## FEATURES

- Supports up to 255 stations per system.
- Supports up to 24 dispatch positions.
- Station unit includes flexible alerting, control and status capabilities.
- Near instantaneous alert times achieved with independent voice and data channels.
- Dispatcher announcement via Voice over Internet Protocol (VoIP) or radio.
- Includes dedicated dispatcher client application to initiate commands from each dispatch position.
- Dispatcher application is fully field configurable.
- Integrates easily with radio dispatch consoles.
- Provides computer aided dispatch (CAD) integration capabilities.
- NFPA 1221-compliant for dispatch systems.

## INTRODUCTION

Zetron's IP Fire Station Alerting (IP FSA) system is ideal for any municipality that has IP links between its central communications center and its fire stations. IP FSA moves fire dispatch into the IP world without sacrificing features that have worked so well for countless fire departments.

Converting to IP between the central site and the fire station increases the alerting speed and broadens connectivity options.

The graphical user interface on the workstation at the console position gives dispatchers an intuitive, space-saving way to view status and control the PA, tones, and relays at the station. The server architecture allows dispatchers at remote locations to interact with the system over an IP connection.

With the IP FSA system, data commands and voice announcements are sent independently. Any IP link can be used to deliver the alert commands. Voice can be configured to go over either IP or radio.

Because voice can be sent over either IP or radio, the IP FSA system can be used in a wide variety of circumstances. The voice over IP mode is suitable for applications with broadband IP networks. The radio mode is useful when a dispatcher's announcement must be sent simultaneously to mobile units and stations.

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Server-based control allows fire station alerting client applications to operate with a full awareness of the actions of the other positions.

The client application runs on a workstation and includes an intuitive user interface with a "quick-look" status layout. It also provides tools for filtering, selecting, and controlling stations or individual apparatus. In addition, the system can be controlled entirely through a CAD interface.

The station unit can be configured to activate the PA automatically, play unique tones, display apparatus status, open bay doors, or control station lights. The IP station unit includes a response button that can be used for manual acknowledgements or to reach the communications center.

Backward compatibility to certain versions of Model 6 is possible. To upgrade an existing Model 6, simply add the Zetron Model 6 Ethernet Module to the Model 6, upgrade the firmware, and replace the Model 26 with IP FSA Server and the optional IP FSA Console.

## SYSTEM OPERATION

The IP FSA system uses a client-server architecture to receive commands and then directs them to the appropriate fire stations.

The system consists of the IP FSA Server application, the IP FSA Console client application, the Model 6203 IP Station Unit, and, optionally, one or more instances of the Model 6204 Station Unit.

This architecture allows for easy integration to CAD and radio dispatch consoles. If CAD is present, it can serve as the primary user interface by communicating to the IP FSA Server via XML protocol.

Once the user inputs are received, the IP FSA Server then manages the communications between the individual fire stations to ensure that messages are successfully sent and received.

The IP FSA Server includes circuit monitoring for integrity with indications of failure. This makes it NFPA 1221 compliant. The IP FSA Server can notify and be acknowledged by up to 255 IP station units almost simultaneously. The IP FSA Server then waits for the "OK to Talk" message from the IP Station Unit. This message is presented to the dispatcher when the alert tones at the station are complete.

Depending on the system setup, the dispatcher is then able to announce the incident by using either VoIP or the radio channel. Because the dispatch interface is either CAD or the IP FSA Console, there is no need for additional hardware at the position.

The dispatcher can control the IP Station Unit for station alerting or individual apparatus alerts. The IP Station Unit activates the station PA and initiates an incident tone that can be programmed with seven different tones and various ramp-up rates. It can also control relays that turn on lights, open doors, turn galley ranges off, or perform other actions for zoned alerting. IP FSA then displays the status of the apparatus on the dispatcher screen or the CAD screen, and on the IP Station Unit. The station unit can also receive inputs for acknowledgements or emergency conditions for indication on the CAD or console screen.
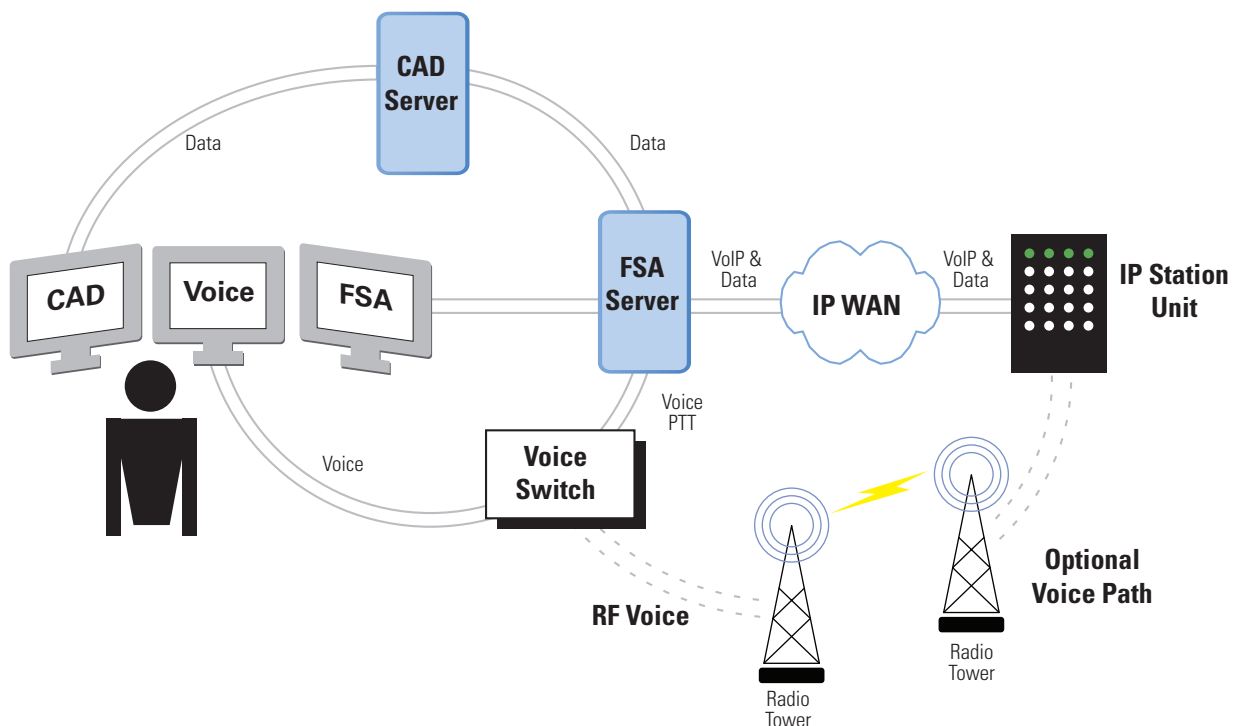
## IP FSA CONSOLE

The IP FSA Console is a client application that resides at each dispatch position. It can be used either as a CAD backup or as the primary dispatch interface.



The IP FSA Console is designed to be highly functional and easy to use. The stations (or stations plus apparatus) are displayed prominently in the center of the screen.

Each button provides the current status of the item it represents, including communications link failure. To initiate an action, the dispatcher simply selects the appropriate buttons, then selects the appropriate action, such as: ALERT ON/OFF, PA ON/OFF, STATUS CHANGE, RELAY CONTROL, or SEND TEXT.

In larger systems, the entire list of stations might not fit on a screen. For these systems, filter buttons can be used to reduce the number of stations or stations plus apparatus that appear.

The Select All Stations and Unselect All buttons can also be useful for larger systems. The Select All Stations button allows a one-click selection for an all-station PA announcement. The Unselect All button allows the dispatcher to clear all button selections with a single action. This eliminates the need to scroll through the entire list to confirm that each button has been unselected.

Dispatchers can use a textbox to send incident information to individual or groups of stations. They can also use the textbox to input unique text that is to be printed out at designated stations.

The IP FSA Console includes a window that gives dispatchers control over station relays. This allows dispatchers to inspect and activate relays independent of the normally programmed functions.
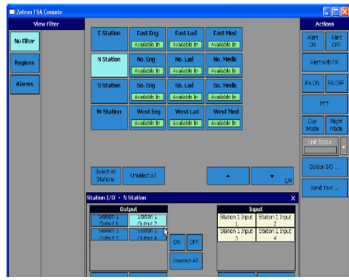
## IP STATION UNIT

There are two station units: the Model 6203 IP Station Unit, and an optional Model 6204 IP Station Unit.



*Model 6203 IP Station Unit*

The Model 6203 is installed at each station and supports one station and three apparatus.

The Model 6204 is an expansion that can be used to support four apparatus in addition to the three supported by the Model 6203. Multiple Model 6204 IP Station Units can be added to the system. With each addition of a Model 6204, four more apparatus can be added to a fire station.

Both the Model 6203 and the Model 6204 continuously communicate with the IP FSA Server when not alerting. They do this by sending polling messages or administrative controls.

During the alert sequence, the IP Station Unit automatically responds to the IP FSA Server by acknowledging its receipt of the alert command. It then initiates the actions for which it has been programmed.

Typically, the IP Station Unit connects to the station PA and plays the tone associated with the apparatus or station that is under alert. The IP Station Unit can also activate any of the relays for zoned alerting or other functions within the station. Each station unit includes four relays and four opto-isolated inputs for status monitoring.

The IP Station Unit keeps the PA open for dispatcher announcements and shuts the PA down after a configurable period of no audio. Visual indicators on the IP Station Unit display the status of the station or apparatus. Buttons allow station personnel to change the status manually. The station unit includes a printer port for "rip and run" incident information.

An optional handset is available for conducting station communications back to dispatchers at the communications center. This half-duplex, talk-back feature is useful for administrative conversations.

## COMMUNICATIONS

Zetron's IP Fire Station Alerting system sends all data messages over TCP/IP. The data can easily be supported by a simple IP network. Dispatcher voice announcements can be sent via UDP/IP if a suitably configured network is used, or over the radio channel the dispatcher uses for mobile communications. The voice communication path is a configuration choice that is specified during system set-up.

# SPECIFICATIONS

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| Controls: | Eight push buttons to change and acknowledge status–two for each apparatus. |
| Indicators: | 30 LEDs, including:<br>Seven LEDs per apparatus for status.<br>Two LEDs to indicate transmit and PA activity. |
| External Inputs: | Four opto-isolated inputs for monitoring status.<br><br>Inputs may be configured to detect contact closure or voltage level. |
| Control Relays: | Four undedicated, independently controlled DPDT relays.<br><br>Contacts rated at:<br>30 VDC 2A (resistive)<br>110 VDC .6A (resistive)<br>120 VAC .5A (resistive) |
| Data: | 10/100BaseT<br>TCP/IP<br>Bandwidth: 1 Kbps<br>Real Time Delay: < 2000mS<br>Jitter: < 2000mS<br>Packet Loss: N/A |
| Voice over IP: | 10/100BaseT<br>UDP/IP & TCP/IP<br>Bandwidth: 8 Kbps per subnet<br>Real Time Delay: < 250mS<br>Jitter: < 225mS<br>Packet Loss: < 2% |
| Voice over Radio: | 10K ohm or 600 ohm balanced, DC blocking audio input, -40dBm sensitivity. |
| PA Interface: | 600 ohm balanced audio output at –45 to 0 dBm.<br>DPDT audio switching relay, DPDT PTT relay |
| Printer Interface: | DB-9 female wired as DCE, RS-232 9600 baud, abbreviated ASCII text. |
| Computer OS: | Windows XP Professional with Service Pack 3 (32 bit) or Windows 7 Professional (32- or 64-bit) with Service Pack 1. Services for FSA will run under Windows Server 2003 or Windows Server 2008R2 with Service Pack 1. |

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| Power Requirements: | 120 VAC (+/- 10%), 50/60 Hz power supply included.<br>Unit may also be powered by external 12 to 15 VDC (unregulated) power supply, 1.5A maximum current. |
| Operating Temperature: | 0- to +65 degrees Celsius. |
| FCC Compliance: | Complies with Part 15 of FCC rules. |
| Handset/<br>Hook Switch: | Half duplex . |
| IP FSA<br>System Architecture: | The IP Fire Station Alerting system consists of a single, central server with one or more client dispatcher consoles and one or more VoIP gateways. The VoIP gateways can run on either the server or a remote computer. |

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005-1361J  May 2012