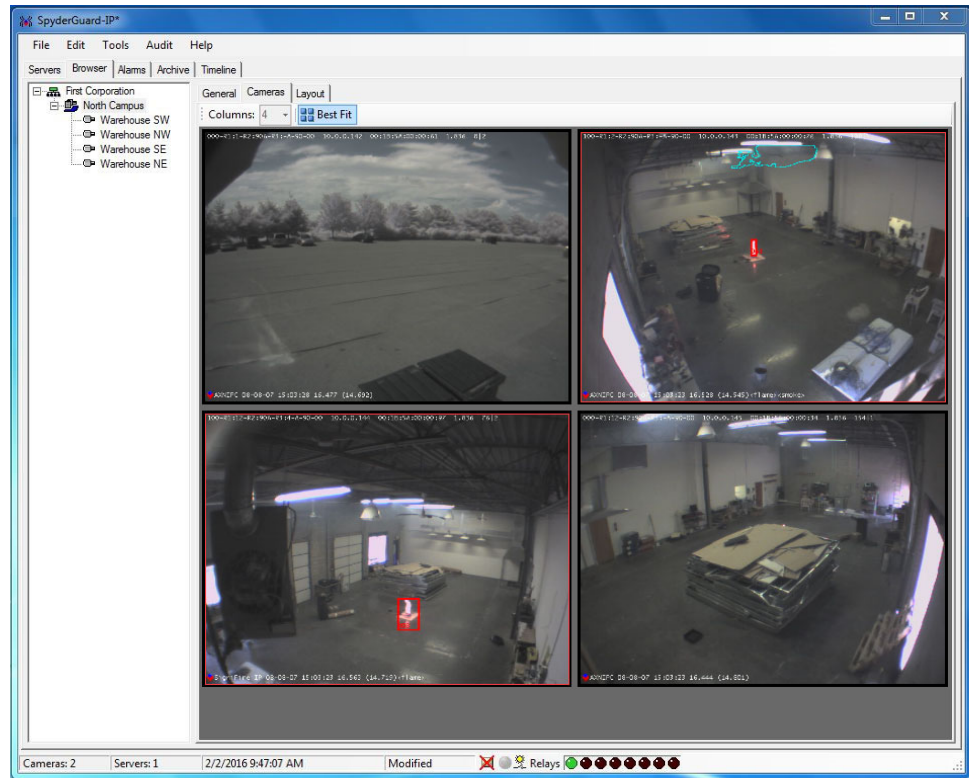


Fike Video Analytics Video Management Software



Guard Mode User's Guide



P/N: 06-819
Rev: 4 / June 2019

Fike®

Video Analytics Corporation

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1.0 General Information

1.1 About this Manual

This guide is for those with Guard access to the Fike Video Analytics system. It provides a brief overview of the operating features of the Video Management Software (VMS) and includes steps that should be taken by responding personnel should an alarm event occur. Some features of the software will be grayed out (non-accessible) while in Guard mode. These are functions available only when in Administrator mode.

The information presented in this guard's guide is of a general nature, since each site and system is unique. The Fike Video Analytics system at your site has been designed by professionals to meet the specific fire and security requirements in your location. Please refer to site specific instructions, provided by your Fike Video Analytics representative, to determine the exact operation of your system.

1.2 How Video Analytics Technology Works

Video Analytics is enabling a rapidly growing number of video products such as smart cameras and intelligent digital video recorders (DVRs) with automated capabilities that just a few years ago would have required human monitoring. Broadly, video analytics is the extraction of meaningful and relevant information from digital video. Video Analytics builds upon research in computer vision, pattern analysis and machine intelligence, and is also called video content analysis (VCA) or intelligent video.

Similar to human vision, which has a perceptual and cognitive aspect, video analytics uses computer vision algorithms which enable it to perceive or see, and machine intelligence to interpret, learn and draw inferences. The goal of video analytics is scene understanding, which differs from motion detection. In addition to detecting motion, analytics qualifies the motion as an object, understands the context around the object, and is able to track the object through the scene.

Fike Video Analytics has two options for video fire detection; a UL listed, Factory Mutual approved, NFPA compliant camera with analytics internal to the camera and computer software that can monitor and analyze video from off the shelf cameras (ONVIF). Fike analytics includes 4 standard algorithms to detect smoke (also used for oil mist detection), flame, reflected flame (called Offsite) and motion.

Smoke: In the most basic sense, video analytics' algorithms for smoke detection monitor the image for movement of light patterns relative to a stable background. If the movement is consistent with "known" smoke movement patterns, and preset alarm zone, sensitivity and time delay thresholds are met, then an alarm is generated.

Flame detection: The analytics are monitoring the same stable background and looking for groups of pixels indicating slow changing brightness accompanied by known dynamic flicker signatures.

Offsite (reflected flame): The algorithm is similar to flame in that it detects slow changing brightness and flicker, however spread over a larger area.

Motion: Can be detected and tracked, if desired, to monitor for motion of people, vehicles, or depending on the sensitivity settings, rodents have been tracked.

The technology has been successfully applied in varied hazards from light hazard airport catering facilities and museums to power plants, aircraft hangars, ship engine rooms and outdoor chemical processing.

1.3 Terminology

Throughout this document there are terms which are used interchangeably.

Term	Legend
Fike Video Analytics	Proprietary technology for fire and smoke detection utilizing digital imaging devices. That may include digital video cameras with embedded firmware or standalone processing units capable of processing digital or analog video signals captured by third party devices. It also includes systems or devices that are supporting a video fire and smoke detection such as remote operator workstations, video recording/storage systems, etc.
Fike Video Analytics IP Camera	Refers to Digital Network Camera with embedded fire and smoke detection capabilities
FSM-IP (NVR)	Fire, Smoke, Motion – Internet Protocol, refers to Event Management and Video Storage server known also as Network Video Recorder (NVR)
Server ID	A combination of network name (or IP address) of the server with the TCP connection port used to connect to FSM-IP NVR.
Operator (guard)	A person that is dedicated to monitor the facilities. Operator can be physically located on the premises, or in case of remote monitoring, can be dialing into the system from the remote location.
Administrator (admin)	A person that is delegated the rights to configure the system
Main Window	The main Video Management Software window

1.4 Symbols

Throughout the application you will see the following symbols used to depict status

	Alarm	This symbol is used throughout the application to indicate that a camera is in a general alarm state: this could be any combination of flame, smoke, offsite, motion or guard alarms.
	Disconnected	This symbol is used throughout the application to indicate that there is a network connectivity problem between a server and camera. This can indicate that the camera is not powered or there is no valid network path between the server and the camera.
	Fault	This symbol is used throughout the application to indicate that a camera is in a fault state: this could be any combination of content or focus faults.
	Flame	This symbol is used throughout the application to indicate that a camera is experiencing a flame alarm.
	Motion	This symbol is used throughout the application to indicate that a camera is experiencing a motion alarm.
	Offline	This symbol is used throughout the application to indicate that a server is offline.
	Smoke	This symbol is used throughout the application to indicate that a camera is experiencing a smoke alarm.
	User	This symbol is used throughout the application to indicate that a camera is experiencing a User alarm. User alarms are initiated manually by a user through the Video Management Software.
	Maintenance	This symbol is used throughout the application to indicate that a camera has been placed into maintenance mode (ONVIF cameras only).
	Calibration	This symbol is used throughout the application to indicate that a camera has been placed into calibration mode (ONVIF cameras only).

2.0 Fike Video Analytics System Overview

The Fike Video Analytics system is comprised of at least one IP camera, a video management system, and the video management monitoring station. You can connect any number of IP cameras and network recorders via standard LAN / Ethernet network to expand the system to meet system requirements. There is no predetermined limit on the number of cameras and NVRs that can be deployed on one network; however, the actual performance can be greatly affected by bandwidth limitations on a particular network. The number of NVRs that the Video Management Software (VMS) can handle is unlimited and built-in smart bandwidth management limits the network video transfers to only those channels that are currently observed by the operator. Therefore, there is no deterioration of the frame rate observed by the operator.

There are many acceptable ways to configure the Fike Video Analytics system architecture. Three of the most basic and most implemented methods are described as follows.

2.1 FSM-IP NVR System Architecture

The FSM-IP Network Video Recorder (NVR) event management server is designed to network with up to 32 Fike Video Analytics IP cameras and an unlimited number of VMS monitoring stations [Figure 1]. The software contained within each Fike Video Analytics IP camera uses analytics to continually process video in real-time, frame-by-frame, to detect anomalies characteristic of smoke, fire and motion and when an event occurs, the camera(s) will transmit the video over the network to the FSM-IP NVR and the VMS workstation. The on-duty guard receives an early warning notification along with live video from the location. The FSM-IP NVR provides the digital storage for constant recording of the video images from the Fike Video Analytics IP cameras. The NVR also acts as an information conduit between the VMS monitoring station(s) and the cameras themselves. The NVR allows on-request playback of prerecorded videos at multiple VMS workstations simultaneously. This architecture is most commonly used when 24/7 monitoring is present and personnel can respond quickly to an event.

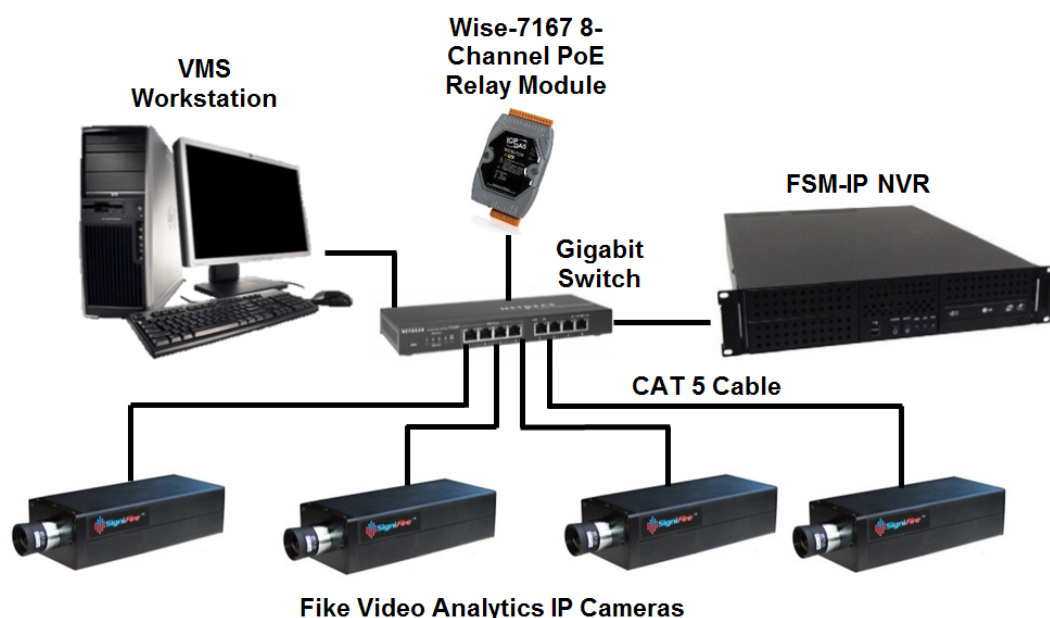


Figure 1: FSM-IP NVR Networked System Architecture (not UL Listed)

2.1.1 FSM-IP NVR System Connected to a Fire Alarm System

A variation of the FSM-IP NVR system architecture expands upon the system by using the integral dry relay contacts provided on each Fike Video Analytics IP camera to transmit event signals to a Fire Alarm Control Panel (FACP) [Figure 2]. This system architecture is most commonly used in installations that may not have 24/7 guards and want to ensure a response to an event. In this configuration, the Fike Video Analytics IP cameras must be powered by one of the following: 1) FACP, 2) an approved security and fire camera power supply with battery backup or 3) as a supplemental means, a PoE switch with battery backup.

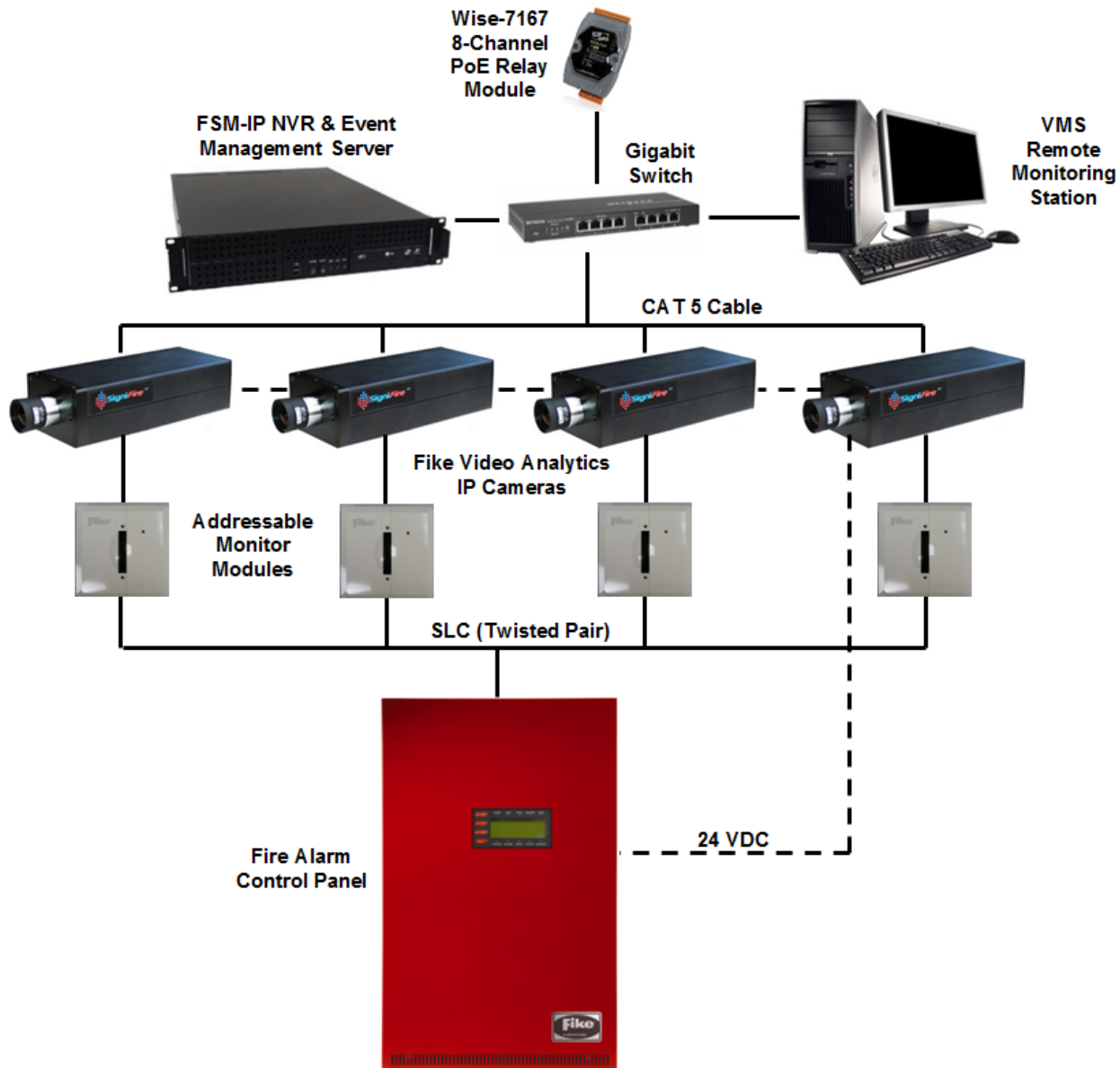


Figure 2: FSM-IP NVR Networked System Connected to an FACP (UL Listed)

2.2 Event Management Server System Architecture

The Fike Video Analytics event management server is designed to network with up to 16 ONVIF IP cameras and an unlimited number of VMS monitoring stations [Figure 3]. Unlike the FSM-IP server system, the analytics for processing the camera video is not contained within the cameras, but in the server itself. The server comes loaded with the appropriate software that allows it to process video in real-time, frame-by-frame, to detect anomalies characteristic of smoke, fire and motion and when an event occurs, the server will transmit the video over the network to the VMS workstation. The on-duty guard receives an early warning notification along with live video from the location. The server provides the digital storage for constant recording of the video images from the ONVIF cameras. The server also acts as an information conduit between the VMS workstation(s) and the cameras themselves. The server allows on-request playback of prerecorded videos at multiple VMS workstations simultaneously. This architecture is most commonly used when existing ONVIF compliant security cameras are installed.

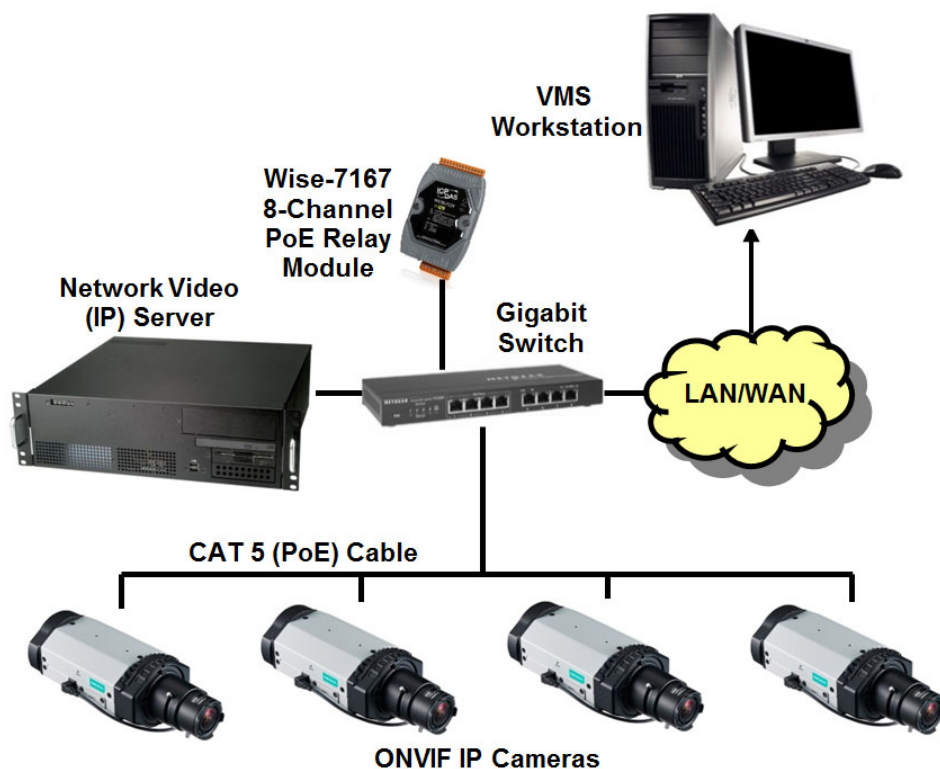


Figure 3: Event Management Server Networked System Architecture (not UL Listed)

3.0 Guard Interface Overview

The Video Management Software (VMS) is a customizable surveillance and alarm monitoring application that is able to work with one or more FSM-IP server installations. What makes VMS rather unique is its ability to configure access to video channels in accordance to the organizational, geographical and topological structure of your organization. The advantage of this is that you can navigate the system across the facilities using simple terms such as sites, buildings, levels, suites, etc. as opposed to servers and channel numbers.

To start VMS, double-click on the program icon located on the computer desktop. The software's Main Window [Figure 4] will be displayed. Verify that the software is in *Guard Mode* by checking the status of each server in the User column. If any server indicates Admin, contact your system administrator.



NOTE: VMS can only be closed by the System Administrator.

NOTE: Some features of the Video Management Software are grayed out (non-accessible) while in guard mode. These functions are available only when the software is in Administrator mode. Modifications to these items can affect system performance and should only be accessed or modified by persons with administrative access.

3.1 Main Window

The two major parts of the software's Main Window [Figure 4] are the main menu and the five tab selectable views, each defining a specific function of the system.

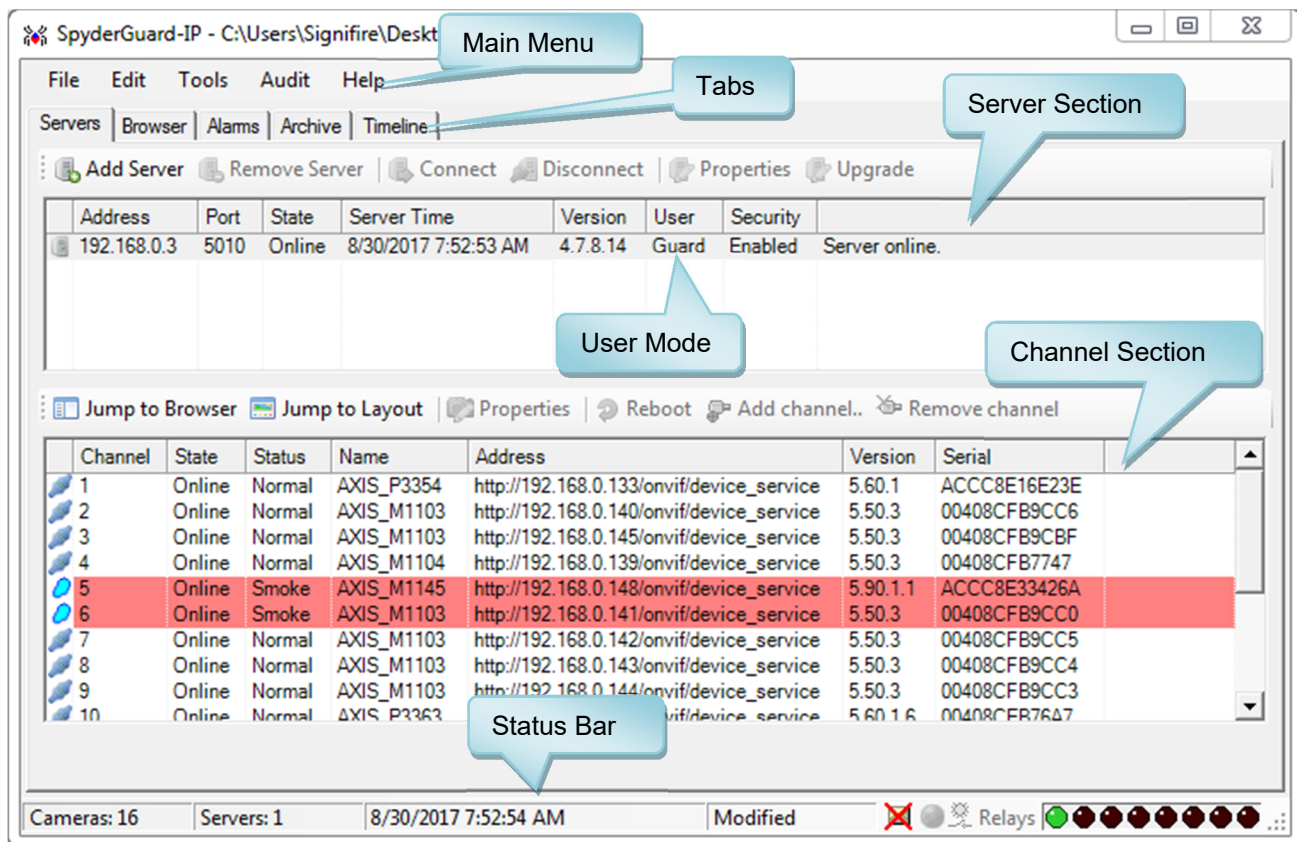


Figure 4: Video Management Software Main Window Layout

3.2 Main Menu

The *Main Menu* [Figure 5] allows you to navigate the general configuration options for the Fike Video Analytics system. Figure 5 lists the options available on the *Main Menu*.

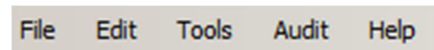


Figure 5: Main Menu

3.2.1 File Menu

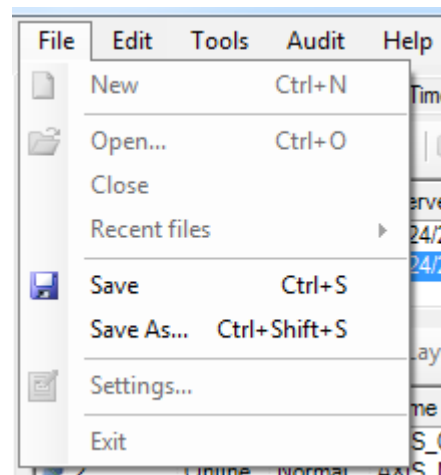


Figure 6: File Menu

- **New**
Not accessible in Guard mode
- **Open...**
Not accessible in Guard mode
- **Close**
Not accessible in Guard mode
- **Recent files**
Not accessible in Guard mode
- **Save**
Saves the current configuration.
- **Save As...**
Save the current configuration prompting for a file name
- **Settings...**
Not accessible in Guard mode
- **Exit**
Not accessible in Guard mode

3.2.2 Edit Menu

The Edit menu options allow you to manipulate the elements of the “Organizational Tree” found in the Browser tab. The Edit menu can also be accessed by right clicking on the browser tree area under the *Browser* tab.

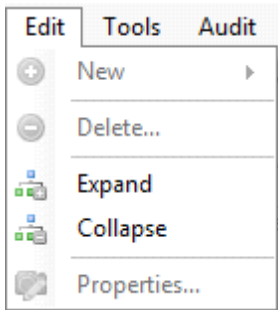


Figure 7: Edit Menu

- **New**
Not accessible in Guard mode
- **Delete**
Not accessible in Guard mode
- **Expand**
Expands the selected browser tree element to display all of the elements children
- **Collapse**
Collapses the selected browser tree element to hide all of the elements children
- **Properties**
Not accessible in Guard mode

3.2.3 Tools Menu

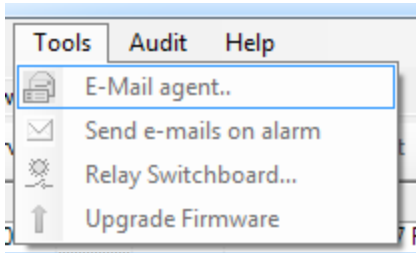


Figure 8: Tools Menu

- **E-Mail agent..**
Not accessible in Guard mode
- **Send e-mails on alarm**
Not accessible in Guard mode
- **Relay Switchboard...**
Not accessible in Guard mode
- **Upgrade Firmware**
Not accessible in Guard mode

3.2.4 Audit Menu

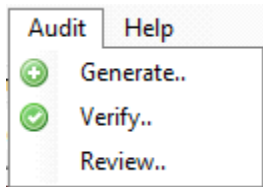


Figure 9: Audit Menu

- **Generate..**

Allows you to generate a system audit report [Figure 10]. The audit report is used to provide a hard paper copy of the Fike Video Analytics system configuration. This is useful for documenting and checking the system configuration during system maintenance to ensure the system has not been compromised.

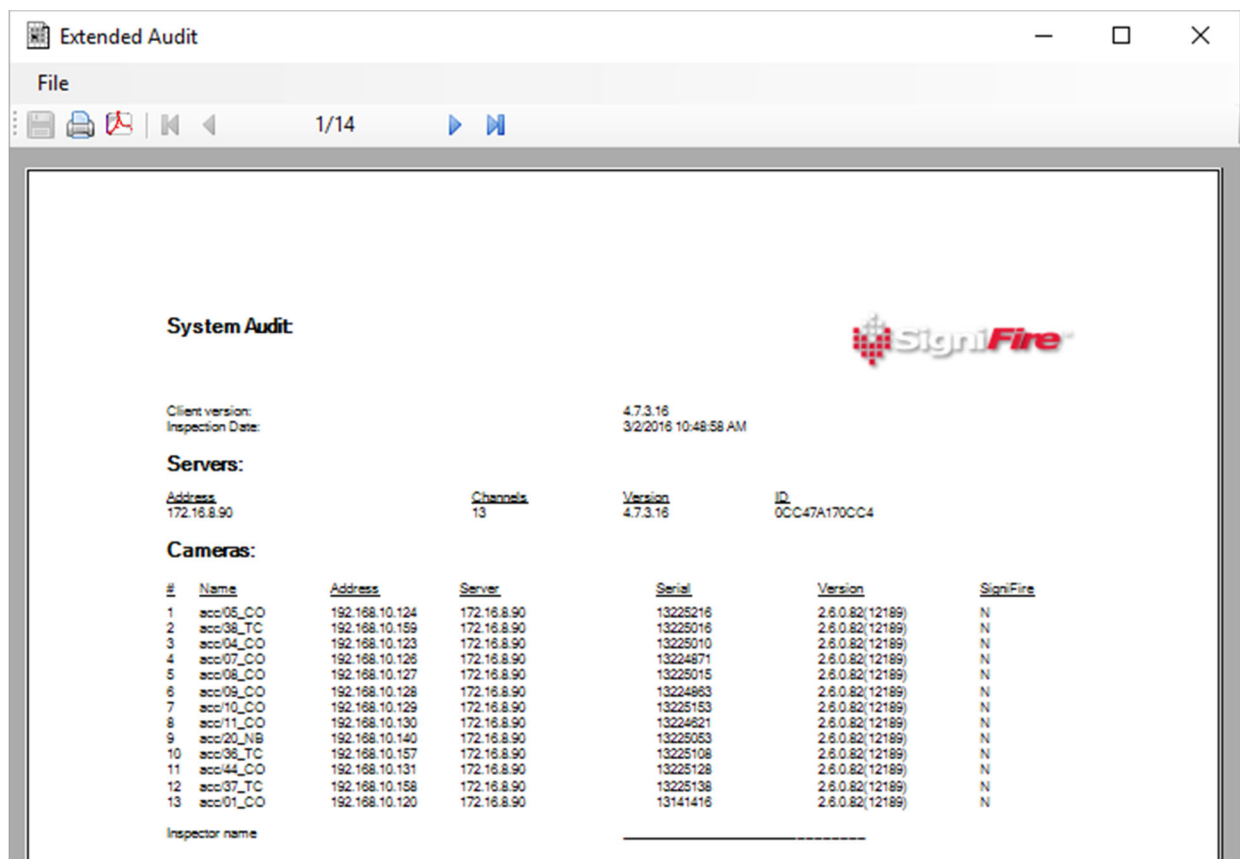


Figure 10: System Audit Report

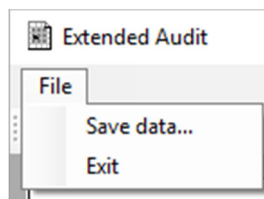


Figure 11: Audit Menu

	Print	Prints the Audit report to a connected printer.
	Print to PDF	Prints the Audit report to an Adobe PDF file.
	Skip to beginning	Jumps to the first page of the Audit.
	Step Back	Steps one page back.
	Step Forward	Steps one page forward.
	Step to End	Jumps to the last page of the Audit.

The report can then be saved as an .audit file by selecting **File>Save Data...** or closed by selecting **File>Exit** from the File menu [Figure 11].

- **Verify..**

Allows you to open a saved audit report and compare it to the VMS current settings. This is useful for documenting and checking system configuration settings during maintenance to ensure the system has not been compromised. If a setting has been changed, the verify feature highlights the change so corrective action can be taken.

To verify an audit, select *Verify* from the *Audit Menu*. You will be prompted to browse for an old audit file to compare the current settings too. Once selected, VMS will compare all the camera settings including field of view and will display the results for review in the audit list [Figure 12].

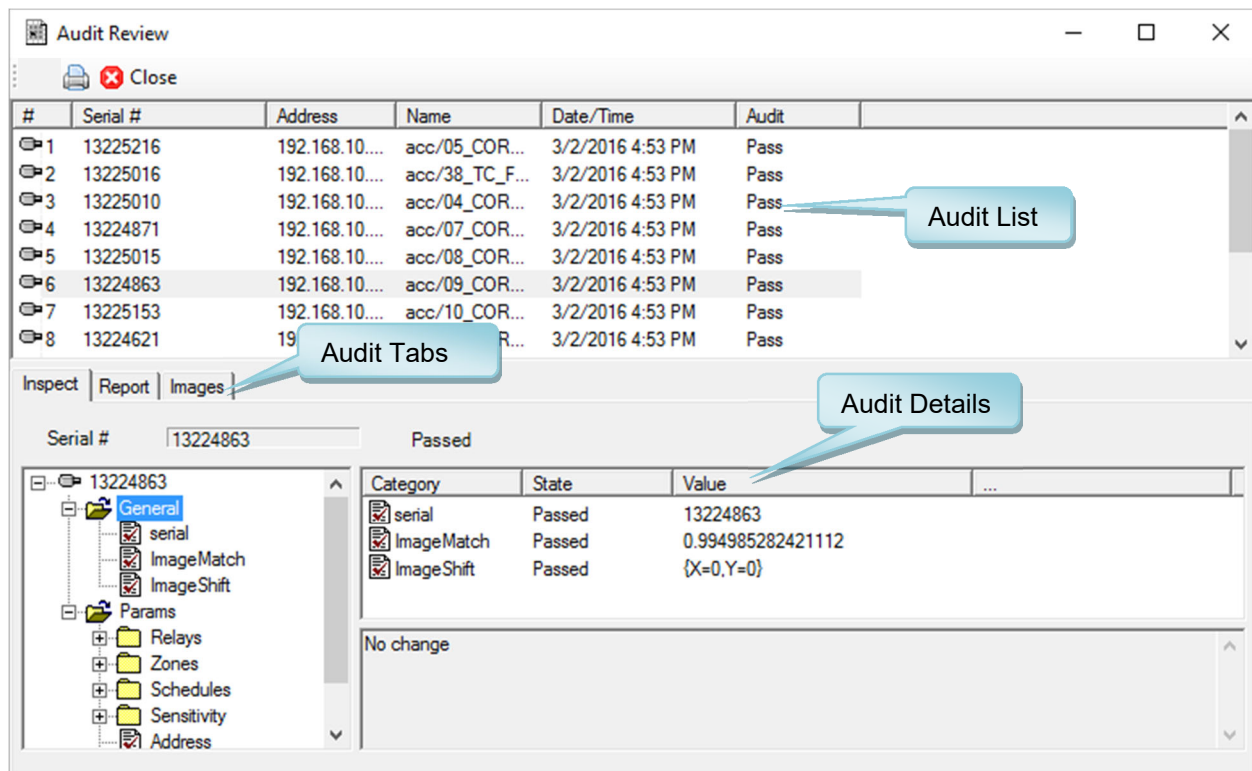


Figure 12: Audit Review Display

NOTE: Verify will only work with a saved .audit file.

The audit list displays the following information pertaining to the audit.

#	Channel number of the camera being audited.
Serial #	Serial number of the camera being audited.
Address	IP address of the camera being audited.
Name	Name of the camera being audited.
Date/Time	Time audit was performed.
Audit	Audit results (Pass/Fail).

If a problem is detected during the audit review, it will be highlighted on the camera icon and a fail grade will exist for the camera in the audit column [Figure 13]. A fail can occur for a number of reasons and does not necessarily mean the system is not functioning. For example, if enough of the content of the image has changed, the image match could get a failing grade even though the camera is properly aligned and correctly covers the hazard area. The fail indicator means further examination is required to ensure the system is working properly.

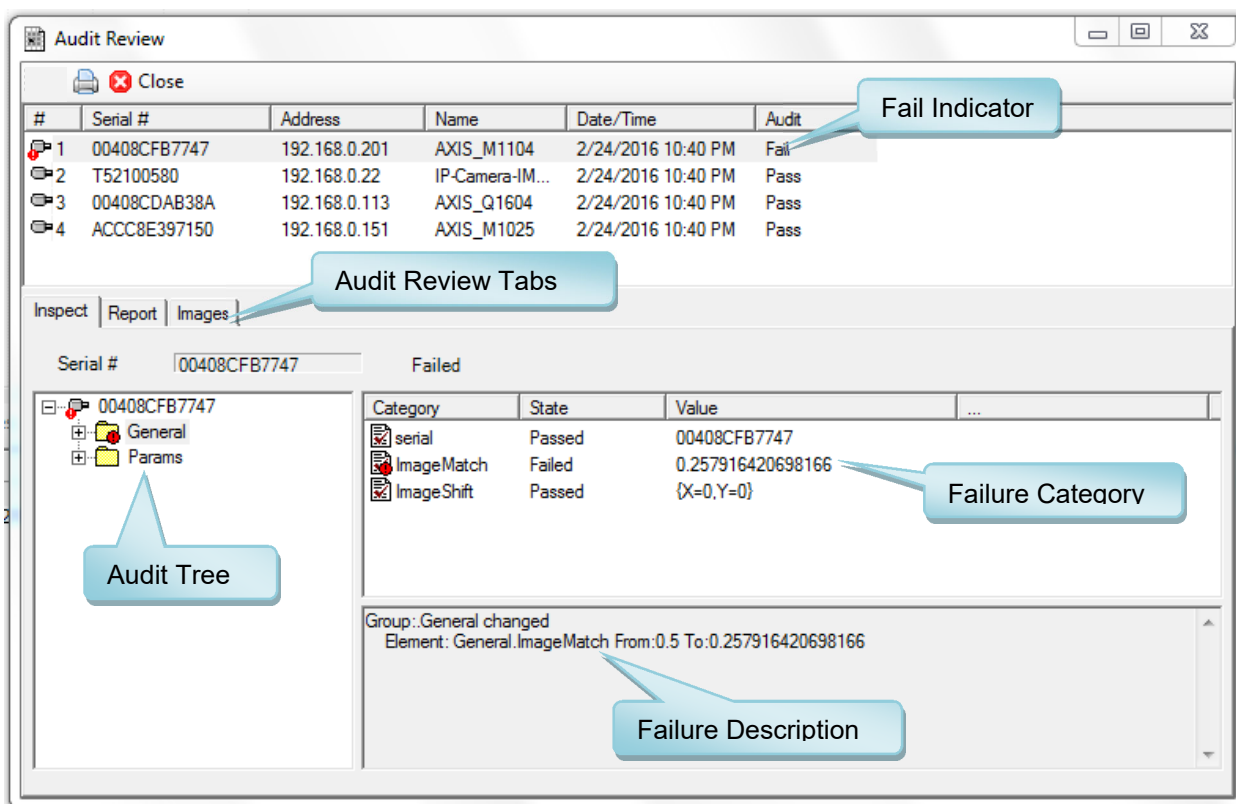


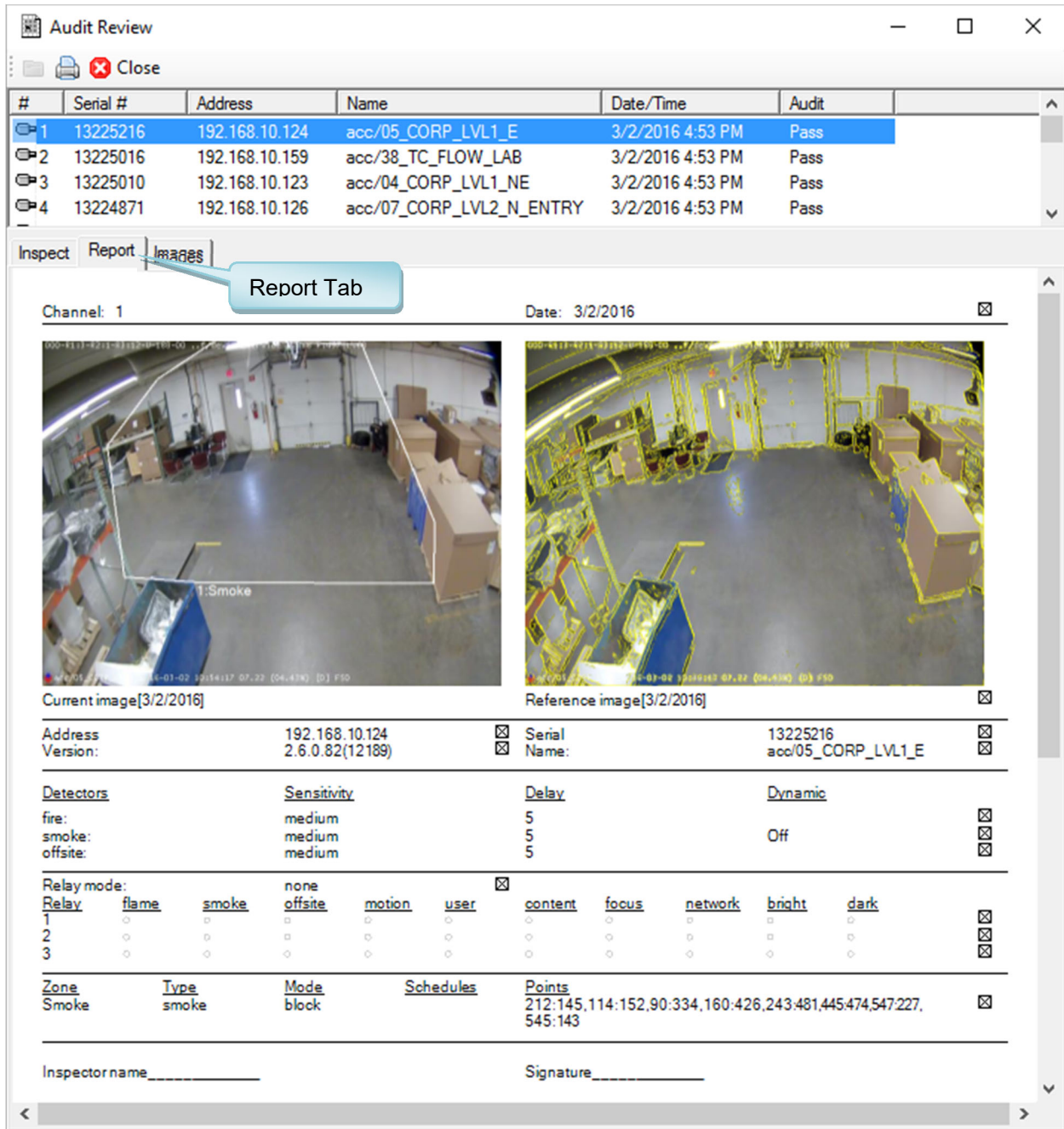
Figure 13: Audit Review Fail Display

Within the *Audit Review* you can drill down into each camera's settings and audit results using the three audit review tabs located on the middle left of the *Audit Review* screen.

Inspect tab - Provides detailed information regarding the *Audit Review* results. Upon selecting a channel number from the audit list, details concerning the cameras inspection results will be displayed in the three windows as shown in Figure 13.

Report tab [Figure 14] - Generates a printable version of the audit report for the selected channel. The report shows a side-by-side comparison between the saved audit report and the current system configuration. Any changes detected during the audit will be visually indicated in the report.

The print button  enables you to print a copy of the report.



Audit Review

Close

#	Serial #	Address	Name	Date/Time	Audit
1	13225216	192.168.10.124	acc/05_CORP_LVL1_E	3/2/2016 4:53 PM	Pass
2	13225016	192.168.10.159	acc/38_TC_FLOW_LAB	3/2/2016 4:53 PM	Pass
3	13225010	192.168.10.123	acc/04_CORP_LVL1_NE	3/2/2016 4:53 PM	Pass
4	13224871	192.168.10.126	acc/07_CORP_LVL2_N_ENTRY	3/2/2016 4:53 PM	Pass

Inspect Report **Images**

Channel: 1 Date: 3/2/2016

Current image[3/2/2016] Reference image[3/2/2016]

Address: 192.168.10.124 Serial: 13225216
 Version: 2.6.0.82(12189) Name: acc/05_CORP_LVL1_E

Detectors	Sensitivity	Delay	Dynamic
fire:	medium	5	☒
smoke:	medium	5	☒
offsite:	medium	5	☒

Relay mode: ☒ none

Relay	flame	smoke	offsite	motion	user	content	focus	network	bright	dark
1	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Zone	Type	Mode	Schedules	Points
Smoke	smoke	block		212:145,114:152,90:334,160:426,243:481,445:474,547:227,545:143

Inspector name: _____ Signature: _____

Figure 14: Audit Report Printout

Images tab [Figure 15] - Allows you to compare the previous recorded image to the current camera image to ensure that the camera's field of view has not changed.

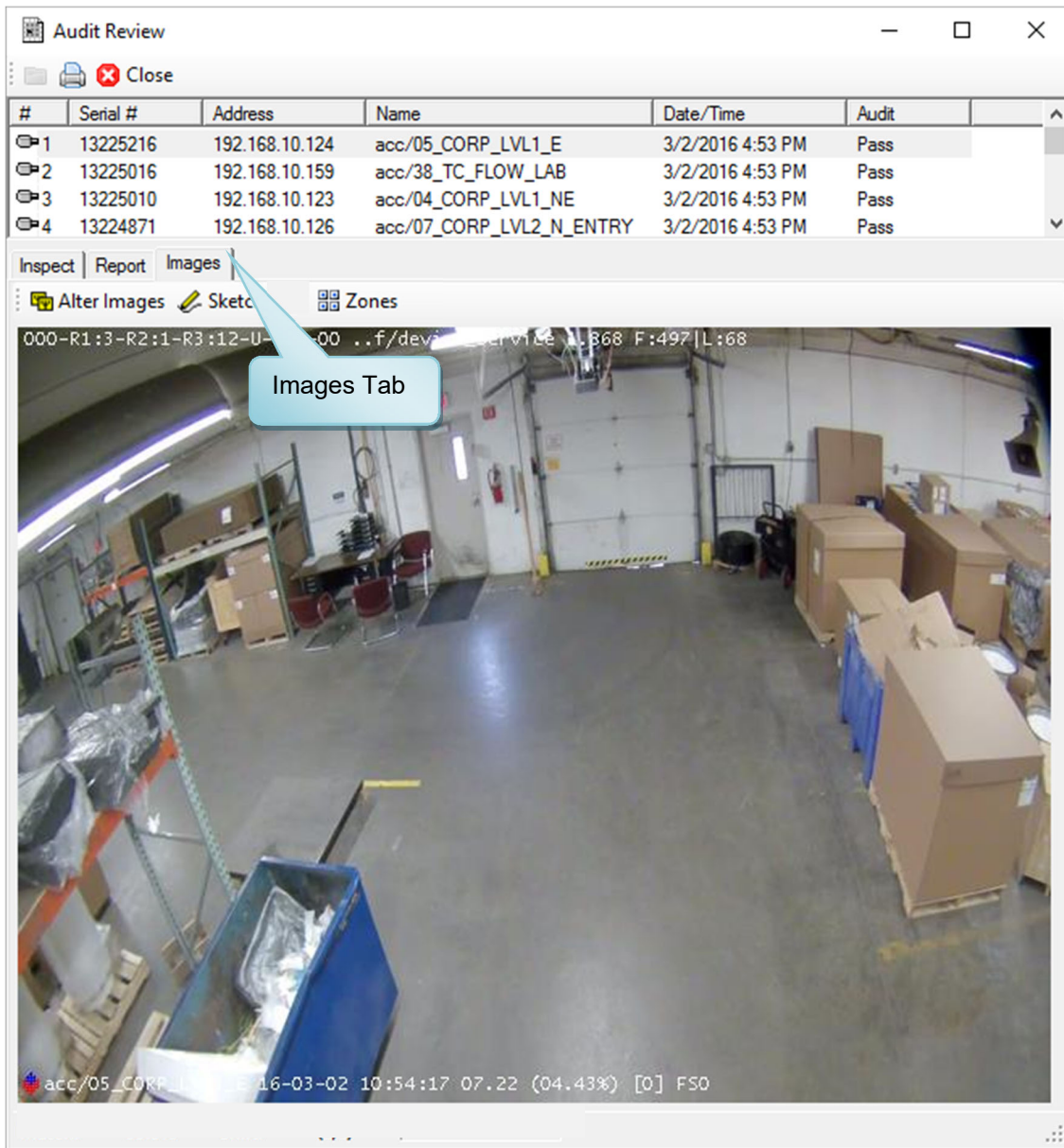


Figure 15: Comparing Camera Images in Audit Review

Alter Images	Alternates the image display between the saved audit image and the current image.
Sketch	Generates a black and white sketch of the camera images for comparison.
Zones	Displays any zone boundaries assigned to the camera.

- **Review..**
Allows the guard to open a saved audit report for review.

3.2.5 Help Menu

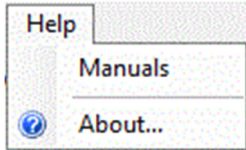


Figure 16: Help Menu

- **Manuals**
Manuals are available at www.fike.com
- **About...**
Displays a splash screen indicating the firmware version of the software.

3.3 Main Window Tabs

The working area of the main window consists of five tab-selectable views [Figure 17]. Each tab view performs a specific function of the system.

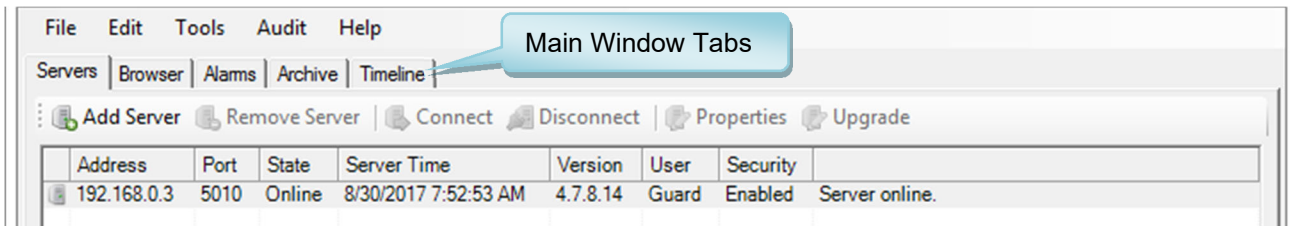


Figure 17: Main Window Tabs

The tabs include the following:

Servers	Provides access to system components that include FSM-IP servers and their respective video channels.
Browser	Provides access to the video organizational structure and related video feeds.
Alarms	Provides direct access to all alarms registered by the system. A video of the channel responsible for the alarm will automatically appear in this view. The VMS application may be configured to maximize the window as new alarms come along and switch to the Alarms view.
Archive	Allows guards to search through past alarms as well as view and/or download previously recorded videos.
Timeline	Displays the recorded alarms in a graphic chart and lets you replay prerecorded videos including those channels and time periods that were not under alarm conditions.

3.3.1 Servers Tab

The Servers Tab [Figure 18] allows you to manage FSM-IP servers and their respective channels (cameras). The screen is broken into two main sections: servers on the top and channels on the bottom. The channels displayed in the channels section are always the channels connected to the currently selected server.

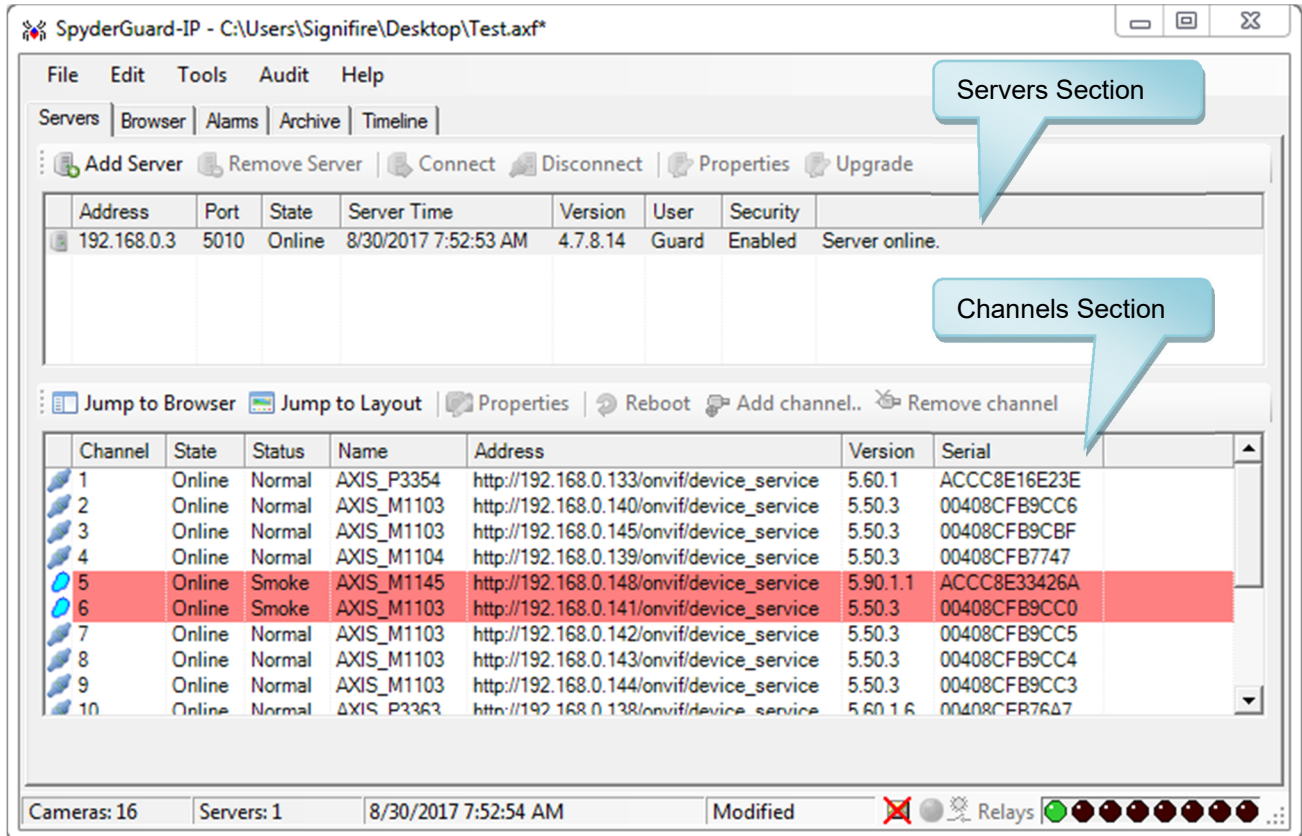


Figure 18: Servers Tab

3.3.1.1 Servers Section

The Servers section [Figure 19] includes a server toolbar and a server list. The server toolbar allows you to perform functions associated with adding or removing a server from the Video Management Software application. Once a server is added to the system configuration, it will be displayed in the server list.

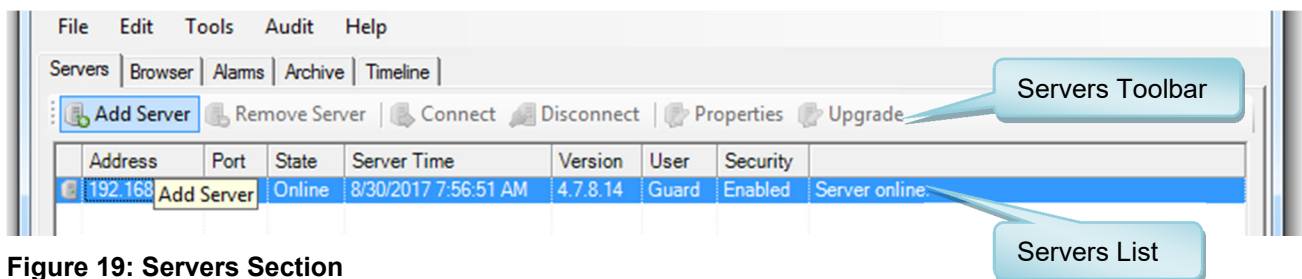


Figure 19: Servers Section

The *Servers* toolbar provides the following functions:

- **Add Server**

Allows you to add a new server to the current Video Management Software configuration or to switch a server between Guard or Administrator mode. When clicked, the *Server Editor* dialogue box [Figure 20] will be displayed enabling you to enter the parameters for the new server. If server security is enabled, a password must be entered in order to save changes made in the *Server Editor*. **While this feature is accessible in guard mode, modifications can affect system performance and should only be accessed or modified by persons with administrative access.**

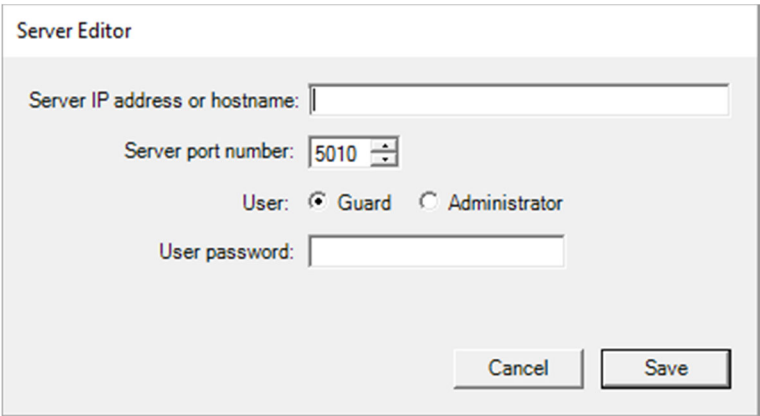
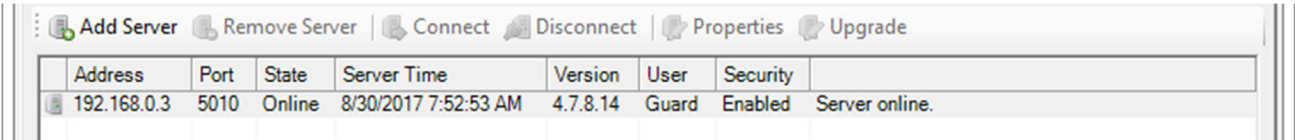


Figure 20: Server Editor

Once *Save* is selected, the new server will be added to the server list. The server list displays the following details for each server that is added to the VMS workstation [Figure 21].



Add Server Remove Server Connect Disconnect Properties Upgrade							
Address	Port	State	Server Time	Version	User	Security	
192.168.0.3	5010	Online	8/30/2017 7:52:53 AM	4.7.8.14	Guard	Enabled	Server online.

Figure 21: Server List Information

Address	Displays the IP address of the server
Port	Displays the network port of the server (do not change)
State	Displays the status of the server (online or offline)
Server Time	Displays the current time and date of the server
Version	Displays the current firmware version of the server
User	Displays the current access level being used by the server (Administrator or Guard)
Security	Displays if security (password protected) is enabled on the server
	Displays the status of the server (Server online or Disconnected from server)

- **Remove Server**
Not accessible in Guard mode
- **Connect**
Not accessible in Guard mode
- **Disconnect**
Not accessible in Guard mode
- **Properties**
Not accessible in Guard mode
- **Upgrade**
Not accessible in Guard mode

Selecting and then right-clicking on a server in the list will open a *Server* menu [Figure 22] for that server. The server menu allows you to perform most of the same functions found on the *Servers* toolbar.

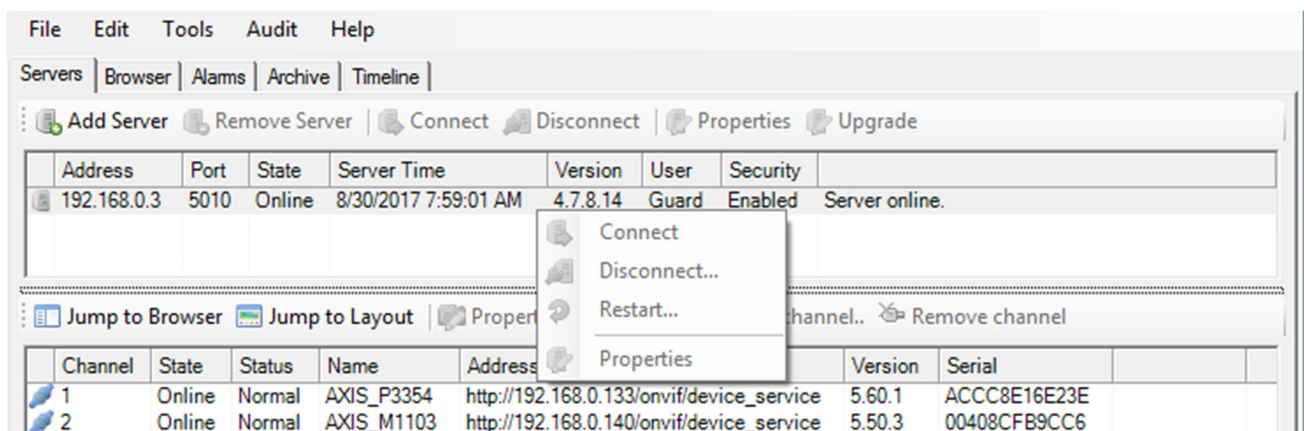


Figure 22: Server List Options

3.3.1.2 Channels Section

The *Channels* section [Figure 23] includes a channel toolbar and a channel list. The channel toolbar allows you to perform functions associated with setting up a channel (camera) for operation with the VMS system. Once a camera is added to the application configuration, it will be displayed in the channel list.

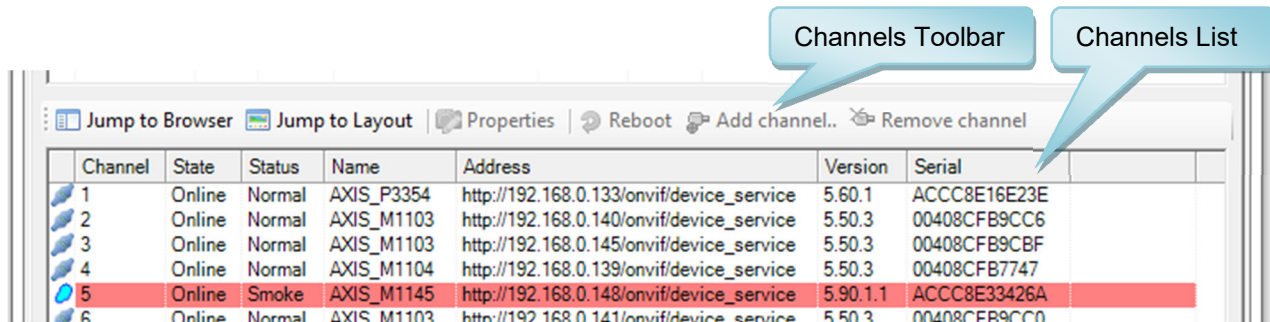


Figure 23: Channel Section

- **Jump to Browser**

Switches to the *Browser* tab [Figure 24] and displays the first camera in the *Organizational Tree* with this channel bound to it.

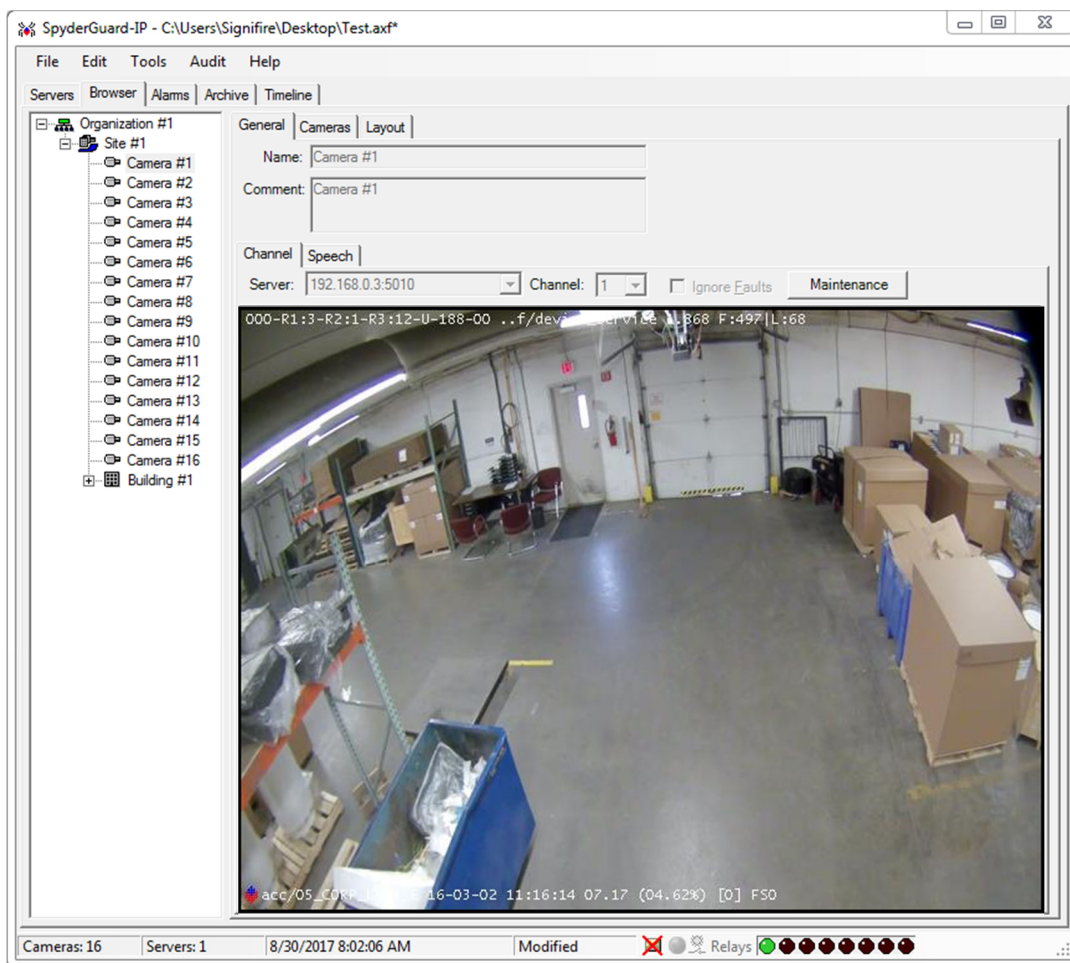


Figure 24: Browser Tab

- **Jump to Layout**

Switches to the *Browser/Layout* tab [Figure 25] and displays the first item in the *Organizational Tree* with this channel as a child. The background images used in the layout tab are custom defined to suit each project. Any level of the *Organizational Tree*, except a camera, may be associated with a graphical layout such as floor plans, satellite photos, logos, etc. that can be viewed from the *Layout* tab.

If the selected *Organization Tree* element has camera objects as children, the image will be overlaid with iconic camera designators showing the general location of the cameras with respect to the background image. Otherwise, each child object will be highlighted by rectangles that define the area where the event is occurring.

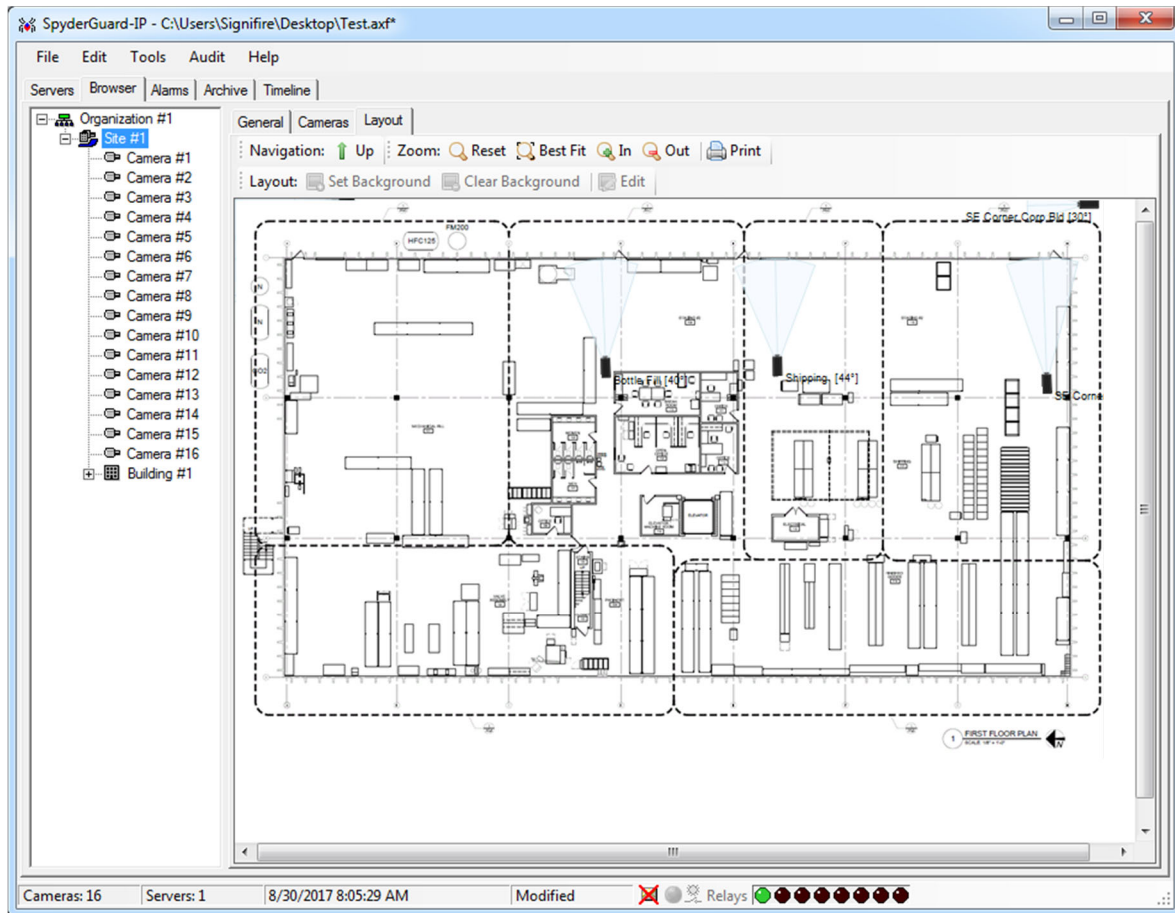
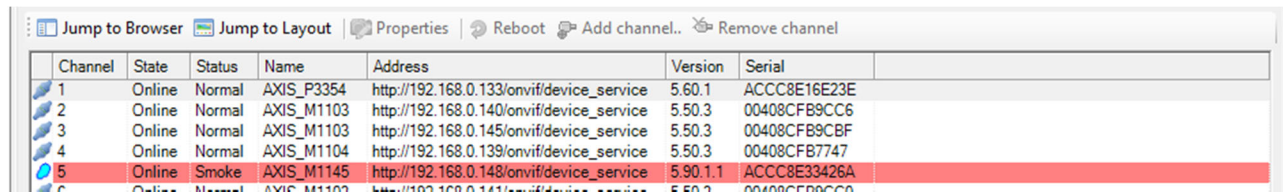


Figure 25: Browser/Layout Tab

- **Properties**
Not accessible in Guard mode
- **Reboot**
Not accessible in Guard mode
- **Add channel..**
Not accessible in Guard mode
- **Remove Channel**
Not accessible in Guard mode

The *Channel* list [Figure 26] displays the following details for each channel that has been added to the event management server.



Channel	State	Status	Name	Address	Version	Serial
1	Online	Normal	AXIS_P3354	http://192.168.0.133/onvif/device_service	5.60.1	ACCC8E16E23E
2	Online	Normal	AXIS_M1103	http://192.168.0.140/onvif/device_service	5.50.3	00408CFB9CC6
3	Online	Normal	AXIS_M1103	http://192.168.0.145/onvif/device_service	5.50.3	00408CFB9CBF
4	Online	Normal	AXIS_M1104	http://192.168.0.139/onvif/device_service	5.50.3	00408CFB7747
5	Online	Smoke	AXIS_M1145	http://192.168.0.148/onvif/device_service	5.90.1.1	ACCC8E33426A

Figure 26: Channel List

Channel	Displays the unique channel ID assigned to the camera by the server
State	Displays the status of the camera (online or offline)
Status	Displays the alarm status of the camera
Name	Displays the unique name assigned to the camera
Address	Displays the IP address of the camera
Version	Displays the firmware version running on the camera
Serial	Displays the serial number of the camera

Selecting and then right-clicking on a channel in the list will open a *Channel* menu [Figure 27] for that channel. The *Channel* menu allows you to perform most of the same functions found on the *Channels* toolbar.

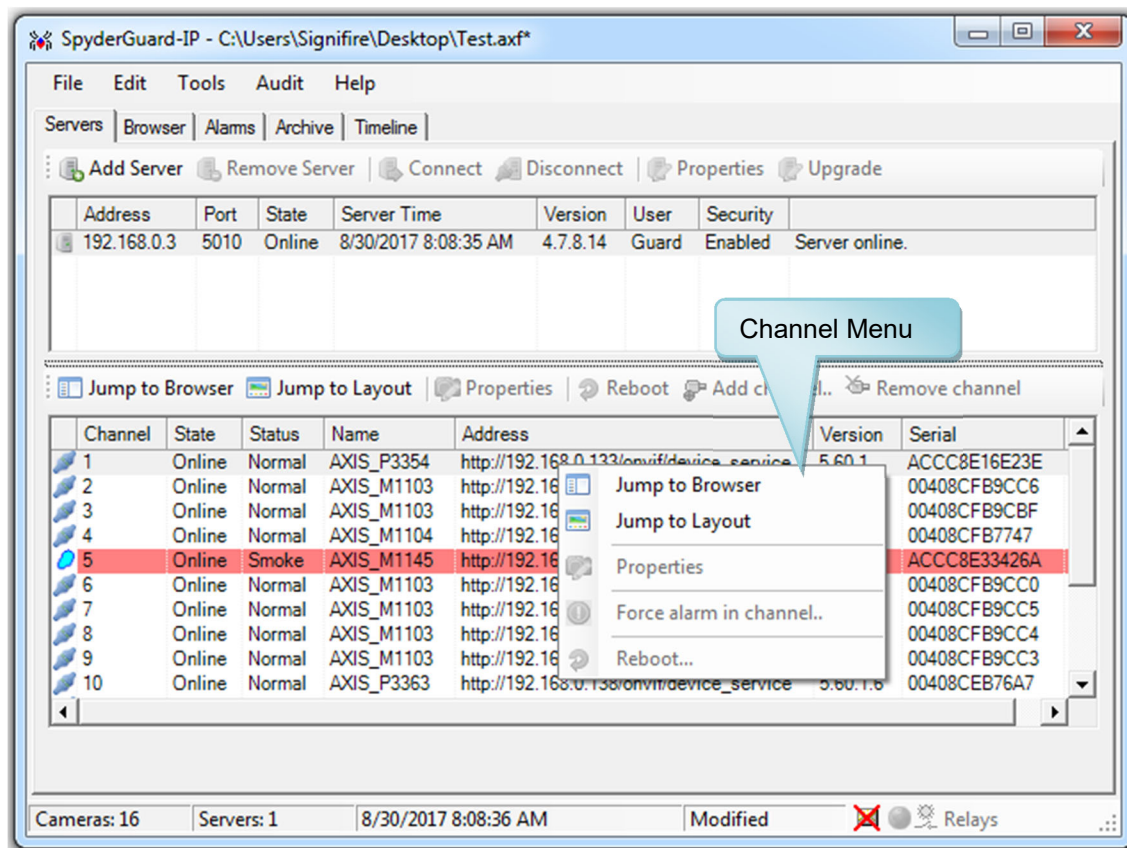


Figure 27: Channel List Menu Options

3.3.2 Browser Tab

The *Browser* tab [Figure 28] allows you to navigate the *Organizational Tree* and has three sub tabs that allow you to view information associated with an organization element and provides quick access to cameras and floor plans.

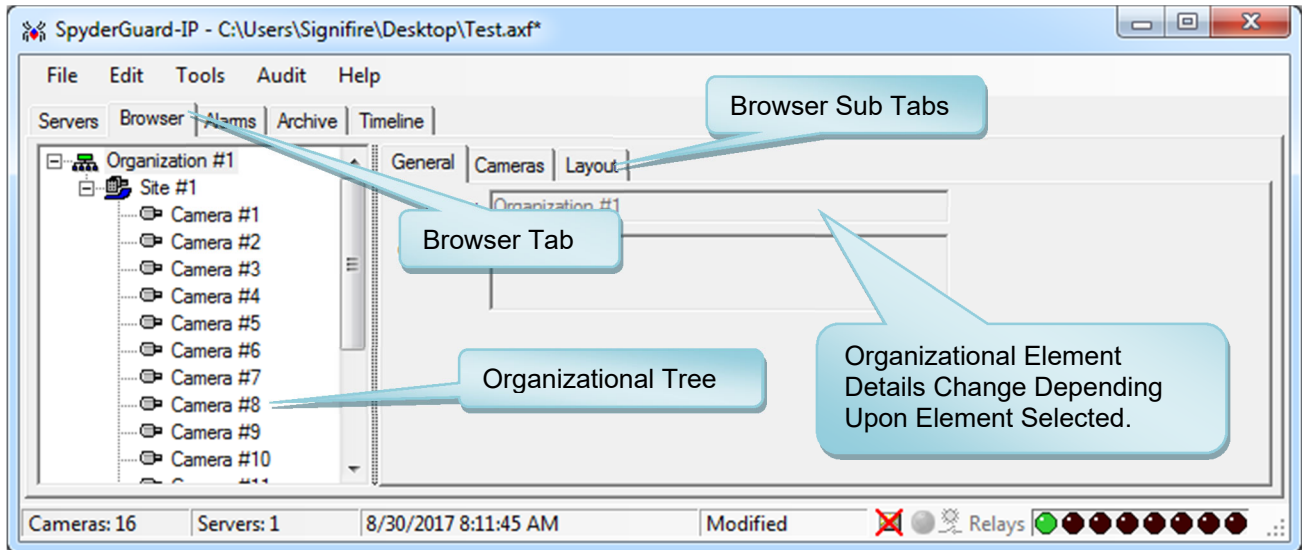


Figure 28: Browser Tab

3.3.2.1 General Sub Tab

The *General* sub tab [Figure 29] allows you to view certain features of the currently selected organizational element. Each element in the *Organizational Tree* has different information associated with it that can be customized. If the organizational element is a camera, two additional configuration tabs become available under the *General* sub-tab: *Channel* and *Speech*.

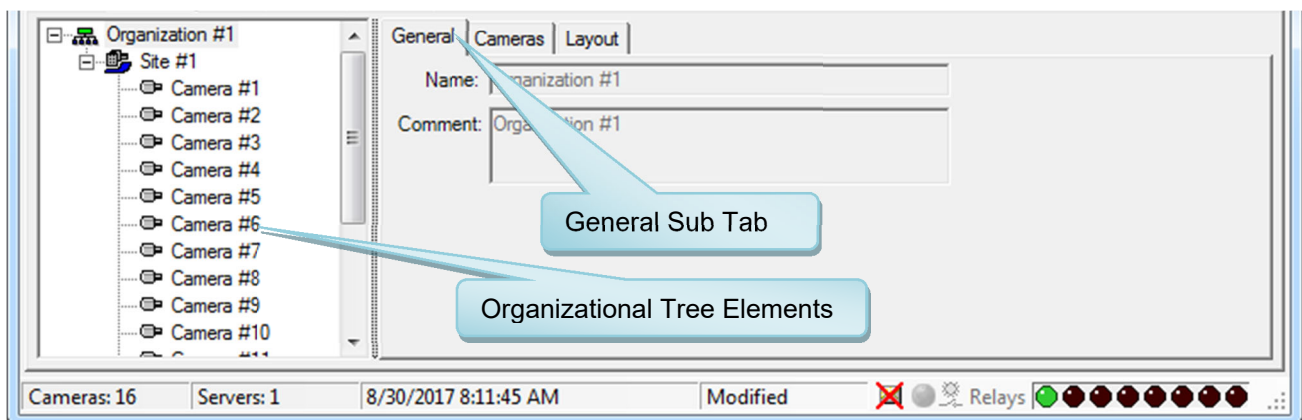


Figure 29: General Sub Tab

3.3.2.1.1 Channel Tab

The *Channel* tab [Figure 30] allows you to initiate several functions associated with the channel selected in the organizational tree.

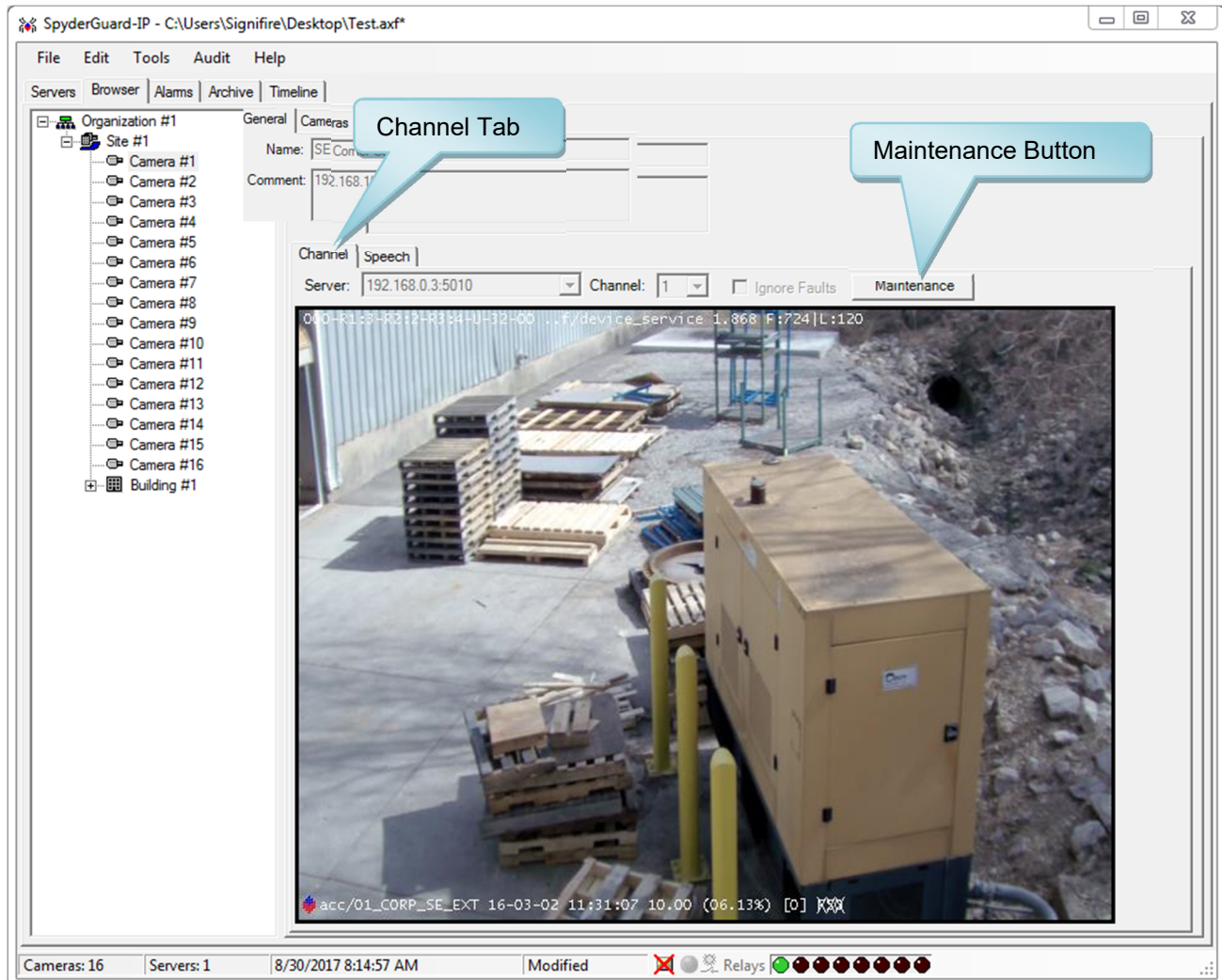


Figure 30: Channel Tab

- **Maintenance Mode (ONVIF cameras only)**

The *Maintenance* button [Figure 30] allows you to put the selected channel in maintenance mode for a specified period of time. When selected, the *Maintenance Setup* form [Figure 31] will be displayed allowing you to setup and initiate the maintenance mode on the selected camera.

NOTE: This feature is used to disable a camera when maintenance is being performed in the area the camera serves in order to prevent false smoke alarms. While in maintenance mode, the camera will respond to all other system events.

The screenshot shows a 'Maintenance Setup' window. At the top, there is a checkbox labeled 'Maintenance Mode'. Below it are two dropdown menus: 'Choose Server' (showing '192.168.0.3:5010') and 'Choose Camera' (showing '1'). Underneath these is a section titled 'Maintenance Timeout' containing two spinners: 'Maintenance Hours' (set to 0) and 'Maintenance Minutes' (set to 0). At the bottom of the window are 'Submit' and 'Cancel' buttons.

Figure 31: Maintenance Setup Form

Maintenance Mode	Enables maintenance mode on the selected channel (ONVIF cameras only).
Choose Server	Allows you to choose the server.
Choose Camera	Allows you to choose the camera.
Maintenance Timeout	Allows you to set the length of the maintenance timeout in hours and minutes.
Submit	Begins a maintenance timeout event on the selected channel. The icon for the chosen camera in the organizational tree will change to a flashing maintenance mode icon  to provide positive indication that the camera is in maintenance mode. After the timer expires, the camera will automatically return to normal operation.
Cancel	Exits the Maintenance Setup screen.

Right clicking on the camera image will bring up a *Channel* menu [Figure 32] that provides additional camera functions.

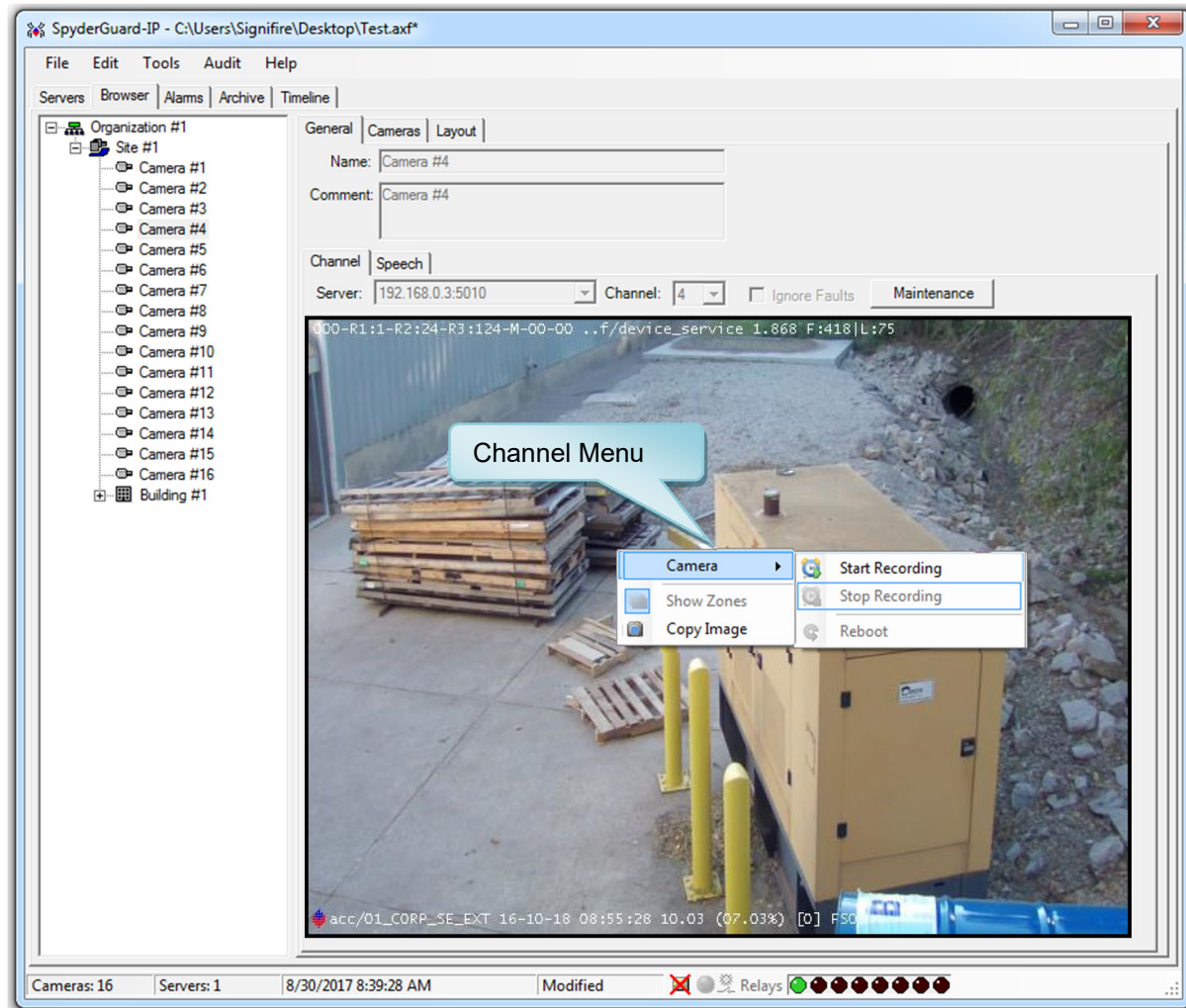


Figure 32: Channel Menu Options

- **Camera**

Allows you to initiate the following functions associated with the camera.

Start Recording	Begins a User event on the selected channel (Fike Video Analytics IP camera only)
Stop Recording	Stops a User event on the selected channel (Fike Video Analytics IP cameras only).
Reboot	Not accessible in Guard mode

- **Show Zones**

Not accessible in Guard mode

- **Copy Image**

Allows you to copy and paste the current channel image into another program.

3.3.2.1.2 Speech Tab

The *Speech* tab [Figure 33] allows you to make changes to the voice settings associated with the selected channel. By default all alarms are announced through the speech system. Each channel's settings are stored in the local configuration file.

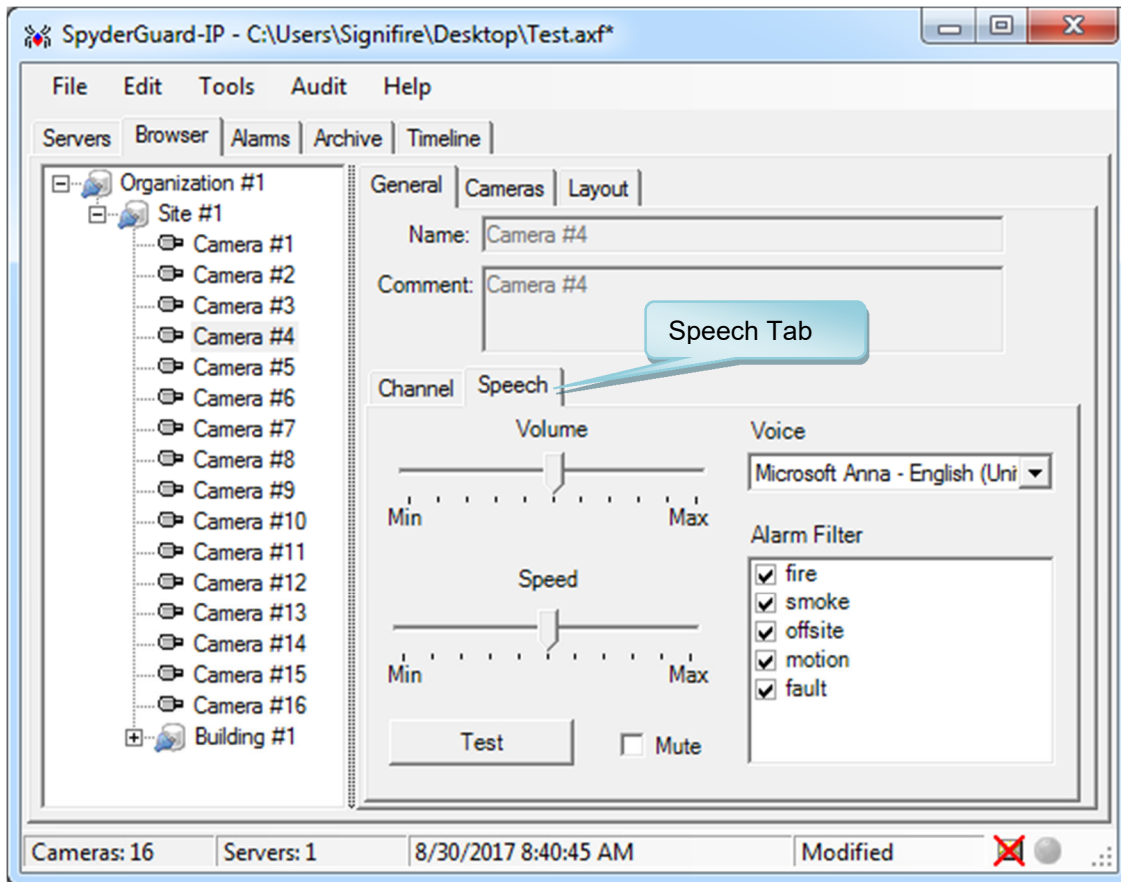


Figure 33: Speech Tab

- **Volume (slider)**
Sets the speech volume level for the channel
- **Speed**
Sets the speech voice speed for the channel
- **Voice**
Sets the speech voice that will be used by the channel (Uses Microsoft Windows text to speech files.)
- **Alarm Filter**
Sets which event types will have voice announcements
- **Test**
Tests the voice configuration using the current settings
- **Mute ☒**
Checking the "Mute" checkbox will mute all voice announcements for the channel

3.3.2.2 Cameras Sub Tab

The *Cameras* sub tab [Figure 34] displays the cameras under the current *Organizational Tree* selection. Selecting an individual camera will display the image for that channel only; whereas, selecting an item higher up in the *Organizational Tree* may display several cameras associated with the selection as shown below.

Where the selection requires multiple camera images to be shown, the software allows you to adjust how many camera images will be displayed on the screen by adjusting the number of columns to display. The *Best Fit* button will adjust the current camera image to fill the viewing area. At any time in the application, you can double click on a camera image to view it full screen.

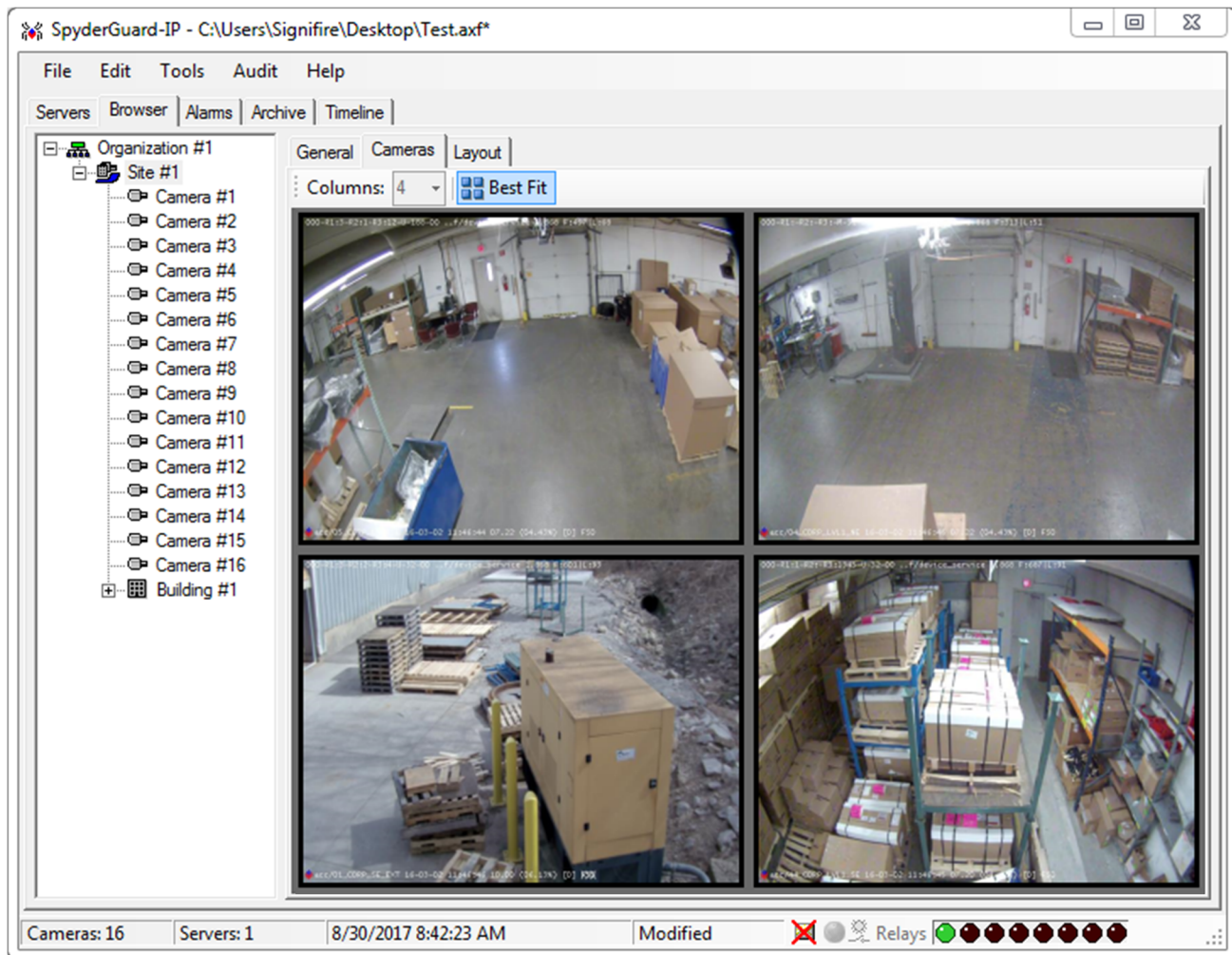


Figure 34: Cameras Views for selected Organizational Tree Element

3.3.2.3 Layout Tab

Any element of the *Organization Tree*, except a camera, may have a graphical layout such as floor plans, satellite photos, logos, etc. associated with it that can be observed from the *Layout* tab. The background images used in the *Layout* tab are custom defined to suit each project.

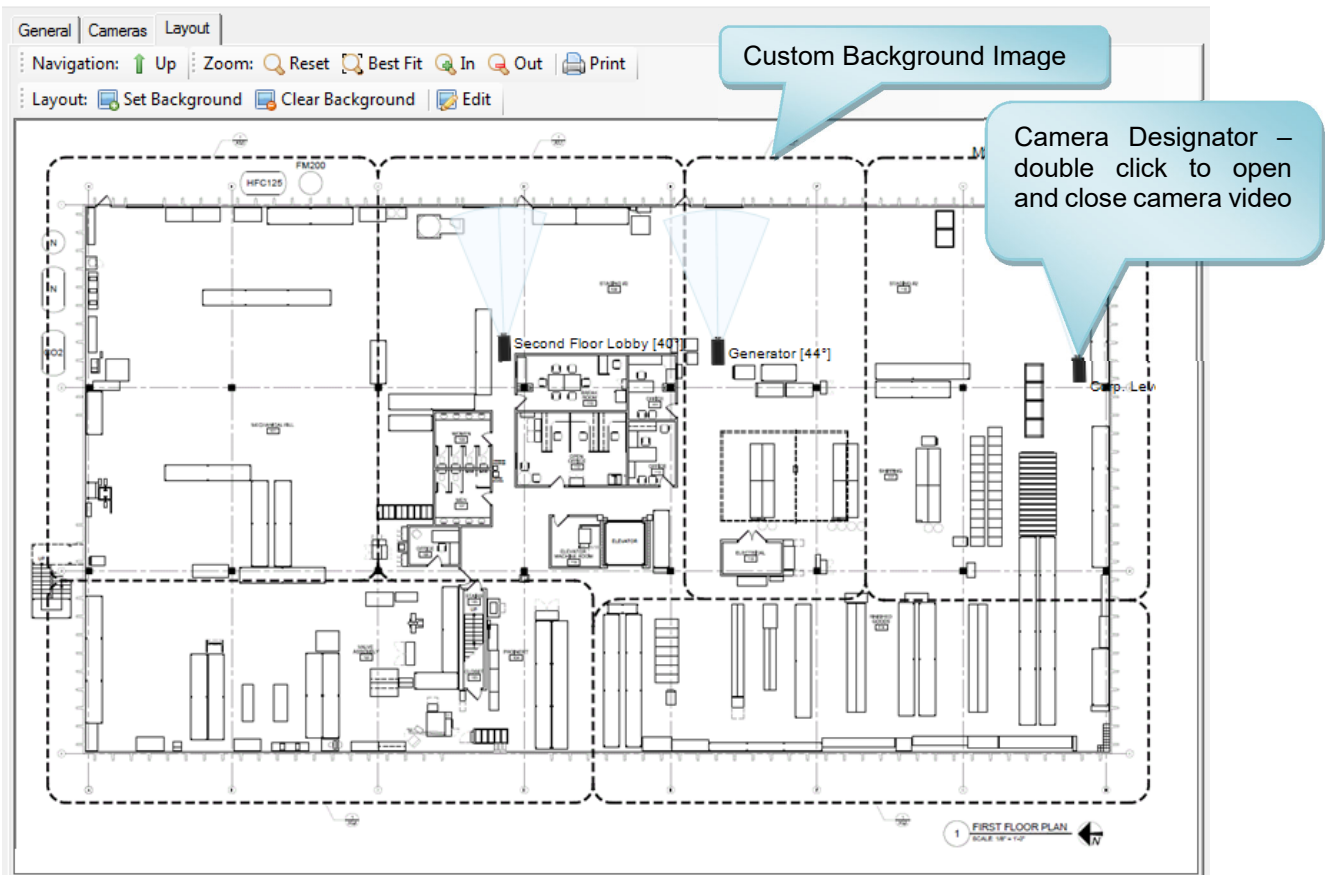


Figure 35: Layout View with Camera Designators

	Up	Moves up one level in the organizational tree, unless the current selection is a root level organization
	Reset	Resets the layout to the default zoom level
	Best Fit	Attempts to perform a best fit zoom of the layout
	In	Zooms in on the layout
	Out	Zooms out on the layout
	Print	Prints the current layout
	Set Background	Not accessible in Guard Mode. <i>System Administrator Use Only.</i>
	Clear Background	Not accessible in Guard Mode. <i>System Administrator Use Only.</i>
	Edit	Not accessible in Guard Mode. <i>System Administrator Use Only.</i>

3.3.3 Alarms Tab

The *Alarms* tab [Figure 36] displays active and inactive events. Real-time video images of all active events will populate the video area of the *Alarms* tab. When detecting events, the Video Management Software can be set to automatically maximize the *Alarms* tab window if minimized or bring the *Alarms* tab forward if another screen is open. This allows you to immediately start assessing the situation. By default, the alarm view functionality is enabled during system setup.

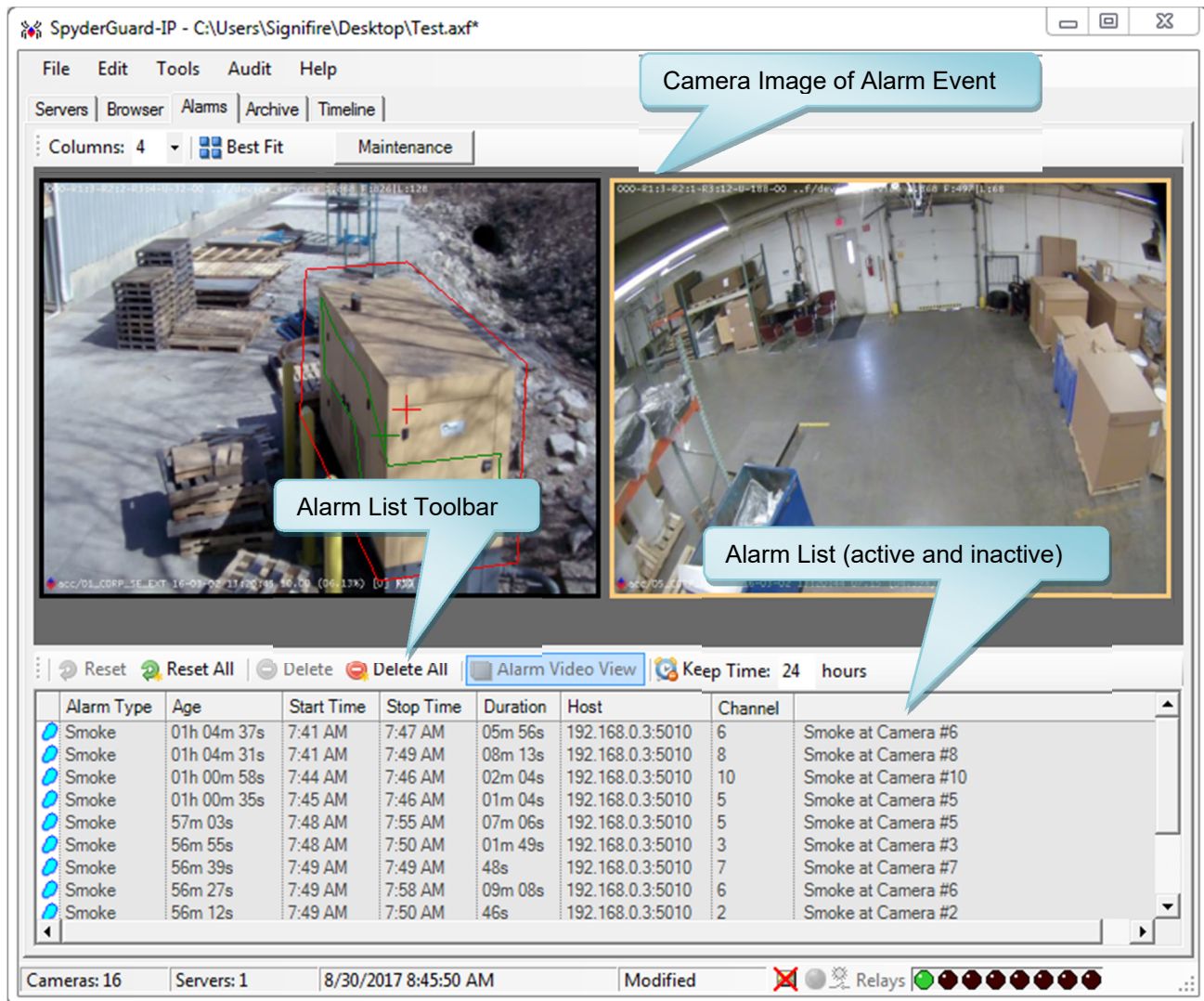


Figure 36: Alarms Tab

- **Maintenance Mode (ONVIF cameras only)**

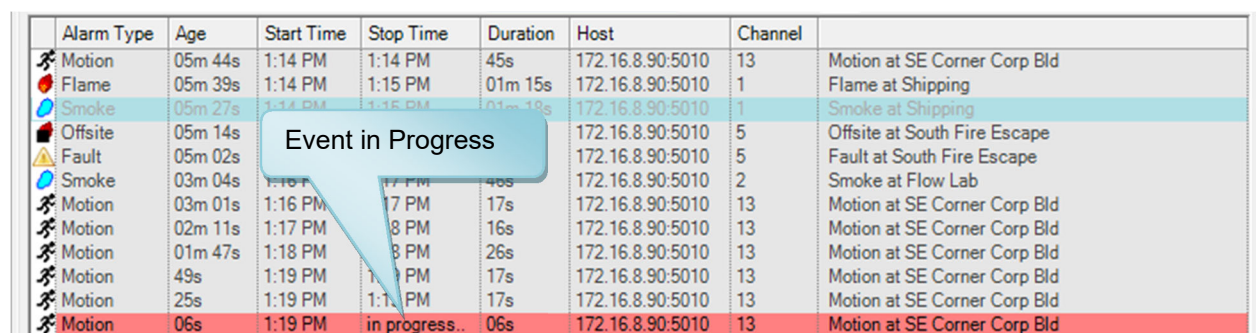
The *Maintenance* button [Figure 36] allows you to put the selected channel in maintenance mode for a specified period of time. When selected, the *Maintenance Setup* form [Figure 31] will be displayed allowing you to setup and initiate the maintenance mode on the selected camera.

NOTE: This feature is used to disable a camera when maintenance is being performed in the area the camera serves in order to prevent false smoke alarms. While in maintenance mode, the camera will respond to all other system events.

The alarm list toolbar has a row of action buttons that lets you handle the alarm events. The tool bar includes the following actions.

	Reset	Not accessible in Guard mode.
	Reset all	Resets all active events in the list. Same effect as above, but applies to all active events.
	Delete	Deletes the selected event from the alarm list if it has been completed.
	Delete all	Deletes all completed events from the active alarm list.
	Alarm Video View	Switches view to Alarms tab whenever an event is active.
	Keep time	Sets the amount of time to keep closed alarm events in Alarm view. Note that all events in the database will be visible in Archive and Timeline view.

Each time the Video Management Software registers an event, a line item will be added to the alarm list [Figure 37]. The events are ordered by age with the oldest events at the top and the newest at the bottom. While the conditions continue that caused the alarm, the alarm is in an active state indicated by the “*In progress*” message in the *Stop time* column. Once the alarm condition is no longer present, the alarm becomes inactive.



Alarm Type	Age	Start Time	Stop Time	Duration	Host	Channel	
 Motion	05m 44s	1:14 PM	1:14 PM	45s	172.16.8.90:5010	13	Motion at SE Corner Corp Bld
 Flame	05m 39s	1:14 PM	1:15 PM	01m 15s	172.16.8.90:5010	1	Flame at Shipping
 Smoke	05m 27s	1:14 PM	1:15 PM	01m 10s	172.16.8.90:5010	1	Smoke at Shipping
 Offsite	05m 14s				172.16.8.90:5010	5	Offsite at South Fire Escape
 Fault	05m 02s				172.16.8.90:5010	5	Fault at South Fire Escape
 Smoke	03m 04s	1:16 PM	1:17 PM	46s	172.16.8.90:5010	2	Smoke at Flow Lab
 Motion	03m 01s	1:16 PM	1:17 PM	17s	172.16.8.90:5010	13	Motion at SE Corner Corp Bld
 Motion	02m 11s	1:17 PM	1:18 PM	16s	172.16.8.90:5010	13	Motion at SE Corner Corp Bld
 Motion	01m 47s	1:18 PM	1:19 PM	26s	172.16.8.90:5010	13	Motion at SE Corner Corp Bld
 Motion	49s	1:19 PM	1:19 PM	17s	172.16.8.90:5010	13	Motion at SE Corner Corp Bld
 Motion	25s	1:19 PM	1:19 PM	17s	172.16.8.90:5010	13	Motion at SE Corner Corp Bld
 Motion	06s	1:19 PM	in progress..	06s	172.16.8.90:5010	13	Motion at SE Corner Corp Bld

Figure 37: Alarm List Details

Alarm Type	Event type associated with the alarm
Age	Time since the alarm started
Start Time	Local time when the event started
Stop Time	Local time when the event ended
Duration	How long the event remained active
Host	IP address of the server where the alarm originated
Channel	Channel number that the event originated from
Comment	Description of the event

After the alarm becomes inactive, the video recordings of the event can be deleted or played back. To play back the event, right-click the event in the alarm list and select *Play Event* [Figure 38]. To remove inactive alarms from the list, you can use the *Delete* or *Delete All* buttons in the alarm list toolbar or you can right-click the event in the alarm list and select *Delete*. Removing inactive alarms does not remove them from the NVR storage. Older alarms still can be observed in the *Archive* and *Timeline* tabs.

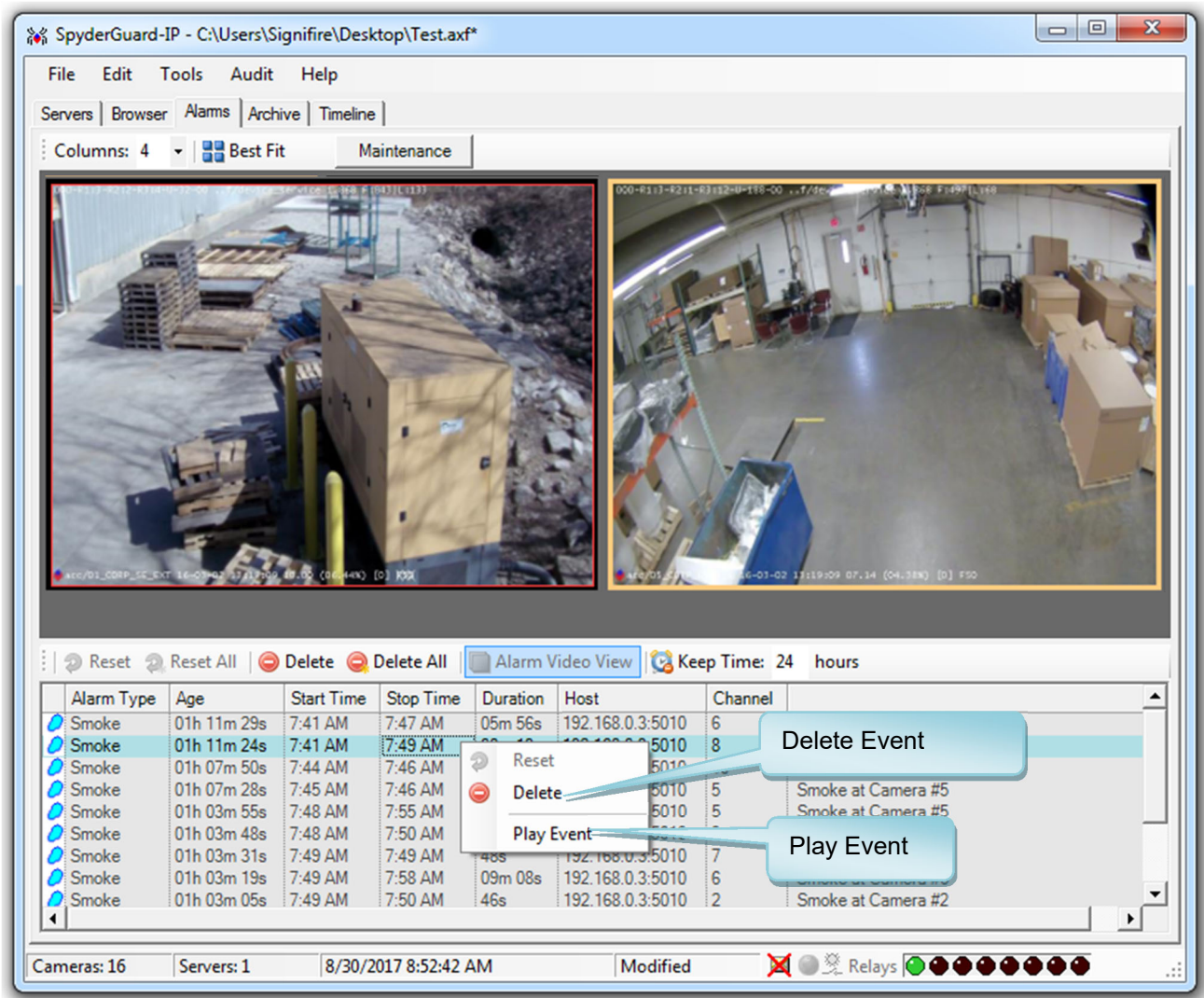


Figure 38: Event Playback

3.3.3.1 Reading the Camera Image

Two informational lines are superimposed onto each camera image [Figure 39].



Figure 39: Reading Camera View Image

The information line located at the top of the image provides the following information:

000-	Indicates the state of the Fike Video Analytics IP cameras integral relays (1-3). 0 = relay in normal state and 1 = relay is in alarm state
R1:-R2:-R3:-	Event codes for each camera relay (1-3). The event codes indicate what condition is required for the relay to close. Event codes are: 1-Flame 2-Smoke 3-Offsite 4-Motion 5-User 6-External (not used) 7-Dark 8-Bright 9-Featureless (content) 0-Focus A-Network Example: R3:24 as shown in Figure 39 indicates that relay 3 will engage on smoke and motion.
A-159-00	Relay countdown display Example: A-159-00 as shown in Figure 41 means Automatic countdown, 159 second delay and the state of the countdown.
10.0.0.174	IP address of the camera
00:1B:5A:00:00:97	MAC address of the camera
1.868	Firmware version of the camera
801	Image quality of the camera
1	Number of connections
38	Camera illumination (lux)

The information line located at the bottom of the image provides the following information:

Warehouse_Camera_1	Name of the camera.
14-08-26	Current date (Y/MM/DD)
09:06:27	Current time
15:18	Camera Frame Rate
(58:00%)	CPU Usage
[18]	Cycle Process Time (milliseconds)
FSO	Active Algorithm Indicator. If any of these detection algorithms has been turned off, you will see an "X" over the corresponding letter. F = flame; S = smoke; O = offsite
38	Camera illumination (lux)

3.3.3.2 Optional Annunciator

An optional annunciator [Figure 40] can be added to the Fike Video Analytics system. The annunciator plugs into an available USB port on the VMS workstation to provide visual indication of system alarm events as follows.

Flashing Green – Event has been acknowledged but is still recording the event. Once the event is no longer in progress, the light will turn off.

Flashing Red – Alarm event is active and Alarm dialogue box is displayed on the Alarms tab screen.

Once the annunciator is plugged into the PC's USB port, the VMS application will provide positive indication in the status bar at the bottom of the Main Window that the software recognizes that the annunciator is attached [Figure 41].



Figure 40: Annunciator

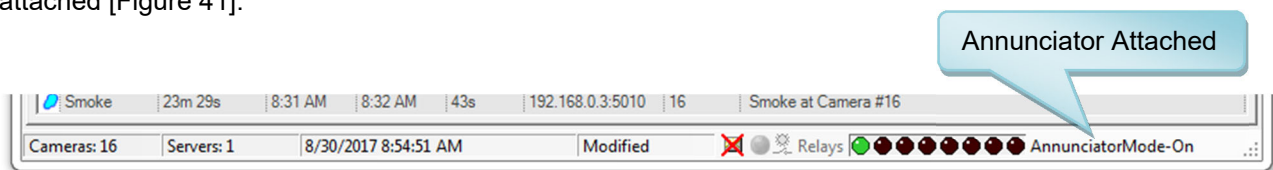


Figure 41: Annunciator Attached Indicator

With Annunciator Mode on, the VMS application will display an Alarms dialogue box [Figure 42] on the Alarms Tab in response to an alarm event. The dialogue box will indicate the event type and the assigned name given to the channel (camera) in the Browser tree.



Figure 42: Alarm Notification and Response Dialogue Box

Minimize SpyderGuard	Allows you to minimize the VMS application window.
Silence Alarms for _ mins	Allows you to silence the active alarm events shown in the Alarm dialogue box for a set number of minutes (1 to 100 min.).
Acknowledge	Allows you to confirm that the event has been acknowledged. Annunciator will flash green.

3.3.4 Archive Tab

The *Archive* tab [Figure 43] provides search functionality for finding past events and their associated video recordings. The records can be played, downloaded or saved. Here the list of events can be generated according to set search criteria. Once the filter settings for the search criteria are set up, selecting the *Search* button will produce a list of events that satisfy previously set criteria. Now you may choose a particular alarm of interest and play back the video recording made at the time when it occurred.

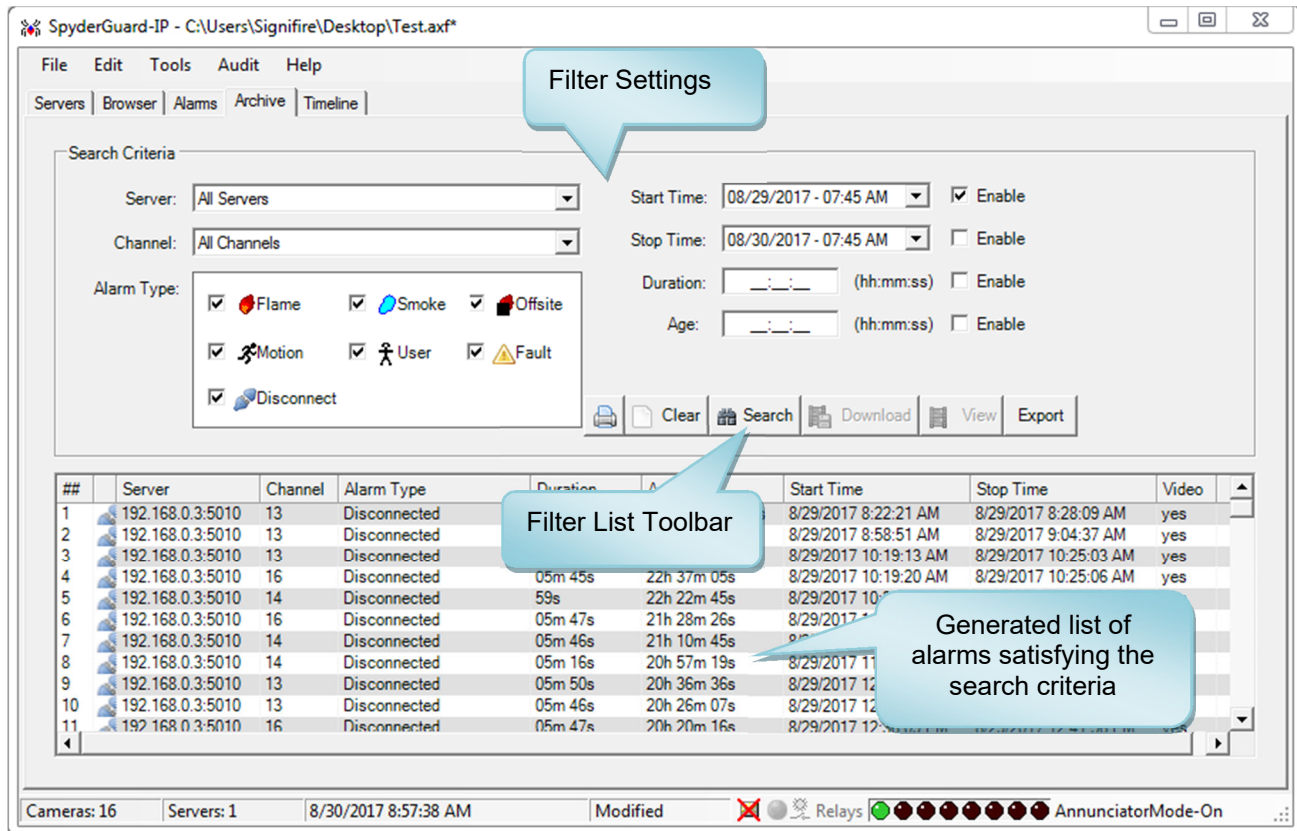


Figure 43: Archive View with search results

The following quick-search parameters are provided to filter the alarms in the list.

- **Server**
The server to search by; defaults to all servers.
- **Channel**
The channel to search by; defaults to all channels.
- **Alarm Type**
The alarm type to search by; defaults to all alarm types.

- **Start Time**

The start time to filter results by; defaults to include all alarms started within the last 24 hours. This search option can be enabled or disabled (enabled by default).

- **Stop Time**

The stop time to filter results by. This search option can be enabled or disabled (disabled by default).

- **Duration**

The duration to filter results by. Duration is the length of time the alarm was active. This search option can be enabled or disabled (disabled by default).

- **Age**

The age to filter results by. The age is how old the alarm is. This search option can be enabled or disabled (disabled by default).

Events meeting the search criteria will be displayed in the search results list [Figure 44].

##	Server	Channel	Alarm Type	Duration	Age	Start Time	Stop Time	Video	
18	172.16.8.90:5010	13	Motion	45s	09m 13s	3/2/2016 1:14:10 PM	3/2/2016 1:14:55 PM	yes	
19	172.16.8.90:5010	5	Offsite	46s	08m 42s	3/2/2016 1:14:40 PM	3/2/2016 1:15:26 PM	yes	
20	172.16.8.90:5010	1	Flame	01m 15s	09m 07s	3/2/2016 1:14:15 PM	3/2/2016 1:15:31 PM	yes	
21	172.16.8.90:5010	5	Fault	46s	08m 31s	3/2/2016 1:14:51 PM	3/2/2016 1:15:38 PM	yes	
22	172.16.8.90:5010	1	Smoke	01m 18s	08m 56s	3/2/2016 1:14:26 PM	3/2/2016 1:15:44 PM	yes	
23	172.16.8.90:5010	13	Motion	17s	06m 29s	3/2/2016 1:16:53 PM	3/2/2016 1:17:11 PM	yes	
24	172.16.8.90:5010	2	Smoke	46s	06m 33s	3/2/2016 1:16:49 PM	3/2/2016 1:17:36 PM	yes	
25	172.16.8.90:5010	13	Motion	16s	05m 40s	3/2/2016 1:17:43 PM	3/2/2016 1:18:00 PM	yes	
26	172.16.8.90:5010	13	Motion	26s	05m 16s	3/2/2016 1:18:07 PM	3/2/2016 1:18:34 PM	yes	
27	172.16.8.90:5010	13	Motion	17s	04m 18s	3/2/2016 1:18:04 PM	3/2/2016 1:18:22 PM	yes	

Figure 44: Archive Search Results List

Server	IP address or hostname and port number of the FSM-IP server where the alarm data is stored.
Channel	Channel number the alarm occurred on.
Alarm Type	Type of alarm that occurred.
Duration	How long the alarm lasted.
Age	Time passed since beginning of the alarm.
Start Time	Date and time when the alarm started.
Stop Time	Date and time when the alarm stopped.
Video	Alarm has an associated video

Selecting and then right clicking on an individual event in the list will display a menu that allows you to perform additional functions associated with the selected event [Figure 45].

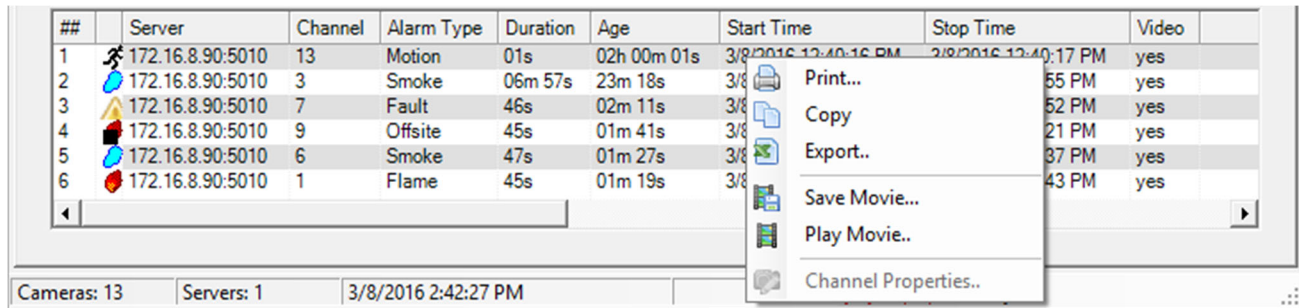


Figure 45: Single Event Options

- **Print...**
Prints the current search results list
- **Copy**
Copies the search list results (txt format)
- **Export..**
Exports the current search results list to a CSV file.
- **Save Movie...**
Saves the selected event movie as an AXONX media file (*.axm) or Windows Media file (*.wmv)
- **Play Movie..**
Plays the selected event movie using VLC Media Player
- **Channel Properties**
Not accessible in Guard mode

3.3.4.1 Archive Toolbar

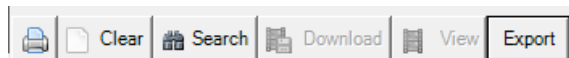


Figure 46: Archive Toolbar

- **Print**
Prints the list of generated events
- **Clear**
Clears the event list
- **Search**
Initiates a search criteria using selected search criteria
- **Download**
Allows you to download the video file associated with the selected event onto your local machine. The system will prompt you for a location and name of the video file (AXM or WMV) and will download and save the file. Once saved, the software will give you the option to play the video now.
- **View**
Allows you to play back any selected event that has a video using VLC Media Player [See 3.3.4.2]. To use the media player, simply click the *View* button
- **Export**
Allows you to export the archive search results list to an external comma separated file onto your local machine.

3.3.4.2 Video Player

The video player [Figure 47] streams the archived videos from the NVR and displays them on the screen.

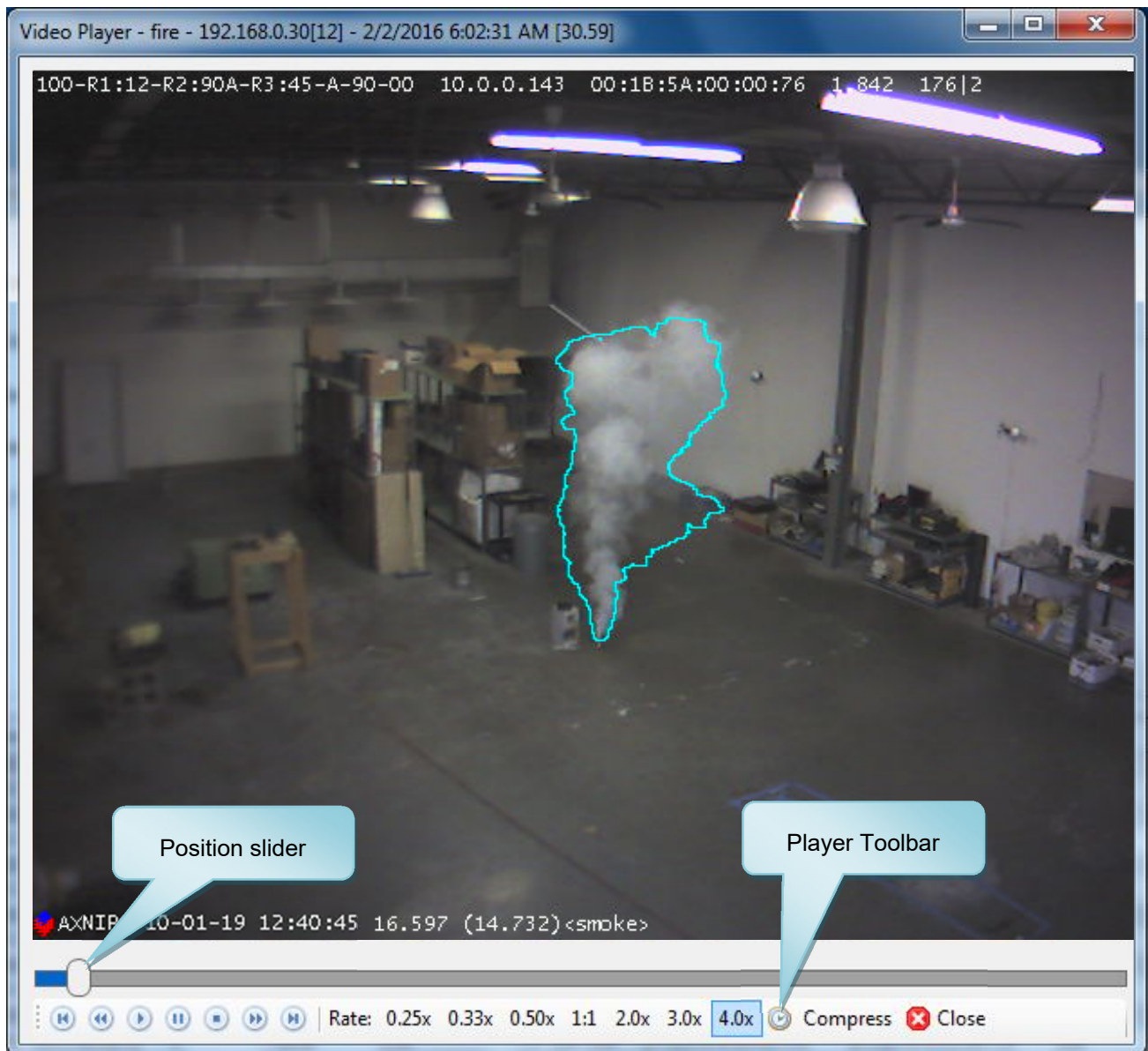


Figure 47: Video Player Window Layout

The video player provides several features that allow you to control how the video is played including a position slider that allows you to select any point in the video to begin playback along with a toolbar that provides the following functions.

	Skip Backward	Skips one frame backward
	Step Backward	Steps one frame backward
	Play	Plays the video
	Pause	Pauses the video
	Stop	Stops the video; resets playback position to zero
	Step Forward	Steps one frame forward
	Skip Forward	Skips one frame forward
	Rate:	Rate settings allow you to increase or decrease the general playback speed.
 Compress	Compress	Compression allows you to filter out the long sections of time from the video where only idle frames were recorded.
 Close	Close	Closes the video player.

3.3.5 Timeline Tab

The *Timeline* tab allows you to review the events and video recordings stored in the archive in a Gantt chart showing the alarm events in each channel of the selected NVR server. In addition to viewing video recordings of alarms, with the timeline you can see video recordings from any channel and at any point in time within the capacity of the NVR [Figure 48].

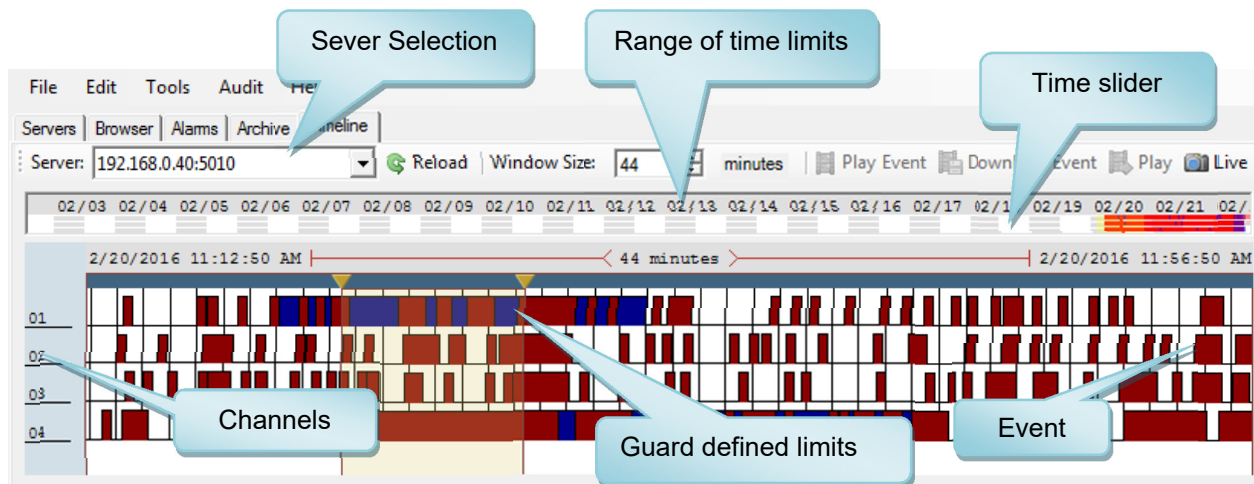


Figure 48: Timeline Window

Before *Timeline* can display the events, you need to select the server. Choose the server from the list of all available online servers in the Server selector. The VMS application will respond by filling up the channel bars indicating events that took place on each particular channel within the selected time window. Each horizontal bar represents a particular channel. The time window default value is 30 minutes but can be altered by selecting an alternative value in the *Window size* selector. The starting time position of the timeline window is controlled by sliding the timeline bar. By default, the timeline display is positioned to cover a range up until the last event. At any time the display can be refreshed by clicking the *Reload* button.

Events are displayed as color coded horizontal bars with the following colors representing the different types of events:

Flame events	red
Smoke events	blue
Offsite events (RFL)	purple
Motion events	green
User events	orange
Fault events	yellow
Disconnect events	grey

In addition, Tool-tips will provide extensive information on each event when the mouse pointer is hovering over the event bar [Figure 49].

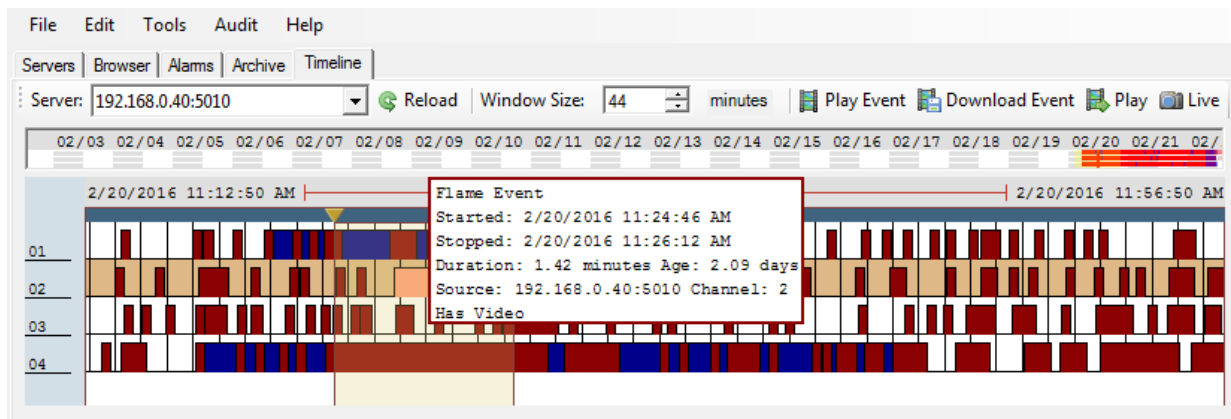


Figure 49: Timeline Window Tool-tips

To playback or download an event, right click on the event and select the appropriate option: *Play Event Movie..*; *Download Event Movie..*

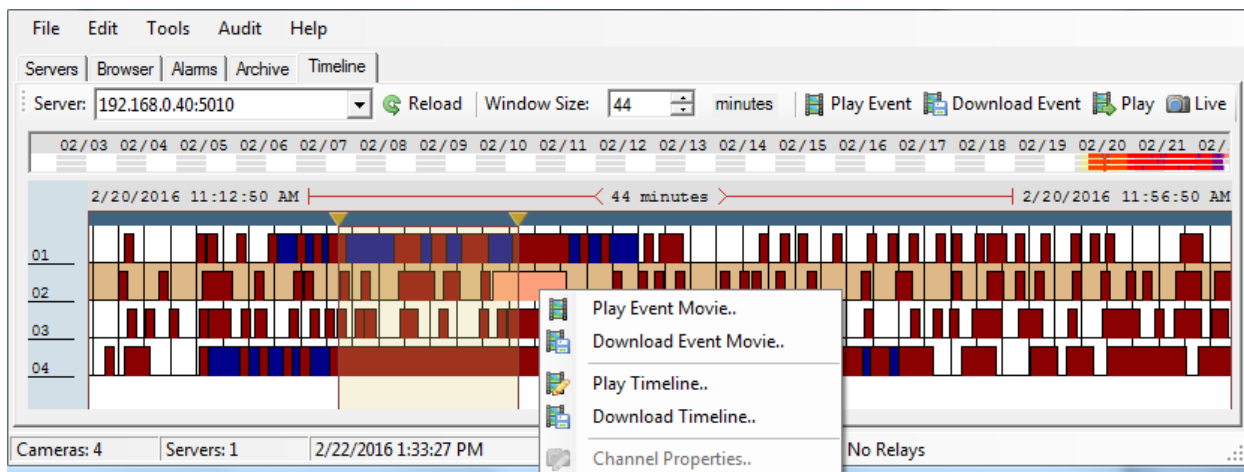


Figure 50: Playing or Downloading Single Alarm Events

3.3.5.1 Playing Back Arbitrary Time Ranges

Timeline view [Figure 51] allows you to set arbitrary time limits and play back the video recorded from any channel. To set up the time limits drag the inverted rectangles (orange) located at the top edge of the timeline diagram as desired, select the channel *View* in the *Selected Time* group. You can then right click the channel within the selected time limits and choose “*Play Timeline..*” or “*Download Timeline..*”.

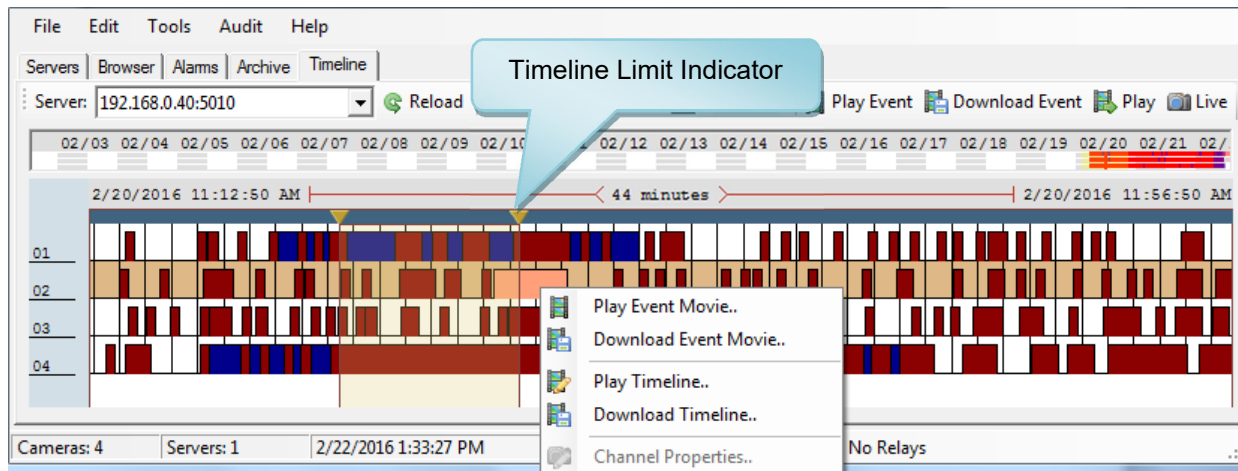


Figure 51: Timeline Chart of activities with guard defined time range set

3.4 Status Bar

Across the bottom of the program window, this bar displays information about the current system configuration [Figure 52].

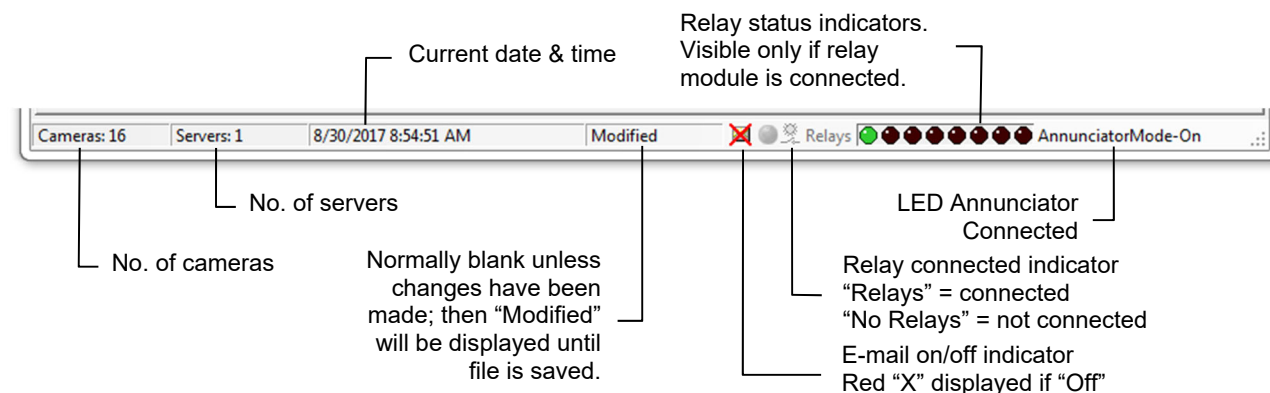


Figure 52: Main Window Status Bar

4.0 Testing, Maintenance and Service

Testing, Maintenance and Service of the Fike Video Analytics system shall only be conducted by Fike factory trained service technicians in accordance with published instructions. Any attempt to test, maintain or service the system using untrained personnel may achieve undesired and invalid results, which can lead to improper operation of the system.

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Revision History

Revision	Date	Revision Description
0	03/16	New Release (Version 4.7.3.12)
1	10/16	New Release (Version 4.7.7.0)
2	11/17	Revised to reflect software changes (Version 5.0.0.0) and removal of all references to Fike Video Analytics and <i>SpyderGuard</i> .
3	9/18	Revised to reflect software V5.0.1.0.
4	6/19	Revised to remove all reference to software version number. Also updated formatting and completed other edits.



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