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## Keltron LS 7000 Life Safety Event Management System Features and Functionality



Reliable  
Efficient  
Scalable  
Flexible  
Universally Compatible  
Cost Effective

### Overview

The Keltron LS 7000 life safety event management system is a state-of-the-art, dynamic system for receiving, monitoring, and managing life safety incidents in a multi-building facility or municipal environment. Its design is based on almost fifty years of experience in the life safety industry. Keltron's engineers and product managers are continuously developing upgrades and enhancements to meet the ever-changing requirements of our customers and the life safety market.

### Proactive advantage

The major difference between a life safety event management system and an alarm receiver is that the life safety event management system is a proactive system. Whereas an alarm receiver is designed to react to incoming stimuli in the form of events, a life safety event management system enables the operators and system administrators to be proactive in responding to incidents, thereby substantially improving the effectiveness of their response.

### Keltron LS 7000 benefits

- Universal Compatibility** - interfaces with multiple FACP's and communications infrastructures
- Consistent Reliability** - supervised, redundant systems ensure 24/7/365 dependability
- Maximum Accuracy** - provides operators with instantly-recognizable, event-specific information
- Exceptional Versatility** - includes a wide range of customizable programming to fit specific needs
- Unparalleled Flexibility** - offers a variety of applications and configurations
- Optimum Efficiency** - configurable to support both small and large facilities and municipalities
- Cost Effective** - leverages existing equipment investments

### How the Keltron LS 7000 works

The Keltron LS 7000 Life Safety Event Management system is a suite of software applications; dispatcher, monitor, maintenance, history and utilities. It is a network-compatible system that provides direct and efficient access to event information to enable the fastest possible response to life safety events. The system is capable of receiving alarms from a wide variety of communications technologies including Ethernet, active network radio, distributed multiplex, digital communicator, direct wire/fiber and coded signal style inputs. The system provides the operator with event type, location, hazards and other mission critical information and even suggests the most appropriate response strategy.

## Architecture and Applications

### Keltron LS 7000 system architecture

The Keltron LS 7000 is an application suite, not a single software program. Each application is comprised of single purpose modules that are reliable and efficient. Applications are interactive, executive, incoming and outgoing and include:

- **Dispatcher application** - presents comprehensive life safety event information to the operator
- **Programming and maintenance application** - enables the administrator to program the system, customize displays, and assign levels of user privileges
- **History editor application** - produces integral system reports, exports historical data to third-party report generation applications
- **Monitor application** - provides stakeholders with a window into the system status without interaction
- **Administrative database utilities** - ensure system reliability

### Dispatcher application

Keltron believes that too much information can be as detrimental to effective dispatching as too little. To balance the varying need for information, the Keltron LS 7000 screen features a multi-tab display that includes:

- **Acknowledge screen** - displays the most critical information: type of event, location and time
- **Dispatch screen** - displays additional information in tabs to facilitate effective response
- **Maps tab** - displays imported graphic files with icons: accepts any MS Windows-compatible files
- **Details tab** - provides raw data received from system devices to facilitate maintenance
- **Notes tab** - accepts operator inputs during dispatch, includes them in history database
- **History tab** - shows history of a specific event from inception to resolution
- **Help documentation** - provides indexed, searchable answers to questions

Keltron provides dispatchers with an on-site quick dispatch guide (QDG) for basic dispatch operation as well as comprehensive manuals with guidelines for advanced dispatching.

### Programming and maintenance application

The maintenance application enables a system administrator or programmer to configure and program the Keltron LS 7000 system. This application is designed to facilitate use and reduce time spent programming the system, thereby increasing overall efficiency and reducing costs. The application includes programming wizards, templates, flexible options for graphics files, libraries of sound files and icons and interactive help documentation. Keltron provides extensive documentation and comprehensive manuals to guide programmers in establishing the structure and customizing the system.

### History application

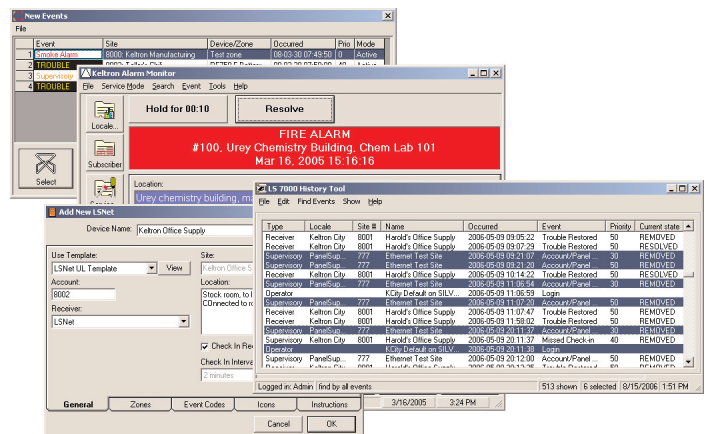
The history application records and stores all Keltron LS 7000 system activity, including all incoming events as well as operator and automatic system activity. This application is designed to provide easy-to-use, flexible, searchable overviews and/or targeted views of historical data for trends analysis, problem resolution, or field equipment maintenance. The application includes both report generation and data export functionality.

### Monitor application

The monitor application is a window into the real-time status of the Keltron LS 7000 system. It is designed to enable supervisory and administrative personnel to observe the active events in the system for effective operator response, monitor the accuracy of pre-programmed information and manage personnel workload. This application also displays the status of all devices that are currently out-of-service or in test mode.

### Administrative database utilities

Administrative database utilities provide a means of storing the system configuration and information databases, to enable the user to restore them in the event of a catastrophic hardware failure.



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Easy to use

Reduces operator overload

Enables proactive response

Provides secure remote access

#### Dispatch application features:

Proactively providing complete information and preventing operator overload are major benefits of the Keltron LS 7000 dispatch application. Many dispatch features require appropriate operator privileges to ensure overall system integrity. The following unique features were developed to enhance the system's ability to provide those benefits:

Event rotation display - to ensure that off-normal events are not lost, the event rotation display sequentially presents any received events that have not restored to normal or secure mode. Unique to Keltron, this feature enables maximum operator awareness with a minimum of invasiveness and tracks device and zone state changes during service.

Automatic swinger suppression - when repeated identical events are received between operator acknowledgements, the system counts them and presents the operator a single event to acknowledge. The event count and recurrence times are fully recorded in history, but the operator only sees one event.

Storm mode - enables operators to concentrate on high priority, life safety events by temporarily ignoring system-wide trouble signals during severe weather events where widespread power outages or similar conditions may occur. Storm Mode may be configured by event category and length of time in effect.

Group acknowledge - during severe weather conditions or power outages, devices may generate large numbers of trouble signals that can overwhelm operators. The Group Acknowledge feature enables operators acknowledge and resolve these troubles with a single command, so that they can concentrate on higher priority events. The Keltron system's log printers and history files record complete information about events that are group-acknowledged.

Trouble shunt - to enable operators to respond to high priority events while technicians are servicing accounts, they can place a device or zone into Trouble Shunt mode. While in Trouble Shunt, designated event categories such as troubles and trouble restores, are automatically acknowledged and resolved by the system, but other higher priority signals such as fire alarms, are displayed and dispatched normally.

Pending alarm alert - while an operator is dispatching an alarm, other alarms may be pending. To remind the operator to finish the current alarm, the system periodically sounds an alert for pending events.

Comprehensive site location - complete site location information can be programmed to be included in the Dispatch tab display. Operators can view this complete information along with the dispatch instructions and contact information.

Location details on one tab - the default Dispatch Instructions tab displays complete event location information, eliminating the need to search for additional information.

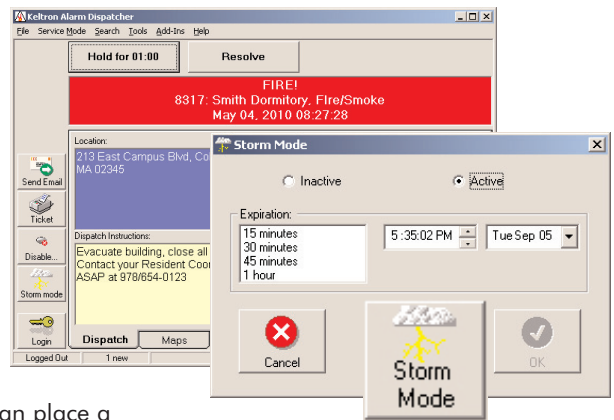
#### System administration features:

System administration requires a high degree of accuracy and can be time-consuming. The following features facilitate accurate and efficient system maintenance and administration:

Duplicate site ID warning - some installations may require unique site or account ID numbers. The maintenance facility warns the programmer when a new site is added with the same ID as an existing site or account.

System shutdown - the Keltron LS 7000 provides a utility that shuts down the application suite for system maintenance or upgrade. In order to shut down the system, the operator is required to log in and have appropriate privileges.

Database support functions - the database support utility enables online backup and restore of both the main and history databases as well as enhanced database update script display.



## Unique Features and Functionality

The Keltron LS 7000 includes a wide range of features that are designed to provide efficiency, flexibility, and scalability to the life safety event management process. It includes many powerful and unique features that enhance the basic system structure applications and provide many benefits to the user. Keltron's engineering team follows a standard software development schedule to enhance and upgrade the system's features and functionality. The system is a mature software system that is currently in its 5.0 version. Since its inception, our engineers have added the following features to the system, listed by application.

### History editor features:

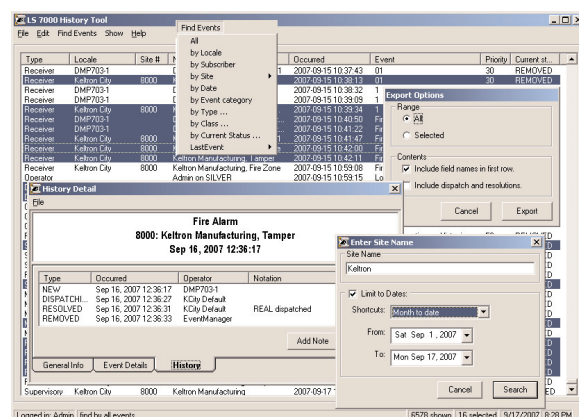
As there continues to be an increasing demand for comprehensive historical alarm tracking for legislation such as Clery Act and the Right to Know Act, the Keltron LS 7000 History Editor provides a comprehensive and flexible method of maintaining records of all alarm system activities:

► **Active event report** - by selecting the 'Find By Status; All Active' menu item, the system displays a brief report showing all active events, including all pending, currently dispatched, on-hold and resolved events in the system. This feature produces system-wide status reports of all devices, zones and sites that are currently off normal. This feature is useful in tracking information such as end-of-shift summaries.

► **Export history data** - the export feature of the History Editor enables the user to take any portion of a history report and export the data to a third-party software package such as Microsoft Excel or Access.

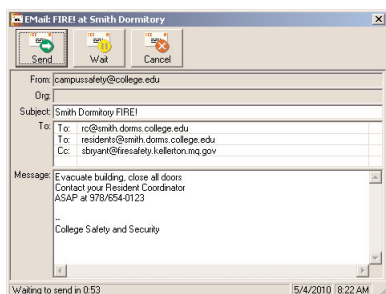
► **Enhanced history recording** - high-density device traffic, such as routine device check-ins, may be recorded directly to the system's offline archive files. This can substantially improve the performance of the online History Editor when searching for alarms, troubles or missed check-in supervisories. Like exported data, the offline files can be easily viewed using third-party software packages.

► **History performance** - in addition to segregating periodic check-ins to archive databases, the History Editor enhanced performance improves start-up and search time.



### Advanced features:

► **Emergency communications email** - in response to the widespread need for mass notification, the Keltron LS 7000 system provides automated email notification from the dispatch workstation and may be integrated with existing mass notification systems. It may be programmed to generate emails either automatically in response to a given alarm or manually by a privileged operator. The email feature enables programmable configuration of a variety of parameters such as event categories, recipient address lists, and message content and ensures system security by only allowing outgoing messages. Messages can be sent to a large number of recipients using standard email protocols.



Multiple automatic email notifications can be configured for different classes of incidents: critical life safety events such as fire can be sent to first responders, while supervisory or trouble events can be sent to maintenance personnel. The system also supports alternative delivery services such as alphanumeric paging services, SMS (Short Message Service), and other text-messaging protocols.

► **Redundant configurations** - the Keltron LS 7000 may be configured to operate using redundant servers for mission critical, failsafe operation. The system servers operate in a primary and secondary mode where the primary server monitors all incoming alarm data and provides database replication information to the secondary server running windows and Keltron provided applications. Upon failure of the primary server, all switchable serial data inputs are switched from the primary to the secondary server. The secondary server also monitors the health of the primary server and upon primary server failure as detected by the communications between servers, the secondary server auto starts Keltron LS 7000 software and takes over alarm data monitoring.

► **Alarm forwarding** - Keltron LS 7000 systems can forward all events to another Keltron LS 7000 server. It is also possible for a single server to monitor alarms provided by multiple Keltron LS 7000 servers monitoring disparate systems. The final destination Keltron LS 7000 server can operate as a workstation as well or feed all received events to a single workstation as though they emanated from a single system.

Facilitates report compliance  
Integrates with mass notification systems  
Reduces installation cost  
Enables long-term expansion

► **Overall system features:**

- **Narrow/wide printer log format:** each log printer can be configured to print event and acknowledgement logs in either narrow format, suitable for Keltron's quiet thermal log printer, or wide format, appropriate for 80-column impact printers.
- **Custom splash screen:** while idle, the Keltron LS 7000 may be programmed to display a company or municipal logo, site picture or map, or any other graphic image.
- **System platform, security and stability:** the system runs in a MS Windows XP Pro, MS Windows 2000 or both server versions' operating system environment. The Keltron LS 7000 is a dedicated purpose computer more similar in nature to an imbedded system than to a home PC. Keltron provides standard PC hardware with which to run the Keltron LS 7000 system software and includes guidelines for using it securely as a dedicated purpose computer.
- **Open database connectivity:** the customer-programmed information and history databases conform to the ODBC/SQL standard. This means that third-party ODBC/SQL-compliant applications can be used to access the Keltron LS 7000 databases as well as to produce user-defined comprehensive reports.
- **Keltron LS Server redundancy:** this option includes redundant SATA hard drives on a RAID 1 array that use mirroring to ensure data integrity and availability and protect against system downtime in the event of a hard drive or a power supply failure.
- **System supervision:** within the Keltron LS 7000 system, all software receiver interfaces, workstation connections, connected receivers and field panel connections are supervised. Faults are reported to the system operator to enable expedient response, minimize down time, and reduce maintenance costs.
- **Programmable event segregation:** this feature enables the administrator to direct events to different operators at different workstations. Event segregation enables a more efficient operator response by sending specific events to their most appropriate responders: e.g. fire alarms to the fire station, troubles to the maintenance department etc.
- **Event and screen printing functions:** the Keltron LS 7000 provides a dedicated and time stamped event log using a logging printer so printouts are chronological and uninterrupted. Screen printing is also supported. Printers and driver software can be connected to the system and supported by on-staff personnel. This alleviates dependence on proprietary hardware and software.

► **Multiple communications technology**

The Keltron LS 7000 system can manage alarms from multiple communication technologies:

- Ethernet (IP communications)
- Active network radio
- Distributed multiplex system
- Digital dialer
- Direct wire: copper or fiber
- Coded Signal

Ethernet (IP) signals go directly to the Keltron LS 7000 system. Signals from the other communications technologies are processed first through the Keltron DMP703 receiving system before arriving at the Keltron LS 7000 system.





## Keltron LS 7000 Specifications

### Hardware configurations

The basic Keltron LS 7000 system configuration consists of a single computer system. Depending on the requirements of each individual facility, the system may be expanded to include optional remote workstations and redundant server configurations. The basic system will support up to eight additional workstations for remote monitoring, supervision and programming. The following are examples of current equipment configurations which are subject to change to improve performance:

### Keltron LS servers

#### Hardware

- 19" 3U rack-mount server
- Voltage 24VDC, (120) watts (Non-Isolated)
- Current 5A @ 24VDC



#### Connections

- 4 USB 2.0 ports
- 2-4 RS232 serial ports for connection to alarm receivers
- Independent VGA graphics output for external display
- 10/100 MBit/s Ethernet connection
- PS2 keyboard and mouse

#### System

- Core 2 Duo/Pentium/Celeron M CPU up to 2.27GHz or better
- 512 MB up to 4 GB DDR RAM
- Windows XP-PRO operating system SP2 or later
- Keltron LS 7000 EventBus Server Software, including EventManager, Supervisor, Alarm Receiver Interface(s), Dispatcher, Database Editor and Maintenance Tools, History Viewer/Editor, Monitor, Utilities

#### Hardware

- 19" 4U rack-mount server
- Dual SATA Hard Drives
- Current 9A @ 115VAC, 60 Hz



#### Connections

- 6 USB 2.0 ports
- 8 RS232 serial ports for connection to alarm receivers
- Independent VGA graphics output for external display
- 10/100 MBit/s Ethernet connection
- PS2 keyboard and mouse

#### System

- Core 2 Duo up to 2.33GHz or better
- 1 GB DDR RAM
- Windows XP-PRO operating system SP2 or later
- Keltron LS 7000 EventBus Server Software, including EventManager, Supervisor, Alarm Receiver Interface(s), Dispatcher, Database Editor and Maintenance Tools, History Viewer/Editor, Monitor, Utilities



### Keltron LS 7000 workstations

#### Hardware

- All-in-one PC display
- 19" LCD touchscreen display
- Size 17.8" w x 16.9" h x 7.5" d
- Weight 15.5 pounds

#### Connections

- 4 USB 2.0 ports
- DVI

- 10/100 MBit/s Ethernet connection
- PS2 keyboard and mouse

#### System

- Core 2 Duo Processor or better
- Up to 4GB DDR RAM
- Windows XP-PRO operating system SP2 or later
- Keltron LS 7000 Workstation software, including Dispatcher, Database Editor, History Viewer/Editor, Monitor, Utilities

### Keltron LS 7000 inputs and connections

#### Inputs from the Keltron DMP703 receiver

- Active network radio
- Digital communicators
- Distributed multiplex via wire or fiber
- Reverse polarity
- End-of-line resistor
- Coded signals
- Proprietary tones transmitters

#### Direct inputs

- Ethernet signaling (Keltron LSNet)

#### Additional features

The following is a partial list of Keltron LS 7000 system features. Please consult the factory for special requirements:

- Third-party receiver interfaces
- Flexible signaling device supervision
- Customizable event categories
- Signaling device templates for easy system programming

Note: output controls are available through the Keltron DMP703 receiver

Keltron develops and manufactures universally-compatible, UL listed life safety event management systems for the municipal and proprietary markets. Solutions include Ethernet signaling systems, active network radio systems, distributed multiplex systems, digital communicator/receiver systems, and direct wire systems. This document is not intended for installation or maintenance purposes. All specifications are subject to changes without notice. For more information visit [www.keltroncorp.com](http://www.keltroncorp.com) or contact us at 781-894-8710.

