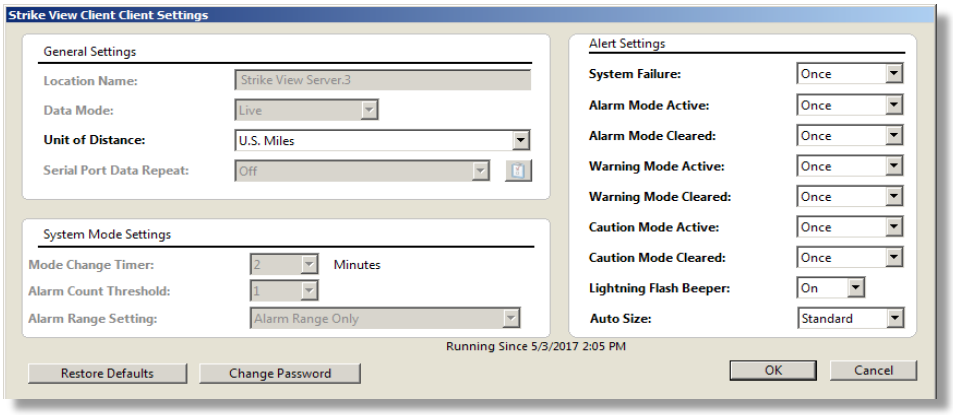


Figure 19: The System Settings Window for Strike View Client.

Strike View Client allows for modification of Unit of Distance, and Alert Settings for the Client. A "Change Password" button allows the user to specify a custom password for this Settings Window. System Defaults are shown above and may be restored by clicking "Restore Defaults."

General Settings allow the user to select the Unit of Distance. Grayed-out settings cannot be changed within Strike View Client and are based on Strike View Server settings.

Unit of Distance allows the user to select miles or kilometers as the standard unit of measure for lightning distance reporting.

System Mode Settings are grayed-out and cannot be changed within Strike View Client. These settings are set in the Strike View Server.

Strike View Alert Settings selects between Once or Repeated audible alerting or audible alerts may be turned Off.

The Repeated setting sounds an audible alert after a Mode Change until the user clicks the "Silence Alarm" button in the System Status area of the Strike View Client Main Page.

A particular alert setting (Once, Repeated, Off) may be selected for any of the System Mode Changes.

Lightning Flash Beeper allows the user to select whether the software generates an audible alert (beep) with each lightning flash detected.

Auto Size controls the behavior of Strike View when a mode change occurs.

- Max: brings the window to the forefront, maximized.
- Standard: brings window to the forefront, standard window size.
- None: leaves the window as is (no change)

STRIKE VIEW CLIENT NETWORK SETTINGS WINDOW

Computers operating Strike View Client on a Local Area Network (LAN), including wireless networks are prompted upon start up to connect to a Strike View Server on the LAN. Strike View Client does not run without successful connection to a Server.

The Strike View Network Settings Window is password protected (default password is "PASSWORD"). Access Strike View Network Settings by selecting "Edit" in the Strike View Network Settings area of the Strike View Client Main Page.

Strike View Client Network Settings allows the user to "Add," "Edit," or "Remove" a Server from a list of monitored servers.

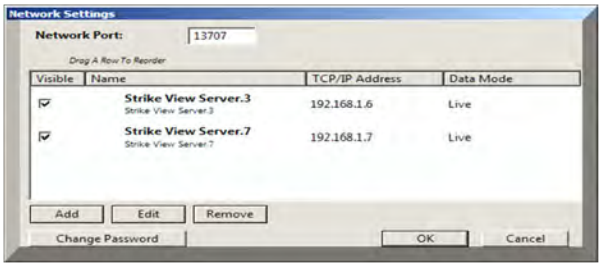


Figure 20: The Network Settings Window for Strike View Client

The Network Settings Window for Strike View Client, showing Network Port, Server Name, and TCP/IP Address. The user may "Add," "Edit," or "Remove" a Server from the list using the appropriate buttons, or "Change Password" for the Network Settings area.

MULTIPLE SERVERS - NAVIGATING TAB VIEW

Any computer on the LAN that has a registered copy of Strike View Client may receive and display data from a computer running Strike View Server on the LAN.
When monitoring more than one Server, Servers appear in the Strike View Client Main Window and can be toggled between using Tabs. See Figure 17: The Strike View Client connected to two Servers on the LAN.

The Strike View Client connected to two Servers on the LAN. Each server shows a different System Mode, as identified in the tabs above.

Each Server Tab within Strike View Client summarizes the System Mode and Sensor Status of the Server.

The Tab corresponding to the Server data currently viewed on the Strike View Client Main Page is grayed-out.

To monitor more than 5 Strike View Servers on the Client, consult Wxline (Email Wxline).

SERVER DISCONNECTION

If the Server is disabled or terminated (i.e. actively closed by the user, or passively terminated by a power outage) the Client indicates a lost connection to the specific Server.

The Client attempts to establish connection with the Server after connection is lost and shows a connection status window until re-connection is successful.
The user can change the Network Settings or cause the software to stop attempting to connect.

Within the Server's tab the Server name changes to red when communication is lost between a Client and a Server.

CHAPTER 7

USING STRIKE VIEW SIMULATOR

Strike View Simulator enables the user to learn the functions of the software using keystrokes that simulate Sensor messages. Strike View Simulator can send data to the Strike Guard Receiver via serial or TCP/Tunnel to help the user learn the functions of the Receiver and test relay functions. Strike View Simulator is available without a license for testing and evaluation purposes. Strike View Simulator can send data but cannot receive data via a serial port or a LAN.

STRIKE VIEW SIMULATOR IN DEMO MODE

Strike View Simulator, when run in Demo Mode, enables the user to demonstrate and learn about the functions of Strike View Software.

NOTE | Strike View Simulator in Demo Mode has no Serial or LAN connectivity.

Figure 21: Strike View Simulator Main Page in Demo Mode.

Figure 22: Keystroke legend in Strike View Simulator.

The user simulated 4 Warning and 4 Caution flashes and has simulated a Sensor Self-Test Pass message by pressing keystroke "P".

The user may simulate Sensor messages using keystrokes. The keystrokes legend is shown by selecting Utility > Show Demo/Simulator Instructions.

This window appears upon startup of Strike View Simulator, when switching between Demo and Simulation Mode, and by selecting Utility > Show Demo/Simulator Instructions.

SIMULATION MODE

Simulation Mode allows the user to send serial data to the Strike Guard Lightning Data Receiver to help the user learn about the Receiver and test relay functions. There are no passwords necessary to access Settings Windows in Strike View Simulator.

NOTE | To run Strike View Simulator in Simulation Mode, the Fiber-Optic cable must be re-routed. Detailed routing instructions can be found at the end of this Section.

To run Strike View Simulator in Simulation Mode switch the Data Mode to "Simulation" within the Network Settings area.

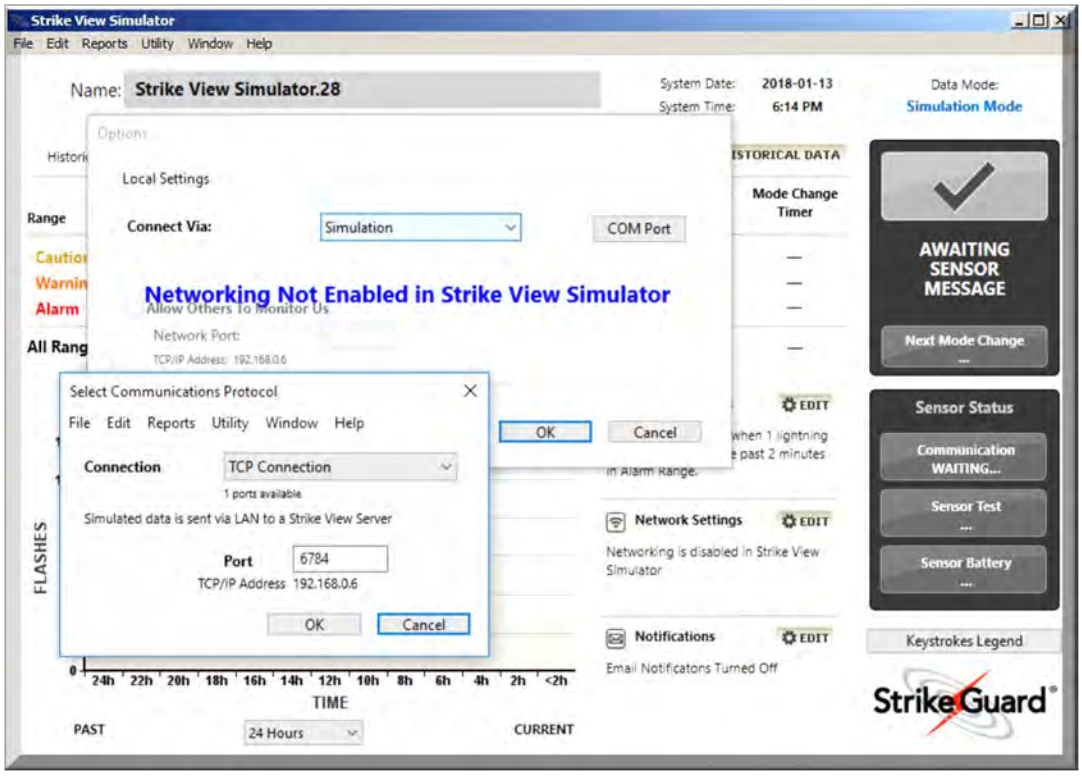
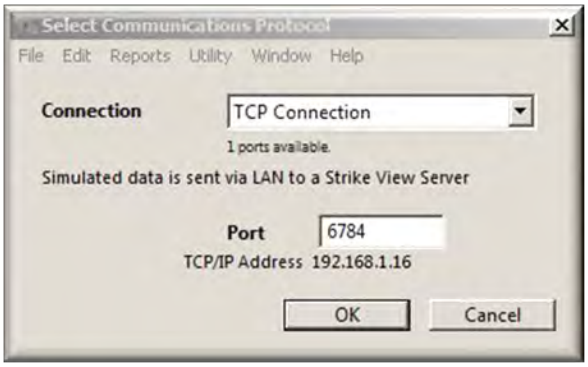


Figure 23: System Settings for Strike View Simulator.

Data Mode can be selected to be "Demo" or "Simulation" Mode. When in Simulation Mode, COM settings can be adjusted using the "COM Port" button. COM port button is not visible in Demo Mode.

When Simulation Mode is selected, Strike View Simulator prompts the user to specify the COM port. After selecting the COM port attached to the Converter, Strike View Simulator is ready to run in Simulation Mode. COM port settings are modified by selecting the "COM Port" button in Strike View Simulator Settings, right of the Data



Mode pull down menu. Reference Chapter 5.

Figure 24: Setup a TCP/Tunnel in Strike View Simulator.

Setup a TCP/Tunnel in Strike View Simulator Settings by clicking the "COM Port" button on the Strike View Settings Dialog Box shown.

A Serial TCP/Tunnel is available in the COM Port settings to support testing a system that uses a LAN connection as part of the communication link between the PC and Strike Guard Receiver.

Within Simulation mode, the user can adjust the Data Mode ("Demo" or "Simulation") and COM Port Settings.

- Unit of Distance
- Mode Change Timer
- Alarm Count Threshold
- Alarm Range Setting
- Alert Settings

Unit of Distance toggle allows the user to select miles or kilometers as the standard unit of measure for lightning distance reporting.

Strike View Alert Settings selects between Once or Repeated audible alerting or audible alerts may be turned Off.

The Repeated setting sounds an audible alert after a Mode Change until the user

clicks the "Silence Alarm" button in the System Status area of the Strike View Simulator Main Page.

A particular alert setting (Once, Repeated, Off) may be selected for any of the System Mode Settings.
Lightning Flash Beeper allows the user to select whether the software generates an audible alert (beep) with each lightning flash simulated.

CONNECTING STRIKE VIEW SIMULATOR TO THE RECEIVER

For testing the Receiver, a Fiber-Optic cable is run from the blue Fiber-Optic transmitter port (labeled: T) on the Converter to the black Fiber-Optic receiver (labeled: SENSOR IN) on the Strike Guard Receiver.

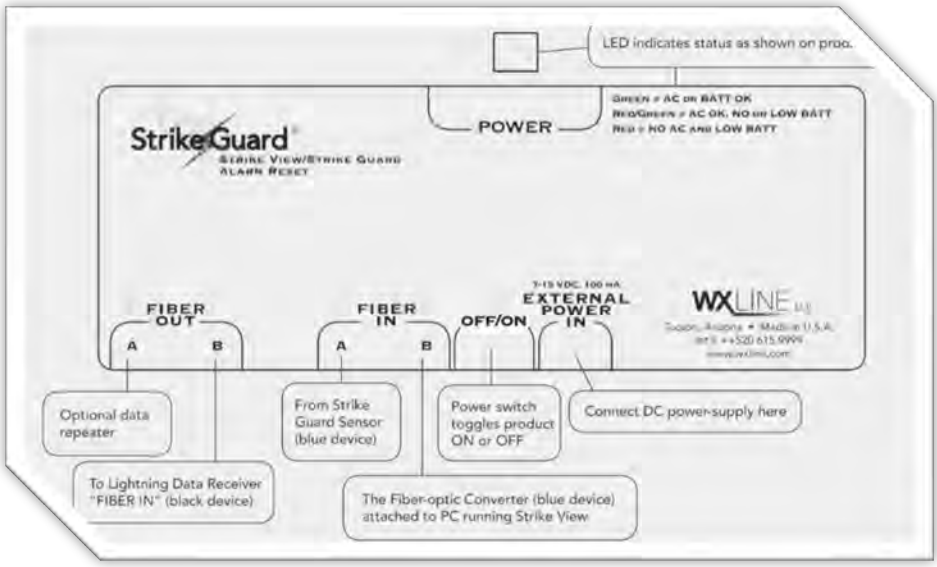


Figure 25:Strike View Wiring Diagram

NOTE | If a Strike Guard Lightning Data Receiver is connected to the computer, disconnect the fiber- optic cable from black FIBER IN on the Receiver temporarily and move the fiber-optic cable from the blue FIBER OUT to the black FIBER IN.

The computer running Strike Guard Simulator, set to Simulation Mode, sends keystroke generated simulated Sensor messages to the Lightning Data Receiver.

NOTE | After completing Simulation testing, reconnect the fiber-optic cable to the FIBER OUT port on the Converter and the black FIBER IN port on the Receiver.

See Figure 28 on page 46 for a diagram of the cable connections with Simulator.

CHAPTER 8

ADDENDUM – ADDITIONAL FEATURES

This section describes additional, advanced features of Strike View. For more information on advanced features, contact Wxline (Email Wxline).

REPORT MANAGER

The Report Generator is available on both the Strike View Server and Client. Both allow the user to review archived Strike Guard data that is stored in a SQLITE file on the Server's hard disk.

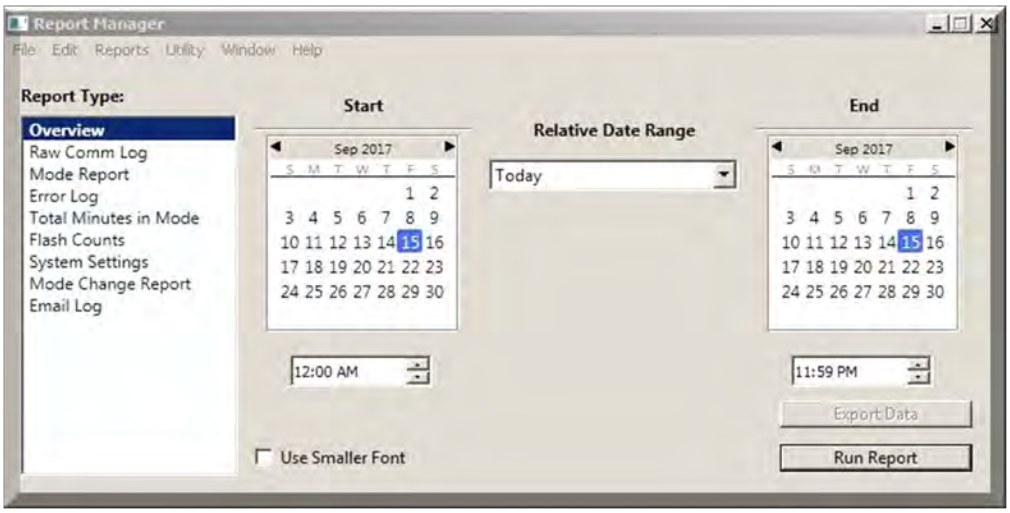


Figure 26: The Report Manager Window factory default settings.

The user may customize these settings and generate a report by clicking "Run Report" or alternatively "Export Data" in the lower right corner.

When generating reports on the Strike View Client, the data must be copied over the LAN from the Strike View Server. The copy function is initiated using the Get Historical Data button. Once the data is copied, or synchronized reports can be generated.

When run, reports appear onscreen like pages in a PDF format. Reports can be saved to PDF. When exporting data, the file must be saved and then opened in Notepad or a similar text application.

The Strike View Server's Generator has the option to Export Data as a text file, which can be easily shared.

NOTE | Strike View Server must be running to collect data. The report manager does not account for missing data and reports are based on available logged data.

Strike View offers reporting capability that allows the user to generate custom reports. The Report Manager is located in the Menu Bar under Reports > Report Manager.

Within the Strike View Client Reports Manager window, a pull-down menu allows the user to select a Server (identified by the Server name) from which to generate a report.

To run a report from a Client for a Server, first synchronize the data by clicking on the "Get Historical Data" button.

Reports are generated based on the Report Type shown on the left side of the Report Man- ager Window. Set Start and End dates and times using the calendars and times shown or select a Relative Data Range may be chosen for a preset time range (i.e. Last Week, Last Year, etc.) from the pull-down menu between the calendars.

NOTE | Clicking on Get Historical Data synchronizes Data Files for all Servers connected to the Client. The duration of time required to synchronize data sets across the LAN is dependent on the size of the Server Data File and network speed.

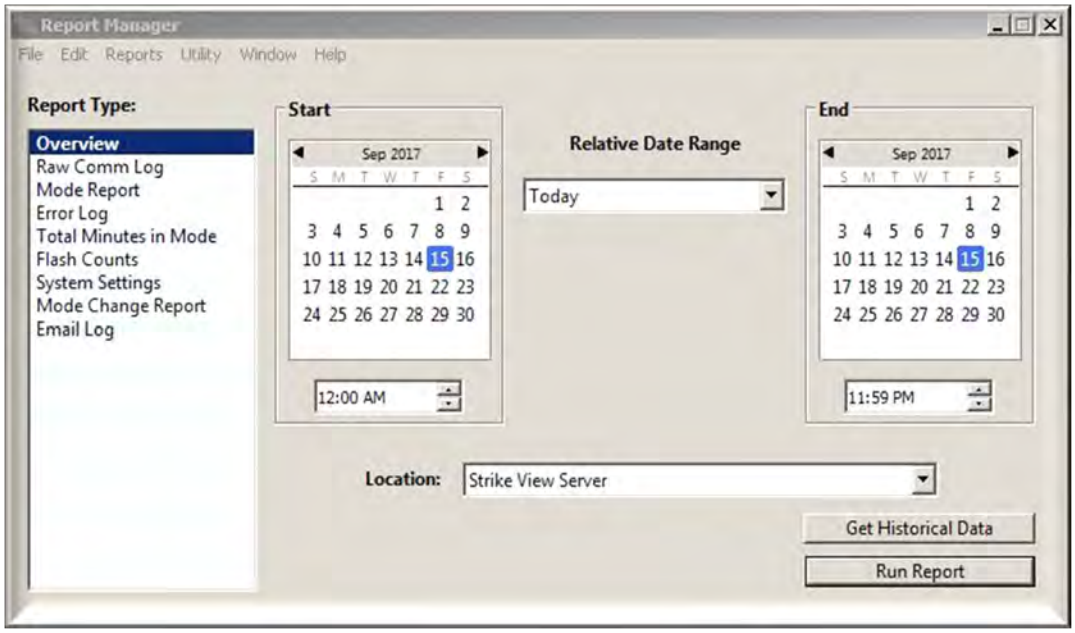


Figure 27: The Strike View Client Window options.

The Client Window allows the user to select a Strike View Server on the LAN for report generation.

UTILITIES

The following Strike View features are accessed via the Utility Dropdown on the Menu Bar:

- Send Message to Clients
- Send Serial Port Test Message
- Show Data File
- Clear Log File?

Strike View Server logs; Strike Guard Sensor Data (incoming data from the local Strike Guard Receiver). The Strike View Server must run to log data.

Access the Strike View Data File by selecting Utility > Show Data File
"Clear Log File" erases all historical data.

NOTE | Do not move or rename Data File. Doing so causes Strike View to create a new Data File, and old data may be damaged or lost.

If "Clear Log File' is selected, the user is given the opportunity to "cancel" or "continue to clear the log".

NOTE | Error log data is permanently deleted when the log is cleared.

UNINSTALLING STRIKE VIEW

For Windows users, the Strike View Uninstaller simplifies removal of Strike View Software (remove each software package separately).

For Windows based computers, find the Strike View Menu Item under

Start > Program Files > Strike View

Select "Uninstall Strike View" from the options provided.

To uninstall Strike View for Mac computers, open the Finder window, click on Applications, scroll to find Strike View, right click on the Strike View application icon, and select "Move to Trash.

STRIKE VIEW FIBER-OPTIC CABLE CONNECTIONS

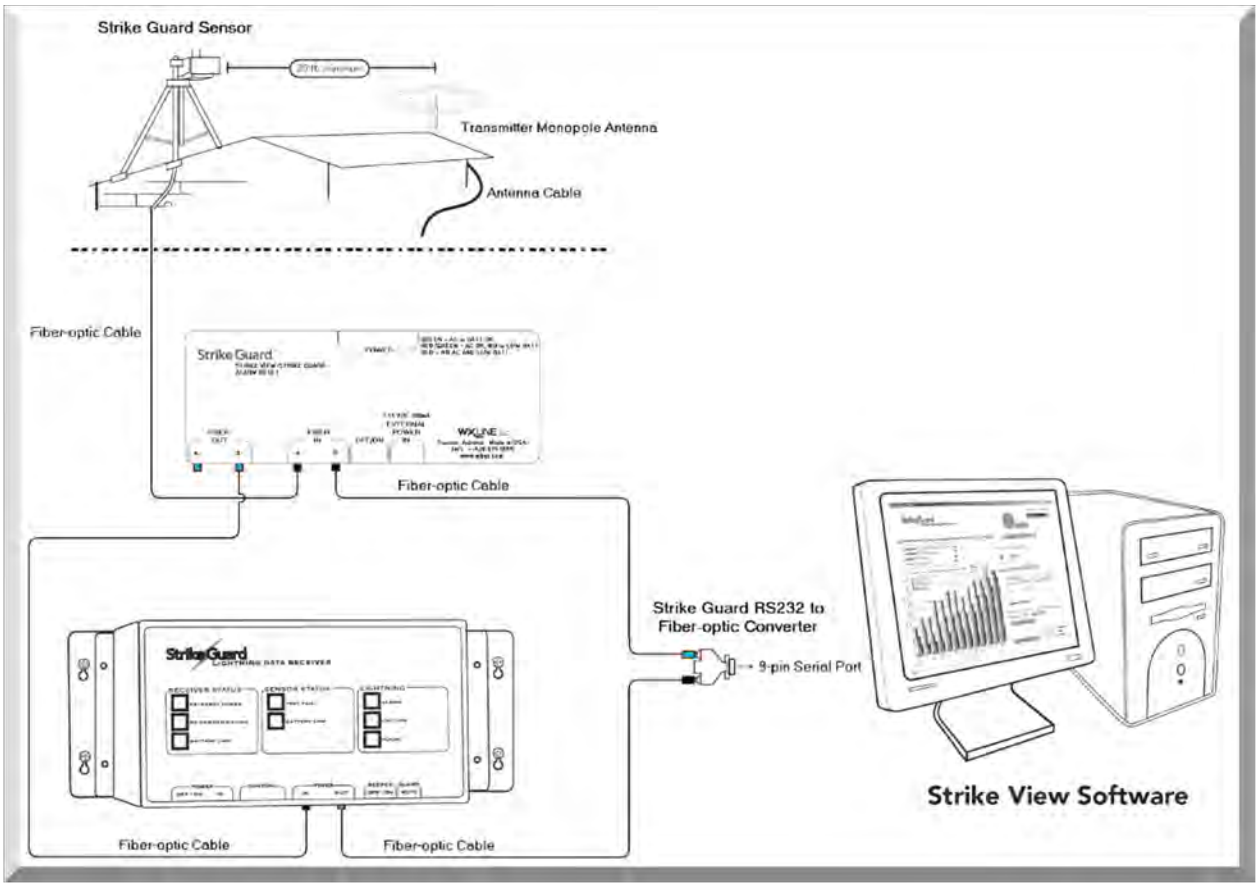


Figure 28: Diagram showing the cable connections.

CHAPTER 9

STRIKE VIEW SERVER PRO

The Strike View Server Pro software from Wxline allows the user to monitor Strike Guard Mode conditions using a Mode Widget that uploads a snapshot of the current Strike Guard condition via the world wide web.

The Strike View widget and email or text notifications are not intended for personal safety applications. Widget, text, email and SMS notification delivery relies on infrastructure outside the control of Wxline, LLC. Monitor the Strike Guard Lightning Data Receiver for current system status.

The implementation of the Strike View Mode Widget requires advanced computer skills and is intended to be performed by a Webmasters familiar with SFTP protocols and coding script.

The Strike View Pro web feature may require additional support from Wxline beyond the information presented in this User's Guide. Please contact Wxline technical support at info@wxline.com or phone at (520) 615-9999 for additional support.

GENERAL SETTINGS

General Settings allow the user to set the Strike Guard Location Name, select the Unit of Distance, as well as configure serial port data and TCP/IP port data.:

Location Name identifies Strike View in a Local Area Network environment and on the Strike View Server Main Page.

Unit of Distance dropdown selects miles or kilometers as the standard unit of measure for lightning distance reporting.

Serial Port Data may be configured to output messages to another device such as a PLC (programmable logic controller). The blue Fiber-Optic transmitter on the Strike Guard RS-232 to Fiber-Optic Converter is used to communicate with a PLC (additional Converter required). This drop-down selects the nature of outgoing serial messages triggered by Strike View.

NOTE	Connect the Converter to the serial port of the computer using a straight-through cable, if necessary.

TCP/IP Port Data dropdown selects the nature of outgoing TCP messages triggered by Strike View.

Both the Serial Port Data and TCP/IP Port Data have identical drop-down menus. The Serial Port selection configures the Serial Port, while the TCP/IP Port selection configures the TCP/ IP port.

- Alarm Mode Exit sends a message indicating the exit from the Alarm Mode.
- Data Repeat relays any incoming serial data as outgoing data (no Alarm Mode Exit signal is sent if Data Repeat is selected).
- Mode Change reports Mode Changes as specified in the messages menu, which is accessible via the button to the right of the drop down.
- Data Repeat and Mode Change relays incoming signals out and sends messages based on Mode Changes.

NOTE | The Mode Change selection is recommended when sending messages to another device like a PLC.

ENABLING MODE WIDGET UPLOAD

The 'System Settings' page provides access to the 'Advanced Settings' area where the 'Web Development Tools' section is located. The option to upload the Mode Widget PNG file is configured in the 'Web Development Tools' section.

You are prompted to enter the administrative password (default: PASSWORD - ALL CAPS) to gain access to the 'System Settings' and 'Advanced Settings' area. On the pop-up window click on 'Web Development Tools'.
feature.

The checkbox labeled 'SFTP Upload the mode widget' activates the Mode Widget feature.

SERVER DETAILS & REMOTE FILE

Correct configuration of the server details is crucial for the successful upload of the Mode Widget (Snapshot PNG file) to the relevant server.

To use *'password authentication'*, enter a password in the provided entry field. If *'SSH Key authentication'* is preferred, click the *'SSH Key...'* button to select the SSH Private Key. If a password was previously entered, the password field will be cleared when SSH private key is selected.

Figure 29: SFTP Upload the mode widget.

Use the *'Test Connection'* button to test the connection details and identify problems with connectivity in the path. The Remote File Path field must correspond with an *already existing directory on the server*. An invalid path will cause Snapshot Upload to fail.

NOTE | The target Filename 'StrikeView.png' will be created and / or overwritten by Strike View Pro to display the Mode Widget on a website.

Click the *'Save'* button first to test the server details and path information. Should the test fail, the server details are not saved correctly. It may appear that server details are "stuck" in memory. To clear this state, use the *'Erase Credentials'* button to reset the server details.

OPTIONS

The *'Advanced Settings'* section allows the user to configure the Mode Widget details to provide the desired information and appearance.

The user may select from the following options:

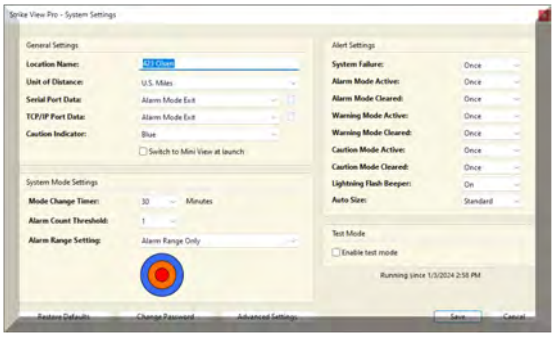
A. *'Upload on Mode change'*
When *'Upload on Mode change'* is selected a new PNG file is uploaded to the website when there is a *'Live Data Mode'* change from *'No Lightning Detected'* to *'Caution-'*, *'Warning-'*, or *'Alarm Mode'*.

B. *'Upload every ___ Minutes'*
The Mode Widget PNG file is updated as often as at the interval selected in minutes.

C. *'Upload Server Offline message when exiting'*
Upon Strike View Server Pro application exiting a *'Server Offline'* graphic is generated when the Strike View Server Pro application is closed by the user.

D. *'Add location name to upload'*

The Mode Widget displays the location name as entered in *'General Settings'*.



E. 'Add timestamp to upload' will place the System Date and System Time at the bottom of the uploaded Mode Widget. The user selects either the first or second options. The other available selections are optional.

Figure 30: Location Name for Widget png.

CODE TO PLACE THE MODE WIDGET ON A WEBSITE

Follow the steps to activate the functionality in the Strike View Server Pro software as described in the previous steps. When complete, copy/paste the below script into a 'code block' somewhere on the website on the same page where the Mode Widget is located.

```
<script>
// How frequently we check for changes
const kDelay = 3000;
// Memory for the watchers
var aroWatchers = [];
function watchForChanges(oTarget) {
let oWatcher = new TPWatcher;
oWatcher.oTargetElement = oTarget;
oWatcher.sTargetSRC = oTarget.src;
aroWatchers.push(oWatcher);
oWatcher.startWatching();
}
class TPWatcher {
dtLastModified;
oTargetElement;
sTargetSRC;
xhr;
cacheBustingLink() {
return this.sTargetSRC + "?" + (new Date()).getTime();
}
startWatching() {
let oWatcher = this;
oWatcher.xhr = new XMLHttpRequest();
oWatcher.xhr.open("HEAD", oWatcher.cacheBustingLink());
oWatcher.xhr.onload = function() {
oWatcher.dtLastModified = this.getResponseHeader("Last-Modified");
setTimeout(function(){oWatcher.checkHeader(oWatcher)}, kDelay);
};
oWatcher.xhr.send();
}
checkHeader(oWatcher) {
oWatcher.xhr = new XMLHttpRequest();
oWatcher.xhr.open("HEAD", oWatcher.cacheBustingLink());
oWatcher.xhr.onload = function() {
if (this.status == 200) {
if (oWatcher.dtLastModified != this.getResponseHeader("Last-
Modified")) {
// Store new date
oWatcher.dtLastModified =
this.getResponseHeader("Last-Modified");
// Load new image
let oImg = new Image;
oImg.onload = function() {
oWatcher.oTargetElement.src = this.src;
}
oImg.src = oWatcher.cacheBustingLink();
}
}
setTimeout(function(){oWatcher.checkHeader(oWatcher)}, kDelay);
};
oWatcher.xhr.send();
}
}
</script>
```

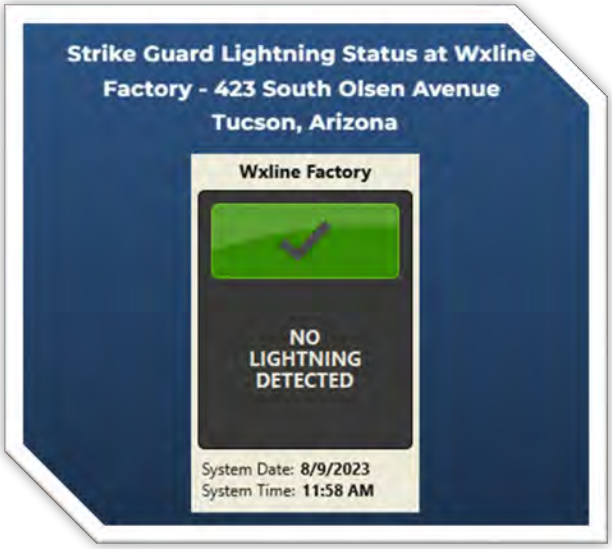
Once the above code is entered into a 'code block' on the website, copy the following couple of lines and paste them into a separate 'code block' on the page on your website that displays the Mode Widget.

```
<div id="container">
<center>
<img src="https://YOUR WEBSITE PATH goes
here.com/widgets/live/StrikeViewFactoryLive.png"
onload="watchForChanges(this);">
</center> </div>
```

SCRIPT TO PLACE MULTIPLE MODE WIDGETS ON ONE WEBSITE

To display multiple Strike Guard System Widgets on one web page meticulous attention needs to be given to the naming of the individual PNG files.

Each widget code container must have the PNG file name of the Server Location identified in 'General Settings' under 'Location Name' as shown on Error! Reference source not found.



THE UPLOADED IMAGE

The uploaded PNG file will be placed in the folder according to the defined path entered in the Web Development Tools Advanced Settings. If no additional options are selected in the 'Advanced Setting' the standard feature of the Snapshot Upload function will place the image according to the options defined. If the upload of the image fails, Strike View Pro will disable the Snapshot Upload feature. Other settings will not be affected.

EXPORT DATA

Strike View Pro Advanced Settings Export Data: This feature in Strike View Pro allows the user to export their data directly into a Microsoft Excel Spreadsheet for easy reporting. This feature is in addition to the legacy reports that are generated using the Report Manager (See Chapter 8, page 43).

There are two check box options, one to include the column names as header row. Check this box if you would like to have the header row included.

The second option is to include NULL values. Select this if you would like to include all the values in the data set.

There is also the option of not selecting either check box and exporting the data with the additional data.

The data sets are saved on the c:// drive in the Wxline 7 folder under StrikeView Server. This can also be accessed from the Menu bar at the top of the screen under Utilities > Show Data File.

Warning Exit Mode overrides the typical functionality of Strike View to allow a No Lightning Detected signal to be sent to the Strike Guard Receiver upon exiting the Warning Mode. Warning Exit Mode is accessed via the Advanced Settings button within the System Settings window. Advanced Settings are password protected.

NOTE | Changing the Warning Exit Mode selector requires a Wxline modified Lightning Data Receiver. Do not select this setting unless you have a specially modified receiver.

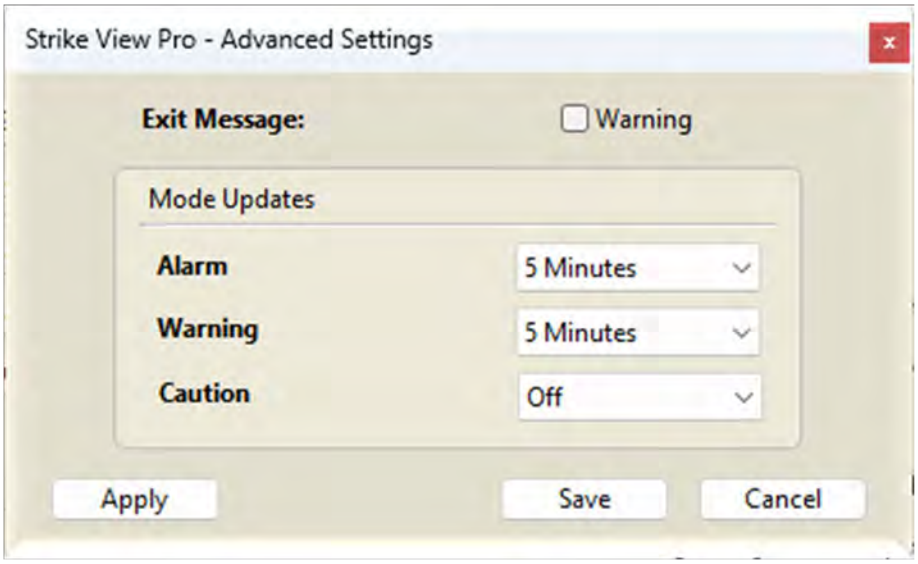


Figure 31: Warning Exit Mode overrides typical functionality

Warning Exit Mode overrides the typical functionality of Strike View to allow a No Lightning Detected signal to be sent to the Strike Guard Receiver upon exiting the Warning Mode. Warning Exit Mode is selected within Strike View System Settings by clicking on Advanced Settings. Use of Warning Exit Mode requires a modified Lightning Data Receiver.

The Advanced Settings window has an Exit Message checkbox to either select or de-select the Warning Exit Mode.

Mode Updates relate only to TCP/IP Port Data Messages and enable a repeat frequency for sending of these messages during Alarm, Warning and Caution Alarm States. When the software is configured to send Change Mode messages via TCP, the Advanced Settings allow these messages to be repeated at regular intervals. For example, when setting the Alarm Mode to repeat at One-minute intervals, a "TA" (transition to Alarm) message is immediately sent via TCP when entering the Alarm state. This message is then repeated at one-minute intervals until the Alarm state is exited.

Drop-down boxes for Alarm, Warning and Caution allow the user to select the respective Mode Update intervals in minutes: Off, 1, 5, 10, 15, 20, 25. Selecting OFF disables the repeat function for each specific mode.

Strike View Pro Widget Share

Strike View Pro Server from two sites displayed on public website. https://www.wxline.com/widget-demo

Strike View Pro Server provides advanced programming tools which enable users to provide real time lightning status information to internet connected devices.

A built-in SFTP server allows Strike View Pro to upload the current status of the system into a web directory which can be viewed on any browser with access to the internet.

Unlike restrictive apps that are not compatible with some devices, Strike View Pro allows remote viewing of the on-sight lightning conditions from anywhere in the world regardless of platform.

Strike View Pro can also send digital push notifications using a built-in TCP/IP output and email server. Notification messages can be customized to relay various lightning condition changes and system alerts.

SOFTWARE SPECIFICATIONS:

COMPUTER REQUIREMENTS: 256MB; Pentium III or higher recommended
PLATFORM: Windows® 10 or Newer
INTERFACE: Strike Guard RS-232 to Fiber-optic Converter to PC's 9-pin serial port or USB Port with adapter
CABLE: Rugged, connector-less PCS PMMA fiber-optic cable
FORMAT: Thumb drive, or online download

Contact Wxline for a Strike View Pro demonstration.

WXLINE

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Specifications are subject to change.

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