

Panels, detectors & ancillaries

Fire detection and alarm

High level integration

Networking and control

Integrated digital voice alarm

Non alarm audio

Background music and paging

Integrated fire telephones

Suppression release

Simplex SATEON Access Control and Security Management

Master clocks

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Simplex 4100ES

The premier solution for medium to large facilities



Emergency Operating Instructions

How to Acknowledge / View Events
Press Ack located under flashing indicator.
Repeat operation until events are acknowledged.
Local tone will silence.

 Simplex

Audio Control

Command Center Active

All Speakers EVAC

Start All Selected

Network Audio Active

Network Style 7 Break

Network Node 12 Off-Line

All Speakers Talk

status

Menu

11:57:20 AM

11:57

UPV=0 TRBL=0

System Supervisory

System Trouble

Alarm Silenced

AC Power

Supv Ack

Trouble Ack

Alarm Silence

System Reset

WARNINGS

Alarm or Warning Condition
System indicator flashing. Tone On.

How to Silence Building Signals
Press Alarm Silence.

How to Reset System
Press System Reset.
Press Ack to silence tone device.

4100 ES

EVAC	Floor Above	Floor Below	Page	Special Messages	Tones
Floor 8			Floor 8	French EVAC	HI/LO
Floor 7			Floor 7	Cantonese EVAC	GSA
Floor 6			Floor 6	Chinese EVAC	WAIL
Floor 5			Floor 5	Spanish EVAC	Slow Whoop
Floor 4			Floor 4	Dr. Firestone	Fast Whoop
Floor 3			Floor 3	Weather Warning	Chime
Floor 2			Floor 2	Tornado Alert	Bell

Simplex 4100ES

The premier solution for medium to large facilities

Simplex 4100

The Simplex 4100ES is based on a modular architecture, allowing system designers using our graphical design software to configure custom panels.

This ability to customise each panel per system is a cost-effective way to meet project specifications and capacity requirements. The future proof design of Simplex systems reduces cost of ownership by allowing easy expansion to accommodate changes throughout the life of the system.

Simplex systems offer true integration including voice alarm/evacuation, agency listed non-alarm paging and background music, fire fighter telephones, emergency notification, MNS (mass notification systems), smoke management and control, high level integration to third party systems utilising open protocols such as BACNet, OPC server and Modbus, high level networking with multiple topologies and connectivity options, graphics command centres with client server

and dual redundant configurations and addressable multi candela audible/visual appliances including our unique Simplex TrueAlert text messaging display.

Simplex UL listed textual notification appliance is designed to supplement standard notification appliances to improve life safety and addresses requirements for the hard of hearing/deaf community. Each display can also support custom non-alarm messages sent from a remote PC over a TCP/IP network which are overridden in an emergency condition .e.g. fire evacuate/alert, security breach, hostile intruder and bomb alert etc.

It's important that a fire detection system can continue to be serviced, supported and upgraded throughout its life in order to protect the owners investment. Simplex systems are always engineered to provide a migration path and new product releases are compatible with earlier systems.

Master Bay

- 2GB of integrated, supervised storage for programming and system configuration information
- System Power Supply (SPS) with onboard IDNet channel, 3 NAC's and Aux Power.
- CPU, Network Card, Media Cards, RS232

Expansion Bays

- Dual redundant CPU option for critical applications such as Fire and Gas Systems
- Audio
- Firefighter phones
- Relays Cards, Zone Cards, IDNet Cards
- LED/Switch Modules
- TCP/IP Physical Bridge
- Single Fibre Modems
- Expansion Power Supplies (XPS)
- TrueAlert Addressable Power Supplies



Simplex 4100ES

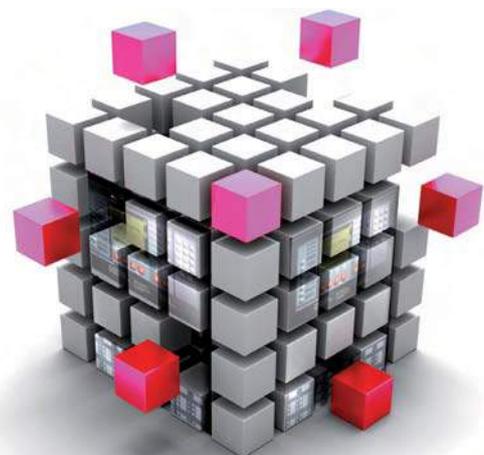
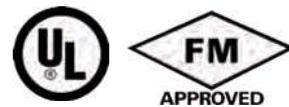
Key Features

- UL/ FM approved.
- Universal platform - small to large systems.
- New processor with onboard IP network capability.
- Future proof modular design provides an upgrade path to new technologies and easier installation and programming.
- On board mass storage device archives programmes and other vital information.
- Integrated voice alarm and fire fighter phones.
- Agency listed non alarm audio (paging and background music).
- Spoken Walk Test.
- Voice coding/message splicing.
- Smoke management and control.
- High level networking, multiple topologies and connectivity options.
- Third party open protocol interfaces such as BACNet, Modbus and OPC server.
- Graphic command centers with client server and dual redundant configurations.
- SafeLINC fire panel internet interface.
- UL/FM listed for suppression release.
- Master clock interface.
- Sateon NTEC access control integration.

Modular Design



- Protects your investment.
- Reduces life-cycle cost of ownership.
- Factory built as standard.
- Software configuration supplied with each panel.
- Efficient installation and commissioning.
- Scales to fit the project.



Annunciation Modules

Simplex 4100ES



4100 ES Annunciation Options

4100ES fire alarm panels support a variety of switch input and LED status indicators to complement the information and controls available at the operator interface. These modules provide a convenient interface efficiently packaged in the front panel space of the 4100ES cabinet bay.

Easy Interface

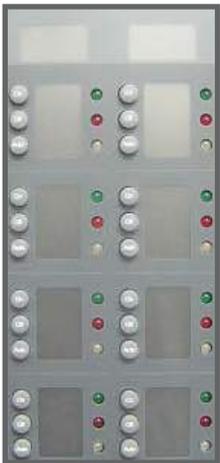
Switches are alternate action ON/OFF (depending on programming selection) using raised rubber buttons. High efficiency LEDs provide clear status annunciation readily visible through the cabinet door.

Selectable Functions

Switch functions and LED status indications are selected when the control panel CPU is customised for site requirements. Labels can be customised to indicate the exact function of the LEDs and switches.

HOA LED SWITCH MODULE

4 100ES smoke control HOA (Hand-Off-Auto) LED/switch module is a 24 switch/24 LED (green/red/white) module developed to provide a white "Auto" LED indication in compliance with the international building code (IBC) for HVAC fan control.



SMOKE CONTROL LISTED AND APPROVED

- The HOA IBC LED/switch module provides annunciation and control at the operator interface.
- Raised momentary switches provide tactile feedback.
- Alternate switch action provides on/off functions.
- High intensity green/red/white LEDs provide clear status annunciation.
- Slide-in labels provide custom on-site labeling of 8 fan controls in a double slot module.
- Multiple LED/switch display cards may be daisy chained together.

HOA IBC LED/switch modules provide an easy, cost effective solution for projects requiring international building code (IBC) compliance of HVAC control and annunciation.

Replaces expensive custom annunciators/smoke control panels.

Mounts as part of the 4 100ES panel eliminating the need for additional custom cabinets.

Reduce product and installation costs increasing competitiveness in projects requiring smoke control or HVAC control functions.



Emergency Voice / Alarm

The premier solution for large facilities

4100ES Audio Systems

4100ES audio systems can provide voice communication, alarm tones and digitally pre-recorded voice messages to alert occupants of fire or other emergency situations. Evacuation signalling may be automatically generated via alarm initiated events or by firefighting personnel using the operator controls.

Firefighter Telephone Systems

Firefighter telephone systems provide two-way communications for facilities where radio communications may not be available or are unreliable. They are typically used during active fire fighting conditions, during a fire alarm investigation, or during fire alarm system inspection and test.

The master telephone can simultaneously talk with up to 6 remote telephones and can be connected as an audio input for broadcast messages.

A ring signal on a remote firefighter telephone indicates that a call request is initiated and a hold signal indicates that a connected line has been deselected.

Telephone circuits are supervised for open and short circuits and too many telephones connected. The master telephone is supervised for cord integrity.

Degraded mode allows remote telephones to remain connected to each other in the event of a communications loss.

“Integrated Voice Alarm Systems provide Clear Concise Instructions for safe and effective alert and evacuation procedures including unobtrusive maintenance and testing”.



Emergency voice/alarm communications provide.

- Alarm/evacuation signal generation with multiple built-in tones.
- Standard or customised digital message storage and message generation.
- Automatic or manual operation.
- Mass notification operation.
- Analogue audio systems provide dual channel operation.
- Digital audio systems provide multiple channels over a single wire pair.
- Supervised remote microphone inputs.
- Spoken voice coding from the digital message player.
- Multiple digitally recorded human voice messages.
- Spoken WALKTEST™ system testing.
- Separate evacuation, drill and optional "All Clear" voice messages and tones.
- Ready-to-talk microphone indicator on front panel of the audio control module.
- Local panel speaker for tone/message broadcast verification.
- MINIPLEX voice transponders are available for distributed audio.

" Integrated Voice Alarm Systems provide Clear Concise Instructions for safe and effective alert and evacuation procedures including unobtrusive maintenance and testing."

Non Alarm Audio (NAA)

Background music and paging

4100ES Audio Systems

The 4100ES is agency listed for non-alarm audio (NNA) such as background music paging and mass notification.

Facility owners and managers are often looking for ways to reduce hardware space requirements and costs without compromising on power or performance. Combining evacuation and non alarm audio function such as paging into a single system can meet these needs.

As voice alarm systems are typically designed to meet the audibility and speech intelligibility requirements of project specifications, fire detection standards and local building codes, they are often also suited to public address and paging. This can alleviate the need for two separate systems.

A single speaker system can provide a lower system cost and reduce installation/commission time. In addition, utilising the fire alarm system for paging increases familiarity with the controls and helps reinforce operator training.

Constant Supervision

When non-alarm audio (NAA) applications (such as for background music, paging, or for Mass Notification) are required, optional Constant

Supervision modules provide continued speaker zone supervision during the page or while background music is playing.



4100ES Voice coding and message splicing

Zone coded signalling is available using tones or spoken numbers. Spoken coded messages can be used in place of conventional pulse tone coding to eliminate counting and interpretation of the zone coded location.

For example, a fire alarm zone such as First Floor East, Smoke Detector Room 23 will be Code 1123.

Two possible transmission schemes are:

1. Conventional zone coded signalling where
T = Tone: T...T...TT...TTT...T...T...TT...TTT...
2. Spoken coded signalling:
Code, one..one..two..three;
Code, one..one..two..three

The audio controller has the ability to precede spoken codes with phrases and alert tones. As an alternative, the previous example could have been preceded with a chime tone. The word "code" could be replaced with the phrase.

"Doctor Firestone, please dial..."

Pre-programmed special messages or phrases can be provided to meet specific custom applications requirements.

The standard evacuation message is:

"Attention... Attention...Attention...An emergency has been reported.... All occupants walk to the nearest stairway exit and walk down to your assigned re-entry floor or main lobby... Do not use the elevator... Walk to the nearest stairway.... Do not use the elevator.... Walk to the nearest stairway."



MX Digital

Flexible Robust and Reliable Protocol

Soft addressing

Loop powered sounders

MX Fastlogic

MX Fastlogic sensor operation is an algorithm that takes into account the pattern of smoke build up over time and applies fuzzy logic to calculate the level of risk. This algorithm uses over 200 years of fire test data from research at the University of Duisburg (Duisburg, Germany) to determine the likelihood that there is a real fire and is designed to achieve faster detection of real fires and slower (preferably no detection) of false alarm sources.

MMX Fastlogic Basics MX Fastlogic can be described as an Expert algorithm since it uses real fire data as a basis for the alarm decision. For any given application we are obliged to employ the most suitable detection in terms of response to an actual fire while minimising false alarms. This general requirement is clearly reflected in local and national standards governing fire detection system designs.

Traditionally, attempts at reducing the occurrence of false alarms have involved degrading the level of fire protection afforded, either by raising the alarm threshold of smoke detectors, introducing delays, or generally employing less responsive detection. MX Fastlogic gives us the opportunity to offer an improved level of protection while simultaneously increasing immunity to false alarm.

MX Fastlogic - Principle Elements Several elements of the detector output are monitored and this raw data is used by MX Fastlogic to execute a series of processes to evaluate the

probable presence of fire including:

- Background filtering
- Instantaneous smoke density
- Rate of change of smoke density
- Smoke density weighting
- Smoke density peak suppression
- Real fire 'experience' comparison

Elements synonymous with false alarms are filtered while those elements indicative of fire are weighted. These results are continually compared against data derived from real fires to produce a measure of fire risk. It is against this risk measurement that the decision to alarm is made.

Maintain Sensitivity and Minimizing False Alarms

MX Fastlogic is designed to maintain sensitivity to fire while minimising false alarms. Many analog detection systems allow the user to select different smoke detector sensitivity settings e.g. high, normal, or low sensitivity. Lowering the sensitivity setting is a typical reaction to unwanted alarms but it usually means that a greater density of smoke is required to initiate an alarm.

This is not the case for detectors using MX Fastlogic which is comparing the real fire experience against recognised fire patterns. Changing sensitivity from 'Normal' to 'Low' for example, would delay responses to less likely fire patterns whilst maintaining a normal response to more likely fire patterns. The net result is a reduced sensitivity to possible false alarms without reducing sensitivity to clearly identifiable fires.



Simplex 4100 ES

ID Net

Hard Addressing Loop Protocol

Advantages of Hard Addressing:

- Reduced cost of ownership for spares and maintenance.
- Devices can be delivered to site pre-addressed and labelled.
- Software configuration can be programmed pre-installation.
- Detailed drawings can be issued pre-installation.
- Ensures device types (smoke and heat) are installed back in their correct location during maintenance.
- No special tools required.
- Customer has a choice which addresses to use.
- Reduces system life-cycle cost.
- Proven, reliable and safe technology.





TrueAlert EMERGENCY VOICE/ALARM

Addressable Notification



Text Messaging Appliance

Audible appliances and strobes are commonly used to provide notification of alarm conditions and to signal the need for building evacuation. However, when the required response is to relocate, defend in place, or provide detailed information, TrueAlert text messaging appliances are the answer. These flexible, programmable devices display custom text messages with the instructions required by the local emergency communication systems/mass notification plan.

Alarm Mode

When alarm conditions occur, the fire alarm panel overrides optional non-alarm messaging and selects the programmed messages appropriate for the reported conditions. In multiple alarm situations, up to 8 messages can be displayed in sequence.

Non-Alarm Mode (Optional)

During non-alarm conditions, bulletin board messages can be scrolled for general information distribution. This information is communicated to the messaging appliance via LAN (local area network) connection using TrueAlert messenger software.

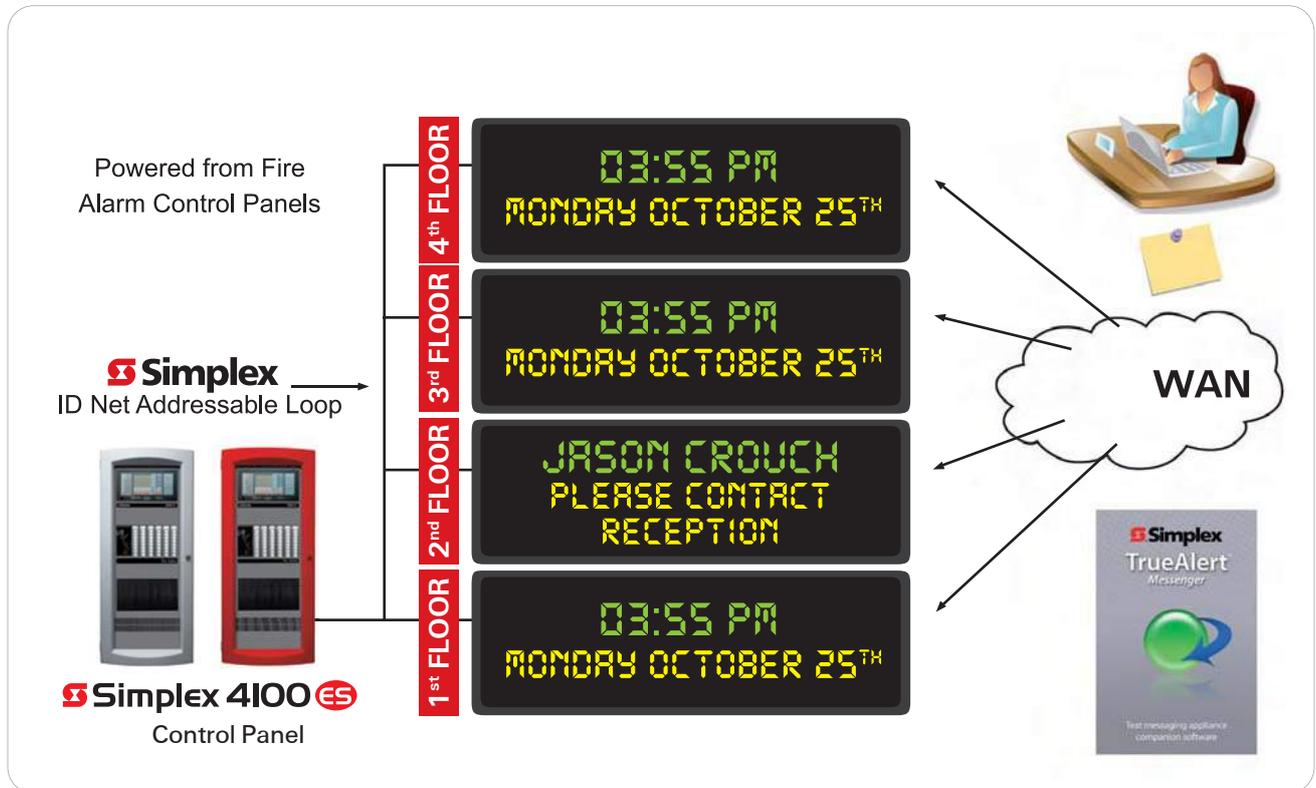
Synchronised Time and Date

The appliance can also be synchronised with an NTP time server to display the time and date.

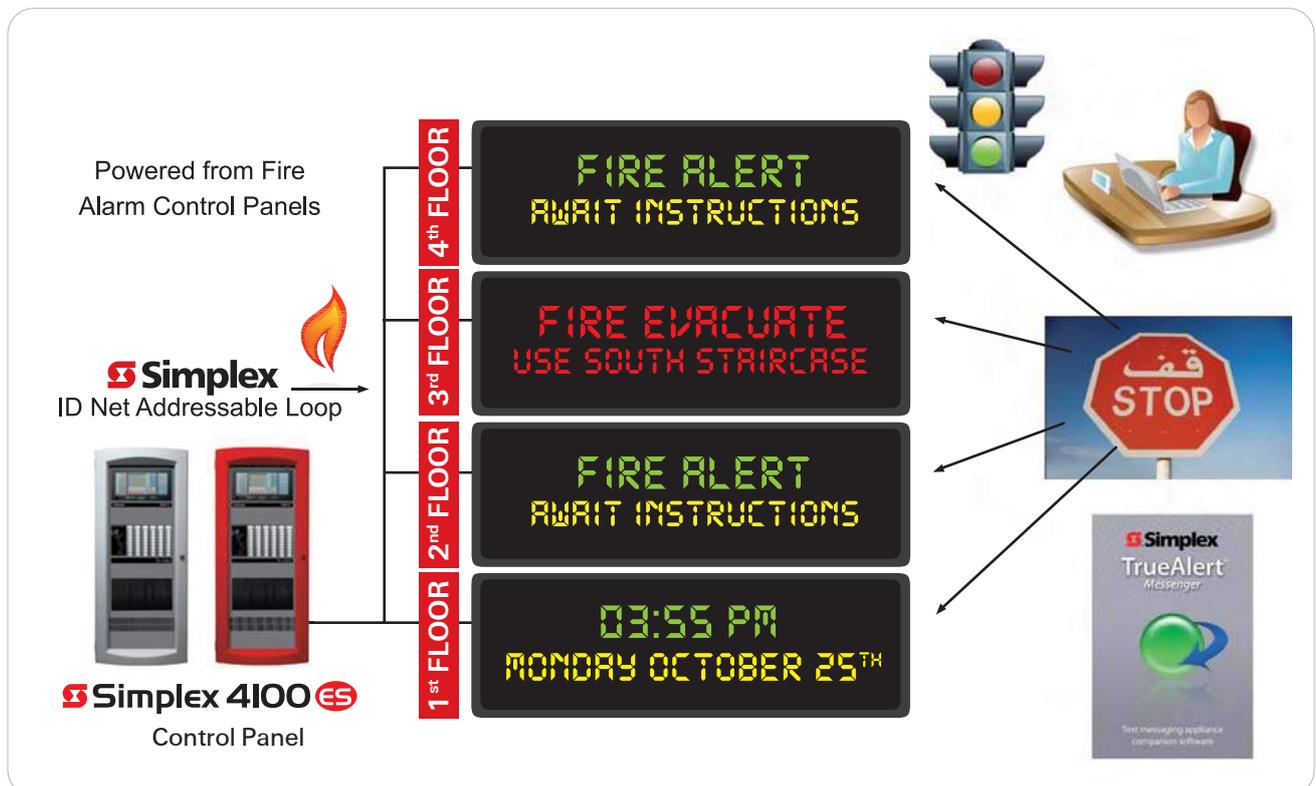
Power Failure Mode

The host fire alarm panel can be programmed such that during a local power failure, a blanking message is sent to the text messaging appliance to reduce battery standby requirements. In the event of an alarm condition during power failure, the panel will use its batteries back-up to fully power the appliance and display the appropriate messages.

System normal non-alarm messaging time and date display available



Fire detected in the system



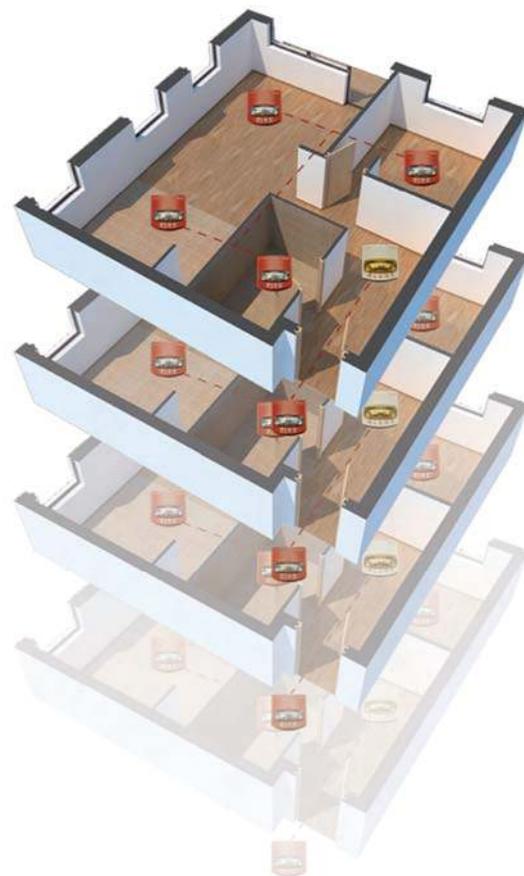
TrueAlert EMERGENCY VOICE/ALARM

Addressable Notification

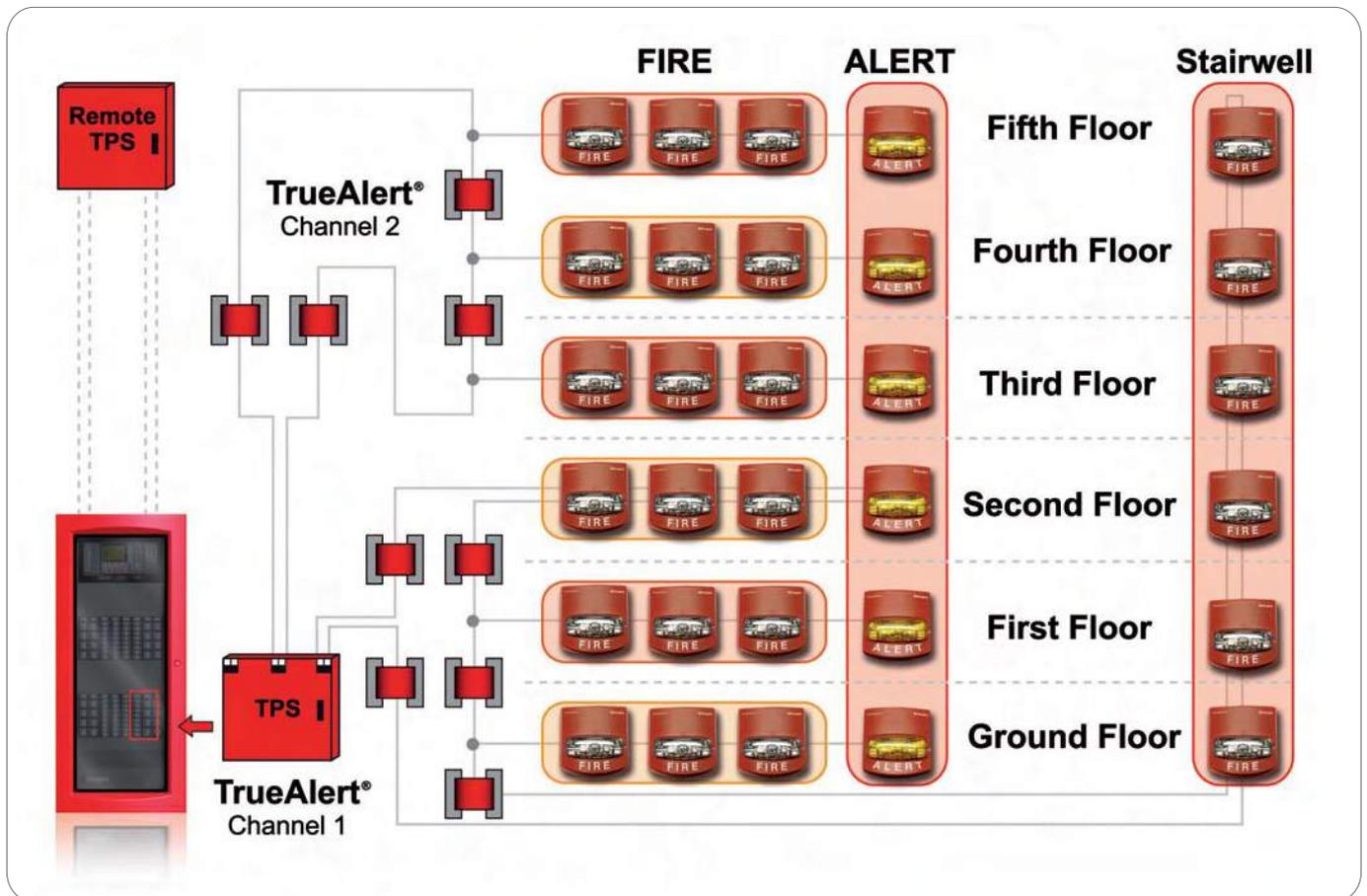


Simplex has created the industry's first alternative option to loop powered notification by providing addressable NAC's (notification appliance circuits), addressable sounders, visuals and combined audio/visual units. These TrueAlert devices can be programmed through software to operate independently or in groups. This approach combines the power of a conventional NAC circuit with the flexibility of addressable notification and allows the cause and effect can be changed in software without the need to rewire circuits.

TrueAlert addressable multi-candela appliances are individually addressed and individually controlled with power, supervision and activation signals supplied from a TrueAlert addressable SLC (signalling line circuit).



TrueAlert Notification



When connected to a Simplex 4100ES control panel with TPS, additional features are available such as software selection of strobe intensity, detailed reports of actual appliance intensity settings, TrueNAC voltage drop diagnostics and additional setup and test utilities.

TrueAlert Addressable Advantage

TrueAlert addressable operation provides separate audible and visible appliance control functions using a single two-wire circuit that also confirms connection to the individual notification appliance's electronic circuit. This operation increases circuit supervision integrity by providing supervision beyond the appliance wiring connections.

Opportunities for Reducing Installation and Testing Time.

Separate controls carried on the same two-wire SLC can significantly reduce installation time and expense for both retrofit and new construction. When Class B (Style 4) wiring is used, wiring can be T-tapped, allowing even more savings in distance, wire, junction boxes, and overall installation efficiency. Extensive TrueAlert diagnostics provide improved installation efficiency.

Networking & Miniplex EMERGENCY VOICE/ALARM

Transponders

Multi High Rise Tower Example

4 100ES MINIPLEX transponders connect to a host 4 100ES Fire Alarm Control Panel using Simplex remote unit interface (RUI) communications. At the transponder, RUI communications are received by the transponder interface module and translated into the same internal communications format that is used in the host control panel.

Simplex MINIPLEX transponders allow systems to be intelligently distributed with remotely located modules. With RUI communications, the transponder can remotely provide the same initiating and notification functions that occur at the host control panel without requiring multiple long distance wiring runs, providing cost effective installations.

Example

The example shown has the following desired design attributes:

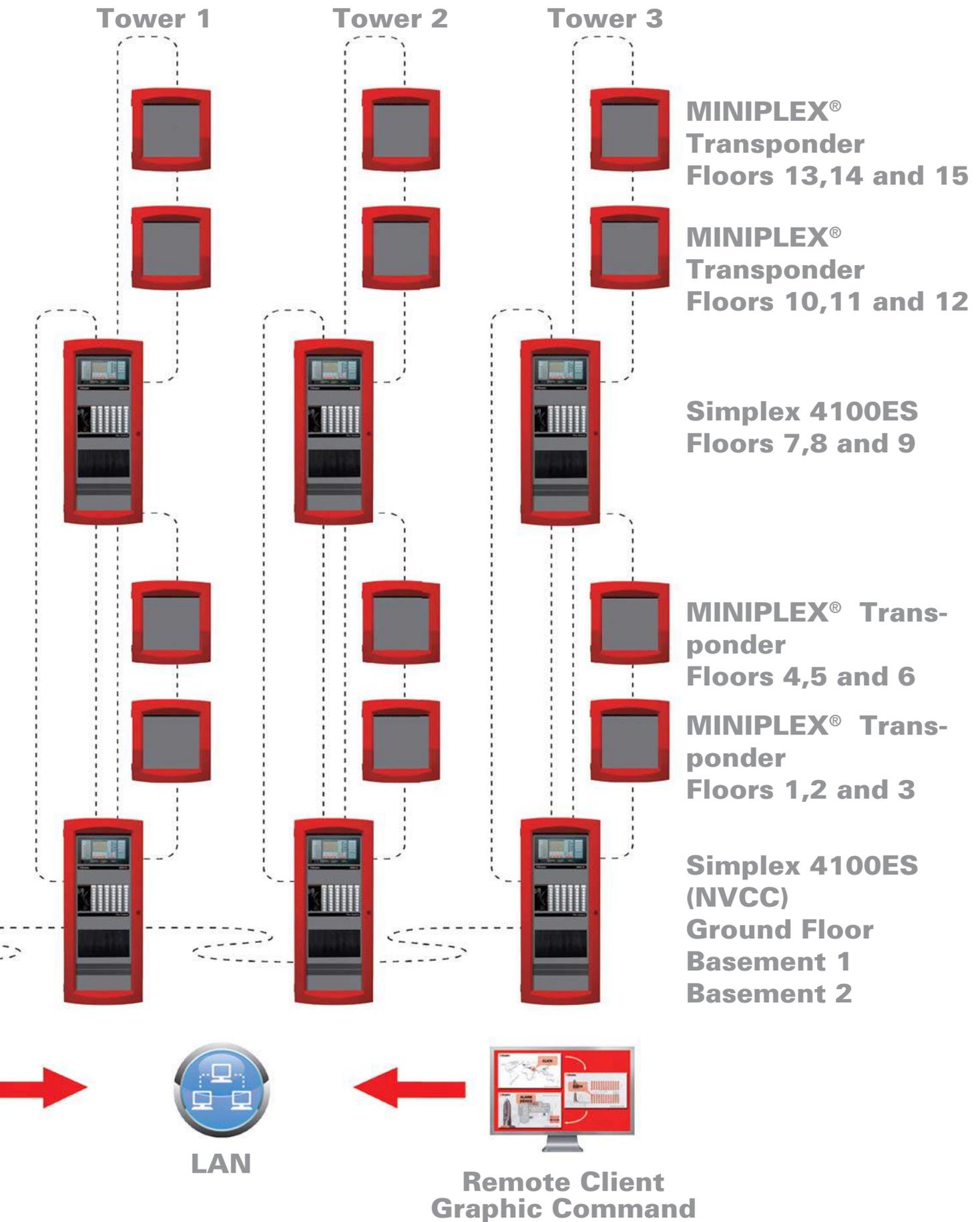
- Survivability.
- Central or local operation.
- Scalable.
- Compatible systems simplify central controls interface operation.
- Local and central paging.
- Supervision.
- Emergency paging (firefighter's microphone).
- Smoke control.
- Firefighter's phone communications.

**Simplex
4100ES
(NVCC)***



**Client/Server
Graphic Command**

Networking & Miniplex Transponders



Fire Alarm Networks

EMERGENCY VOICE/ALARM

Transponders

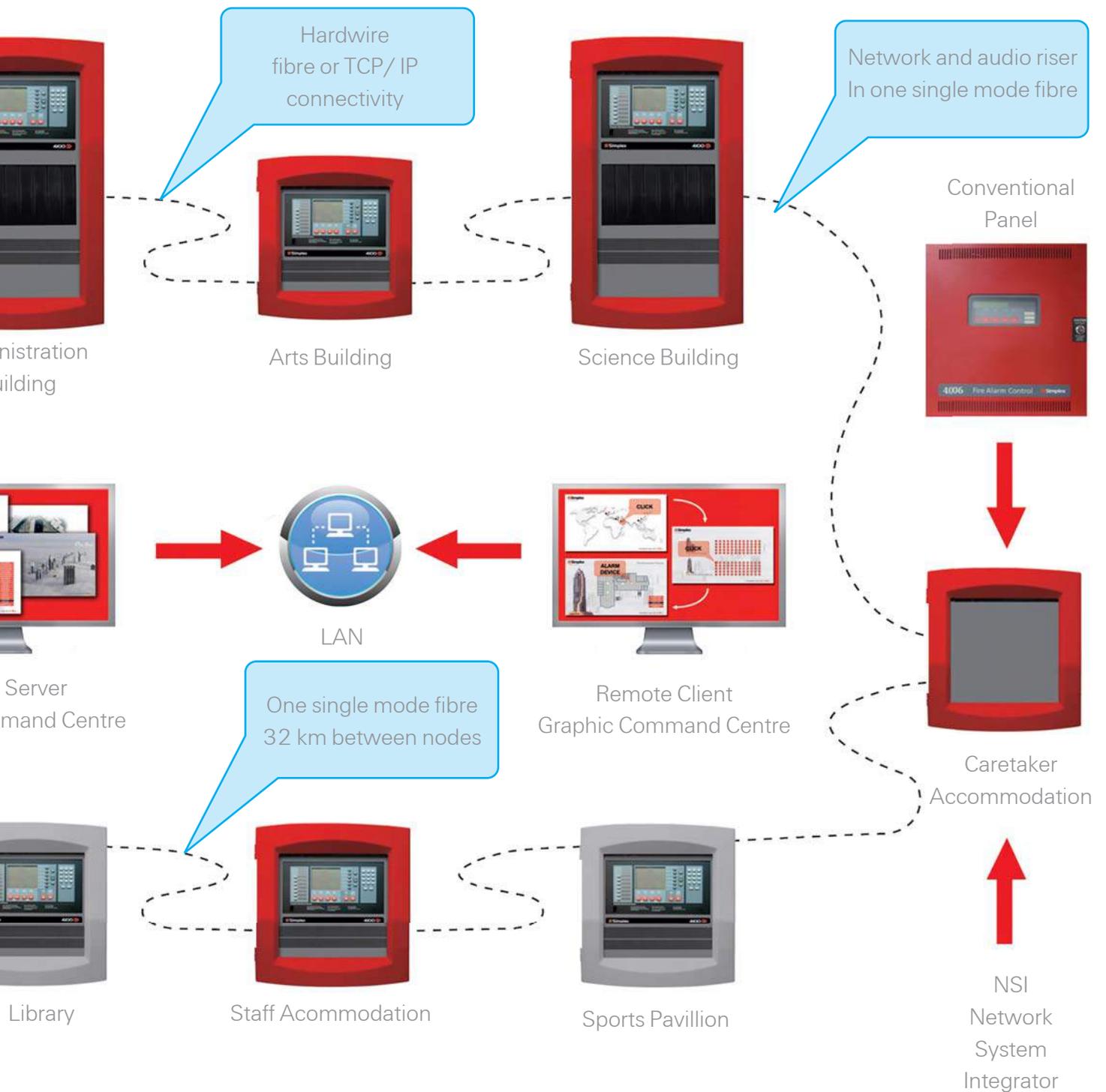
Simplex Fire Alarm Networks communicate information among distributed Simplex fire alarm control panels. Systems may be composed of similar capability panels sharing information, or specific nodes may be added to perform dedicated network functions. Illustrations on the following pages provide a sample of the variety of fire alarm network applications, multiple topologies and connectivity options.

For non-Simplex panels, a network system integrator can be used to connect equipment to the network using optically isolated inputs and relay contact outputs.

Network communications among system fire alarm control panels provides:

- Support for network emergency voice broadcasts and centralised command center operations.
- Multiple network loops for campus and other high panel quantity applications.
- Network-wide initiation of alarm silence, acknowledge, and reset; and investigation of status and details of system points and point lists.
- Distributed system operation to ensure excellent survivability; during a communications fault condition, network nodes remaining connected will regroup and continue communicating.
- Flexible network annunciator options such as XLGraphics, TrueSite Workstations, network display units (NDU) and NDUs with VCC (Voice Command Centre).
- Use of InfoAlarm Command Centre equipped nodes to provide increased network information display capability.
- Network level command and control provides manual point control for on/off or disable/enable, as well as gathering specific point detail.





Alarms (Fire & Security) / Troubles / Supervisory Maintenance / Emergency Paging / Dispatch Aid

Fire Alarm Networks

EMERGENCY VOICE/ALARM

Flexible Network Options for Style 4 or Style 7 Communications

Communications

- Wired communications using a single pair between nodes.
- Available fibre communications providing increased noise immunity and longer distances.
- Multiple communication network fibre modules are available for either multi-mode or single mode fibre and can carry other communications such as network audio.
- TCP/IP communications using a local area network (LAN) connection.

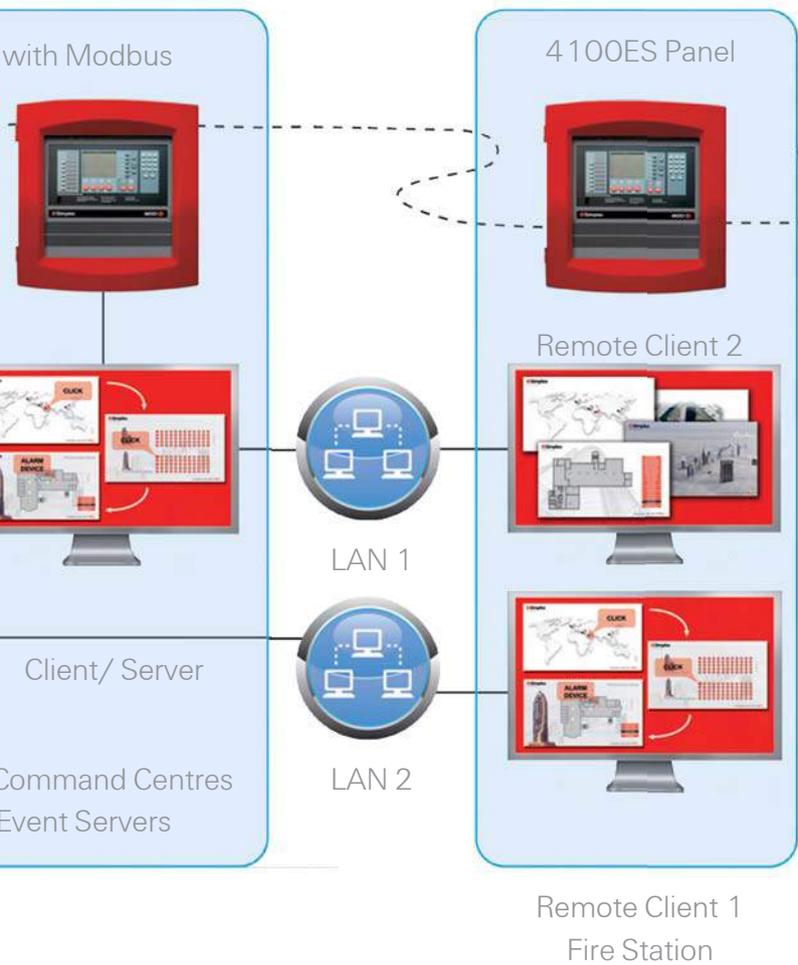
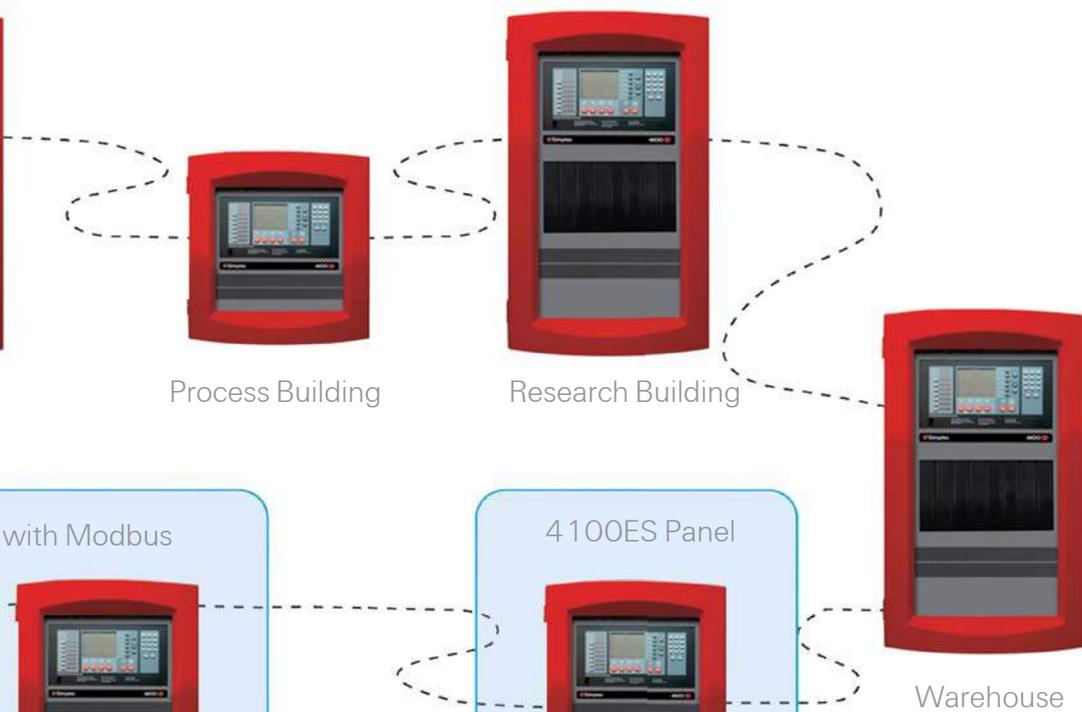
Network diagnostics include

- Attendance and polling error logging.
- LED status indications on interface board.
- Synchronised time and date allowing precise data logging.

Survivability

If a node goes “off-line” or if the connection between nodes shorts, opens, or has any other form of communication problem, the nodes will isolate that section of wiring. Nodes that cannot retransmit onto the next node of the network will transmit back to the previous node to maintain communications and notify the network of the node status. In the event of multiple wiring problems, the remaining nodes will effectively “regroup” and establish new, smaller “sub-networks” that will maintain communications among the active nodes.





Industrial System Network Example

Communications Options:

- Wired communications are compatible with a variety of new and retrofit wiring.
- Standard fibre optic communications are for multi-mode fibre and are dedicated to network communications; dual fiber communications are standard; single fibre can be used with bi-directional couplers.
- Simplex networked systems offer flexible designs of mixed topologies using a combination of any of the above connectivity options.

Panel CPU's / Fibre Network / Command Centres / Remote Clients
Integration / Modbus / OPC Server

Simplex XLGraphics EMERGENCY VOICE/ALARM

Command centres

Simplex XLGraphics Command Centres

XLGraphics systems provide annunciation, status display, and control for Simplex fire alarm panels and networks via a high resolution, colour display. Response buttons with realistic icons provide control switches specific to the operation being performed.

XLGraphics is true client server application with multiple topologies and connectivity options including hardwire, fibre and TCP/IP.

Features

- Device details download directly from the connected panels for rapid site programming.
- Compatible with conventional fire alarm control panels using contact I/O interfaces.
- Listed to UL Standard 864 and ULC Standard ULC-S527 for FireAlarm.
- Full client server with TCP/IP network clients.
- Redundant support for critical applications.
- Integrated IP Video/ CCTV.
- Non-alarm audio, background music and paging control.
- Powerful macros provide optional custom control programming features.
- XLGraphics workstation and fire alarm panels connect to the CCUNET (communication control unit network) using specific interface modules.

Extensive image importing and editing include:

- Simple importing procedure that supports over 20 image file types; image editing tools allows resizing of imported images for optimal display.
- Screens support graphical objects (lines, rectangles, and arrows) and textual objects (text boxes, notes, and push pins) for operator assistance.
- High resolution, colour display.



Icon support includes

- A library of common and specialty device icons provided as standard.
- Custom icons including animated GIFS.
- Open XML standard allows import of custom device types and icons.
- Snap to grid for easy alignment of device icons, graphical objects and text.
- Up to 200 icons can be displayed per screen.



Screen Operation

Features include

Custom emergency event procedures can be triggered to display and print based on event criteria.

IP video cameras/CCTV images can be manually selected or automatically displayed based on event criteria. For example, a fire alarm event generated from a smoke detector can automatically display video images from specific or selected cameras within the area/zone.

Operator comments can be attached to events to enable tracking of troubles and rectification actions.

Permanently visible status bar shows overall system event status regardless of functions being performed.

Multiple password controlled operator levels provide selectable access.



Graphics Screens (Graphics Mode)

Graphic screens can provide easily recognisable site and floor plan information. The level of detail can be customised for each site to easily and accurately direct the operator to the area of interest.

Icons can be added to identify the exact location of the active device and optional hyperlinks can be used to “zoom” to predetermined screens for more detail.

In addition to screen text or graphic information, the operator will be presented with specific custom messages that provide emergency response information and directions.

These custom messages are easily edited and customised.

Integration SafeLINC EMERGENCY VOICE/ALARM

SafeLINC FIRE PANEL Internet Interface Example

Fire Alarm Control Panel System Information

Simplex fire alarm control panels monitor their connected devices and gather system information to describe the status of the protected buildings. This information is available at the panel and via accessory devices such as remote terminals or dial-in modems, all requiring special equipment connections.

Secure Internet Access

The SafeLINC Internet interface provides an alternative access to system information using the familiar interface of a standard Internet browser. A remotely located fire professional can use this access to analyze control panel status during non-alarm conditions and can also use this information to assist local fire responders during alarm conditions.

SafeLINC Fire Panel Internet Interface (FP II) enables investigation of fire alarm control panel status using the familiar interface of an internet browser:

- Intuitive menu screens are refreshed automatically with the occurrence of new events
- Support is for to 50 user accounts with up to five simultaneous users· Intuitive menu screens.
- Annunciation and reporting capacity up to 12,000 points
- Supports either DHCP or static IP addresses
- Compatible with Microsoft Internet Explorer (version 6.0 or higher)
- Listed to UL Standard 864 and ULC Standard S527

Security access features:

- Multiple user accounts and passwords (similar to the host control panel)

- Programmable lockout to prevent excessive login attempts by unauthorised users.

Fire Alarm Control Panel model compatibility

- Compatible with 4100ES, 4010ES; and 4100U at revision 12.06 or higher

Automatic or scheduled e-mail feature provides selectable notification to user accounts:

- Built-in e-mail feature can notify users of individually selected status changes either automatically or as scheduled
- Compatible email services include: local SMTP email servers, ISP provided email service, and Internet email service
- Email capacity includes addresses for the 50 user accounts and up to 5 separate email distribution lists with each supporting up to 20 additional email addresses
- With 4100ES, 4100U, or 4010ES control, action messages can be sent to email distribution lists for Emergency Communication System (ECS) operation (see details on pages 3 and 4)
- Information can be alarm, priority 2, supervisory, trouble; or TrueAlarm Sensor Service and Status Reports
- Compatible pagers, cell phones, or Personal Digital Assistants can receive direct email messages or messages forwarded from a user account

Available information

- Alarm, priority 2 alarm, supervisory, trouble counts and status messages.
- Detailed point information accessible similar to that available at the panel.
- TrueAlarm sensor status including service and status reports.
- Alarm and Trouble log information

SafeLINC Internet Interface Main Screen



Remote Laptop with internet access



Local Internet Connection

Intranet/internet Service Provider Network

Remote Status Summary

Local network connection



Fire alarm control panel

BACpac Ethernet Module

4100ES FireControl Panels

The 4100-6069 BACpac ethernet module provides a supplementary communications interface that converts computer terminal information from a compatible Simplex fire alarm control panel into BACnet building automation protocol. With this module, status information from the fire alarm control panel can be provided to other components of the building automation network with the detail and information format required.

This information allows other systems to properly respond to fire alarm system activity and supplement the primary fire alarm response that is under the control of the fire alarm control panel.

Systems Responsibilities

Fire detection and alarm systems are distributed throughout buildings to monitor for the presence of smoke or fire. When a fire alarm condition is determined, the fire alarm system communicates that information with sufficient detail to allow the proper fire response to begin. The fire alarm system may perform other control functions such as fan shutdown and elevator recall, or those

actions may be performed by other systems that handle those functions for normal conditions as well as for abnormal conditions.

Building Automation Systems

As buildings increase in size and complexity, control of the electrical and mechanical systems requires coordination. This process has evolved into the general category of Building Systems Automation and includes systems such as heating, ventilation, and air conditioning (HVAC), elevator controls, security controls, lighting controls, and other similar building functions.

Typical responses to fire alarm system status changes might include: HVAC fan control operation, elevator capture, lighting control, and security system awareness.

Specific examples could include turning on lighting where needed, aiming security cameras on specific areas, providing door release, and implementing detailed fan exhaust and/or pressurisation instructions.



Simplex Communication Control Unit

Network Integration (CCUNET)

Description

CCUNET products, combined with XLGraphics colour command centers, provide fire network integration for Simplex fire detection control panels and third party systems.

Multi-point, Point-to-Point Operation

CCUNET is a multi-point, point-to-point network, which allows different data to be simultaneously transmitted between points on the network. All network segments transmit and receive simultaneously which greatly increases network capacity.

Routing and Packet Processing

Each CCUNET node has routing and packet processing capability which allows Network segment failure isolation and fast data transfer via routing tables.

Features

Dual redundant communication loops deliver transparent information routing around break ages and failures in the network. A flexible network design with support for multiple loop topologies, expansion modules and connectivity options such as RS232, RS485, RS422, ethernet, modem, fibre (single and multi mode), Ethernet TCP/IP.

CCU3/4100

The CCU3/4 100 provides a gateway to interface a single Simplex 4 100ES or a network of

Simplex fire detection control panels to a CCUNET network.

CCU3/HUB

The CCU3/HUB provides a gateway to interface XLGraphics and/or OPC Alarm and event servers to a CCUNET Network. The CCU3/4 100 and CCU/HUB has on board support for RS232, RS485 and RS422 connectivity.

Expansion Media Cards

CCU3/IO

The CCU3/IO is a multi purpose input/output board for integrating conventional type fire detection panels, security systems and/or other third party equipment. The CCU3/IO has 10 supervised inputs, and 4 relay outputs, selectable as NO or NC.

CCU3/F

The CCU3/F is a fibre media board allowing transport of data through CCUNET over fibre optic cables. The CCU3/F is available in two versions supporting single mode or multi mode fibre.

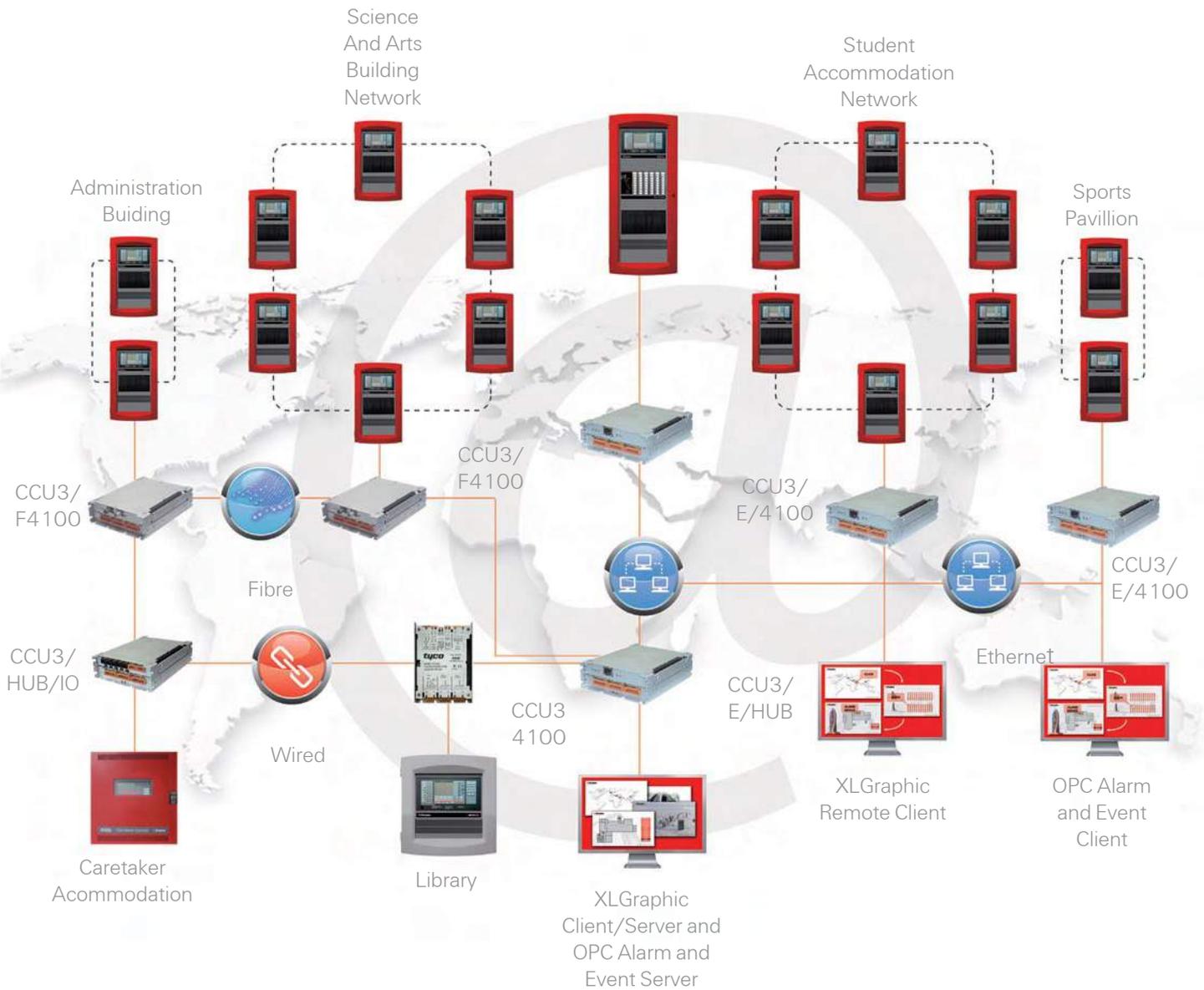
CCU3/E

The CCU3/E adds the ability to offer transport of data through CCUNET over an existing local area network (LAN).

The CCU3/E supports a variety of network protocols including TCP, UDP, SNTP and SNMP.

CCUNET

Hardwire, Fibre and Ethernet



OPC Server

OPC Interface (Object linking and embedding for process control)

Description

OPC defines a method of publishing events for use by other applications.

XLGraphics client/server with OPC interface gives access to the OPC controllers for the monitoring and control of the fire and security network managed behind XLGraphics.

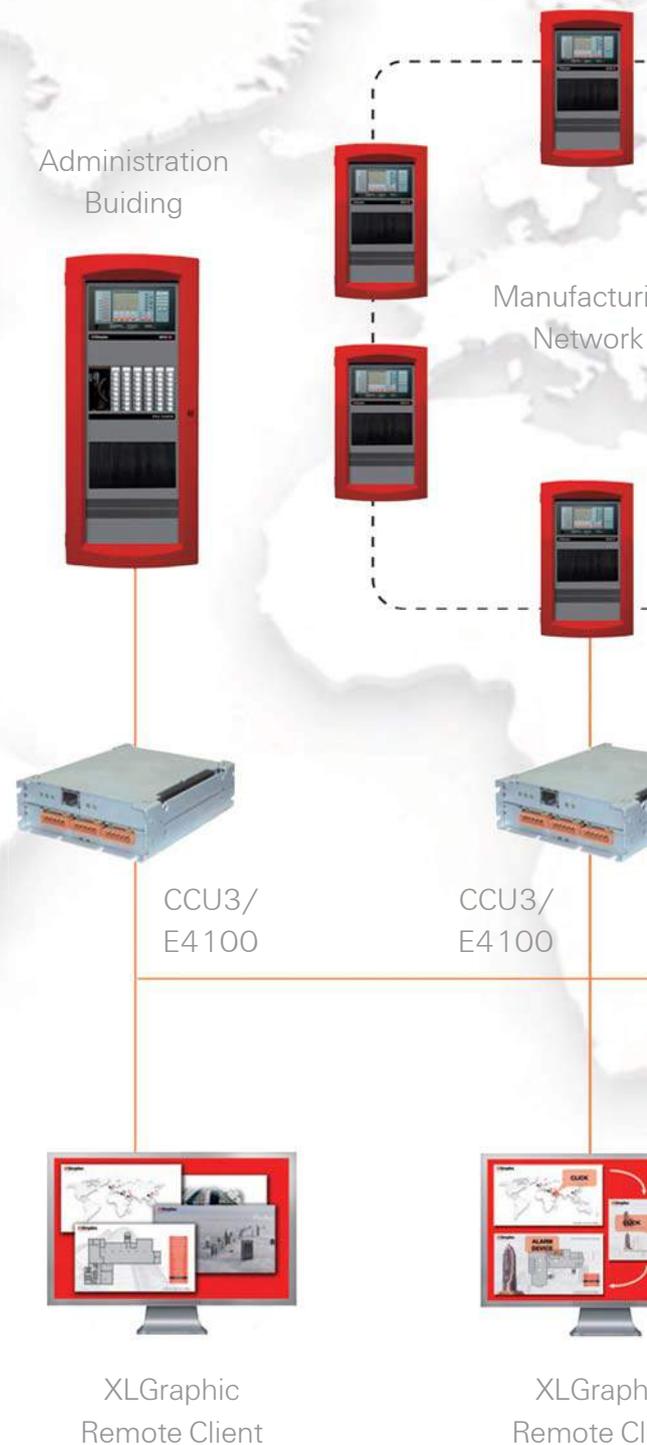
For example, on a large industrial site, the fire system might publish its status and events via an OPC server. A PLC system might include these events in its logic and take action with the plant based on detected fire alarms.

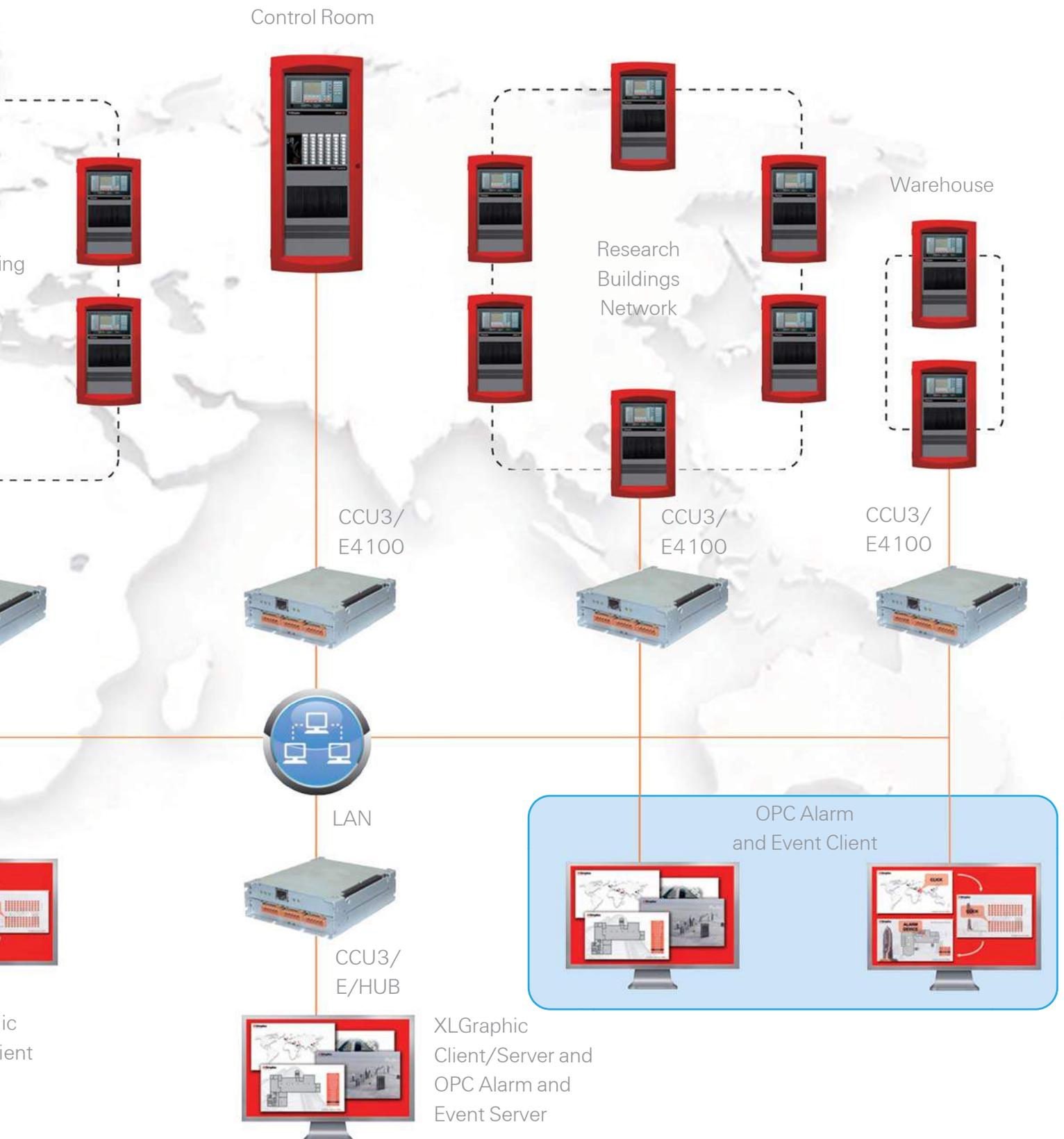
Alternatively, a university site may want to use a specific or even proprietary graphical information system. The central system could receive events and status from the fire, electrical, air conditioning and other systems via the OPC interface.

OPC alarm and event server provides an industry standard interface to a variety of fire and security monitoring and annunciation systems.

The OPC server implements both the alarm and event (AE) server and a data access (DA) server. The AE server can be used for event annunciation with the option for acknowledging system events. The DA server can be used if full control (such as reset, isolate) is required. However, both servers are operational and can be used simultaneously.

The OPC server utilises the same database as XLGraphics. Therefore systems with both XLGraphics command centres and OPC integration will share one common database configuration. This concept facilitates initial programming, modifications, changes and additions throughout the life of a system reducing cost of ownership.





CCUNet Interfacing - Modbus

CCU3/4100MB MODBUS INTERFACE

Description

The CCU3/C-4 100MB provides a MODBUS interface to standalone 4100ES panels or a number of panels on a 4100ES network.

The CCU3/C-4 100MB can connect to 2 MODBUS masters either via RS232, RS485, or RS422 connections.

An optional CCU3/E board is also supported to provide ethernet connection to MODBUS master.

CCU3/IO boards media cards may also be used to provide general I/O devices accessed through the MODBUS interface. Each CCU3/IO has 4 relay outputs that can be used as inputs to the 4100. These contacts are controlled via WRITE commands to the MODBUS map. Each CCU3/IO also has 10 supervised inputs whose status can be read from the MODBUS map.

The MODBUS map of the CCU3/C-4 100MB is configured using the CCU3/C-4 100MB programmer. The map may contain up to 12,288 bits.

MODBUS Commands

The CCU3/C-4 100MB connects to a 4100 MODBUS as a slave. The MODBUS master may use any of the following 5 MODBUS commands:

Code	Description
1	Read Coil Status
2	Read Input Status
4	Read Input Registers
15	Force Multiple Coils
16	Preset Multiple Registers

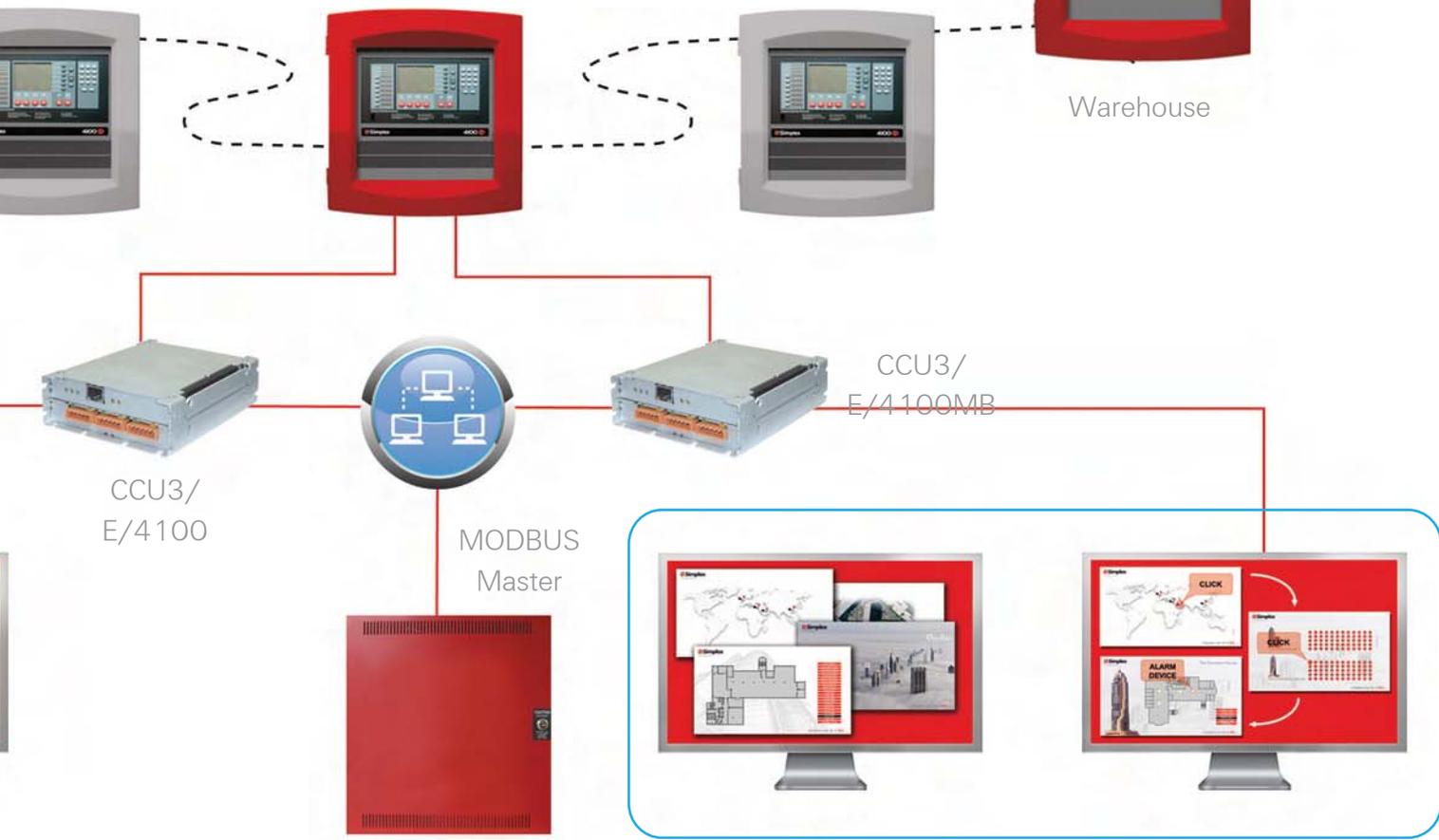
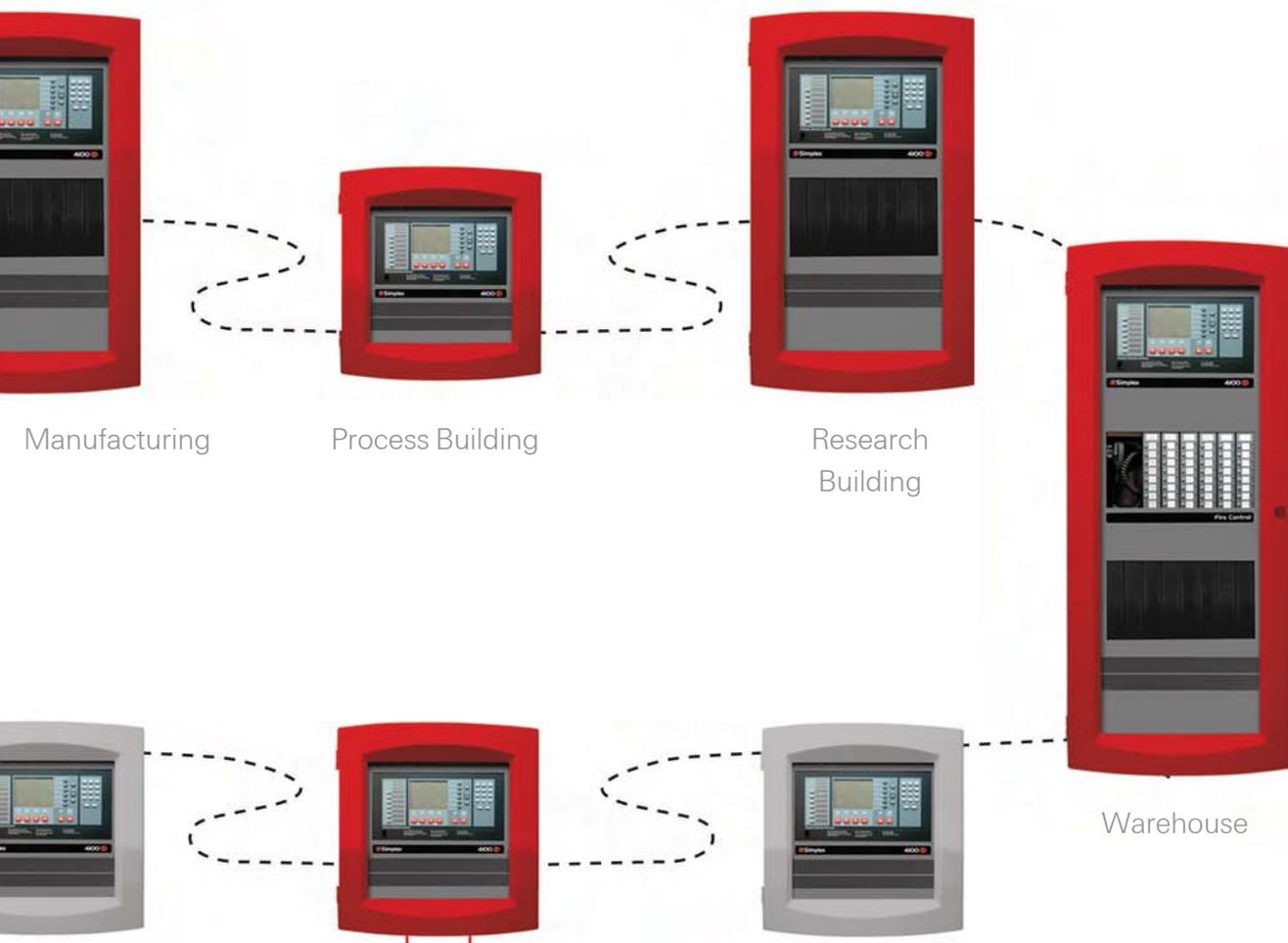


CCU3/
E/HUB



XLGraphic
Remote Client

XLGraphic Client/Server
OPC Alarm and Event Server



Simplex Enterprise TOTAL INTEGRATED SOLUTIONS

Advantage of hard addressing

Simplex Fire Detection

Simplex Master Clocks

Simplex SATEON Access Control
and Security Management

Command and Control Centres

High Level Integration to:

- CCTV
- Security
- BMS
- DCS
- and other third party systems





SATEON™ Overview

SATEON™ Access Control System

Innovative and Exciting

SATEON™ is a brand new access control system manufactured by Grosvenor Technology. Because SATEON™ is 100% browser based it is one of the most exciting products available in the market today.

100% Browser Based

100% browser based means that you don't need to install any client software on to your PC. Just click on the SATEON™ icon shown on your favourite's toolbar and log in. Once logged in you can manage every aspect of your system.

A Rich User Experience

Unlike other access control systems with browser capabilities, SATEON™ is a Microsoft Silverlight application. This means that you get an amazing user experience from a graphically rich, vibrant and highly responsive interface. You will have to keep reminding yourself that you are working in a browser and have not had to install any software on to your PC!

Without Compromise

Even though SATEON™ is browser based there are no compromises in terms of functionality or usability. It is a feature rich access control system that will meet the demands of even the most complex operational requirements.

Scalable and Seamless

The SATEON™ architecture is completely scalable and is perfect for organisations of all sizes. It will seamlessly fit into a modern IP network infrastructure and your IT department will both understand and appreciate it.



SATEON™ Overview



100% Browser Based

Simply start up your web browser and click on the SATEON icon on your favourites bar.

- No software install on client PC
- No licencing dongles needed
- Run from any networked PC
- Centralised software upgrades
- Use remotely over the internet

No Compromises

Manage every aspect of your system from with the browser.

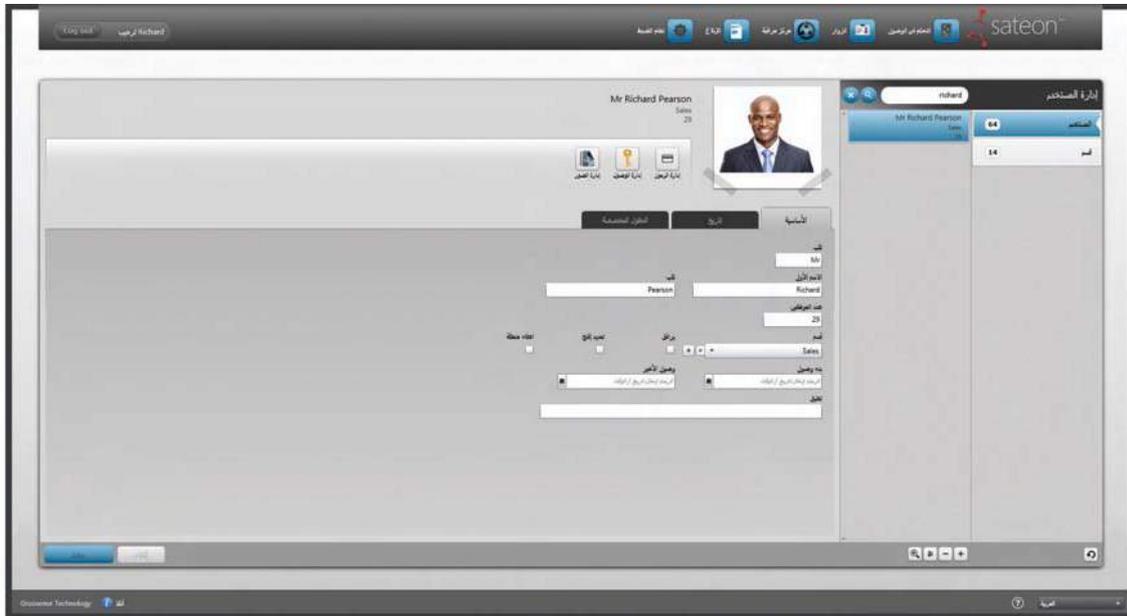
- Access rights and groups
- Photo-ID printing
- Management reports
- Visitor booking and tracking
- Live site incidents and alarms

Feature Rich

Do even more with our advanced built-in features.

- Graphic maps for alarm monitoring
- Email / SMS alerts
- Subscribe to favourite reports (Full SQL Server)
- Escorting (two-man rule)
- Occupancy count rules
- Lift Control
- Intelligent Token Misuse system
- Global anti-passback
- Area Management

SATEON™ Overview



Integration

Connect to 3rd party security systems and work smarter.

- Simplex 4100U/ES Panel
- CCTV and IP Video
- Intruder detection
- SMS / PSIM
- HR databases

The Architecture

A scalable solution designed to fit seamlessly into a corporate IT environment.

- 100% IP network based
- Microsoft SQL database
- Power Over Ethernet (PoE)
- Wireless locking support
- Multiple card and reader technology compatibility

Upgrades

Replace your old access control system with the minimum of fuss.

- Import your existing database
- Keep your readers and cards
- Use your existing cabling
- Join together multiple sites
- Minimal training needed



Clean Agent Fire Suppression

Simplex offers a wide range of clean agent fire suppression solutions to meet the needs of its customers. System users can be assured that options such as Sapphire™, FM-200 or i3 offer a comprehensive range of options for high value assets and special hazard protection. Our Tyco manufacturing facility holds the highest possible accreditation including: OHAS 18001:2007, ISO 9001:2008 and ISO 14001:2004.

SAPPHIRE

Sustainability is a key feature of SAPPHIRE which uses 3M Novec 1230 fire protection fluid. Environmental safety is a given with a five day atmospheric lifetime ensuring no measurable impact on the climate. To reassure users that SAPPHIRE systems are now and will continue to be environmentally friendly, every SAPPHIRE installation now carries a 20 year environmental warranty. Safety is paramount to people and Sapphire meets this criteria. Not only by the recognition that Novec 1230 has the highest safety margin of all clean agents but also by an accolade given by the prestigious Sea Trade Awards. At the awards ceremony in 2007, Sapphire won the Safety at Sea category.

Features:

- SAPPHIRE systems are custom engineered for Novec 1230
- Zero ozone depletion potential
- Global warming potential of one
- Clear, odourless agent
- Approvals include UL, FM and LPCB
- Discharges within 10 seconds
- 20 year environmental warranty

FM-200

The popular FM-200 offers flexible modular design that can be adapted to the available space of a protected area. Its primary action is through cooling the fire and removing heat energy so that the

combustion process cannot be sustained.

Features:

- Meets NFPA2001 standards
- Flexible range of cylinder sizes
- Flexible range of nozzles for easier system design
- Fast acting discharge
- Approvals include UL, FM and LPCB

I3

Inert gas is sometimes preferred for its natural ability to contain a fire. The IG55 blend suppresses a fire by reducing the available oxygen to a level where a fire can no longer be sustained but crucially where it is still safe to use the system in occupied areas. This system allows designers to provide a solution where multiple areas can be protected by a single bank of cylinders.

The additional pressure exerted on the protected area can be managed by pressure relief vents fitted to the boundary of the protected space.

An i3 advantage is the option of utilising constant flow technology to manage the pressure exerted on the boundary of a protected space during the discharge process thus reducing the vent area needed.

Features:

- Naturally occurring IG55 blend of nitrogen and argon
- No environmental impact
- Multiple area protection from single cylinder bank.
- Zero breakdown products
- 300 bar storage for reduced cylinder footprint.
- VdS approval

Standards:

UL, FM and LPCB offer a comprehensive suite of approvals for marine and land based systems. Designers can work to NFPA, EN15004 or 750 14520 standards to provide compliant system design.

Simplex Clocks



The Importance of Accurate, Synchronised Time

Consistent and accurate time across an organisation keeps things running smoothly. Schools and universities rely on accurate timekeeping to efficiently transition students from one class to the next. In healthcare facilities, whether it's checking on patients or delivering medications, a synchronised time is critical to daily operations. In a corporate environment, time wasted on waiting for co-workers to arrive at a meeting translates directly into lost productivity. Synchronised time in manufacturing environments promotes schedule adherence, helping the entire team meet productivity goals. The integration and coordination of security systems in all organisations depends on synchronised time.

Analogue Clocks Powered by your Network

Simplex OnTime clocks provide accurate, synchronised time throughout a facility in sleek analog and digital formats. Visible at over 100 feet, these clocks help keep everyone on the same schedule. OnTime clocks utilise cutting-edge power over ethernet (PoE) technology.

Plugging directly into a standard ethernet jack and drawing both time updates and power from the network; no AC outlets are needed, reducing the cost and complexity from system deployment. Since PoE devices consume significantly less power than AC-powered devices, they are widely regarded as energy-efficient and environmentally friendly.

4100ES

Solutions For All Markets

- Education
- Oil and gas
- Hospitals and health care facilities
- Government
- Retail/shops, complexes and malls
- Commercial
- Skyscrapers
- Airports



When time, money and reliability matter

- Pre-configured stock
- Small to medium building applications
- 4120 network compatible
- 250 point single channel
- Compatible with TrueAlarm sensors with available equipment
- IDNet analog addressable devices
- LCD remote annunciator
- Remote 24 point I/O
- DACT standard
- UL/FM listed for suppression release
- 4003EC voice control panel compatible
- Competitively priced



Simplex 4006/08

Conventional and Addressable



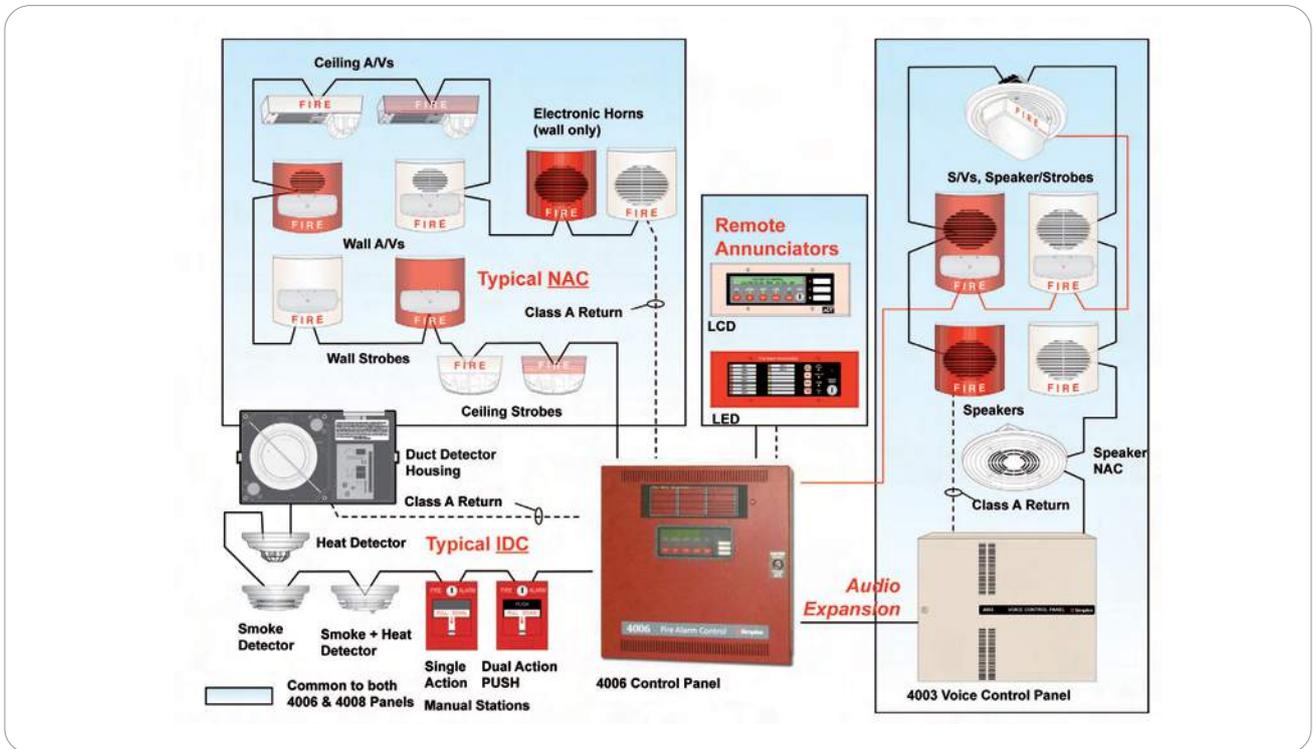
Features and Benefits

- The 4006 is a 5 or 10 zone conventional panel ideal for small buildings such as commercial retail shops and restaurants.
- The 4008 is a 200 point addressable panel suitable for small to medium size facilities.
- Ease of use, performance and reliability are evident in all aspects of the product line.

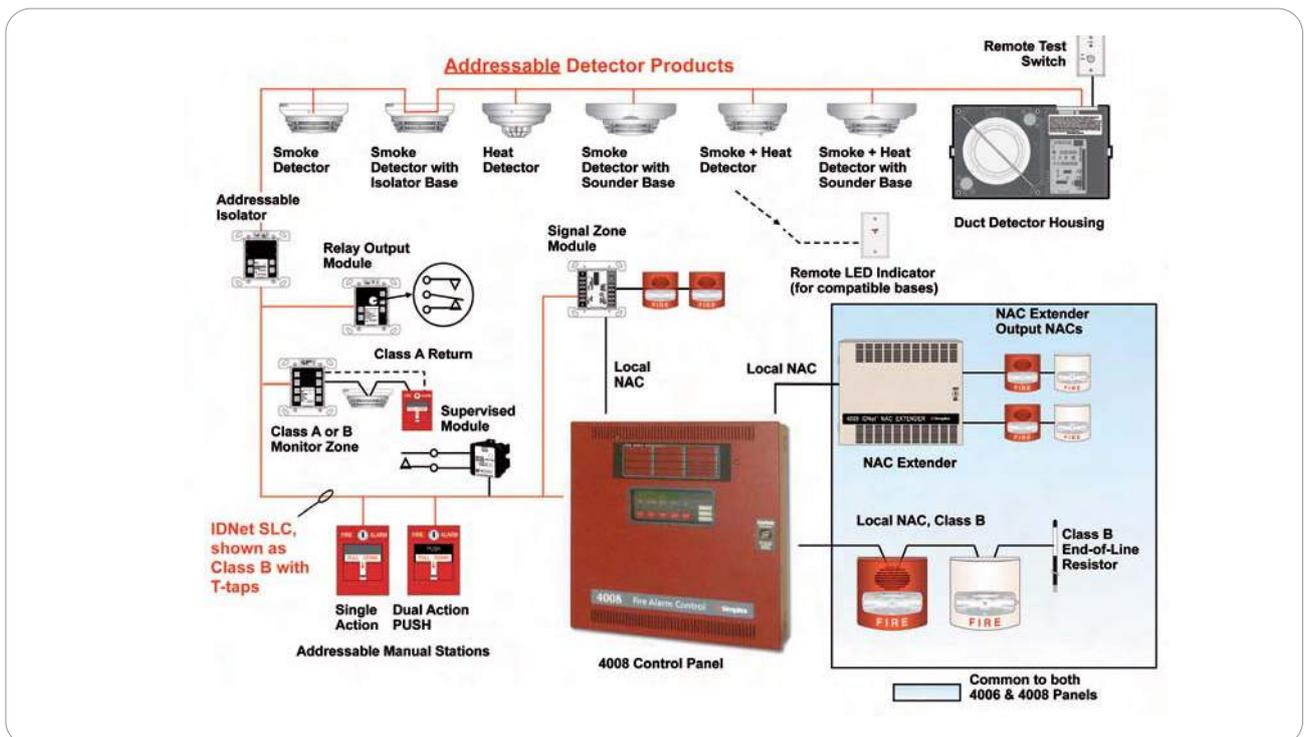
Flexible Options

- When the 4006 and 4008 panels are teamed up with the 4009 NAC Power Extender, applications requiring large numbers of notification appliances can be easily accommodated.
- The 4003EC voice control panel can also be added to provide automatic voice notification, paging and public address making the system ideal for schools, healthcare and office facilities.
- The 4006 and 4008 are specifically designed for small to medium size buildings and they are uniquely suited to meet the needs of these installations.

4006 System Overview



4008 System Overview



Simplex 4003EC

Adds digital voice message capability to non integrated voice fire alarm panels



Features and Benefits

4003 EC Voice Panel:

Voice Evacuation.

Supervised Paging.

Telephone Messaging.

Background Music Delivery
(Non-Alarm Audio).

Compatible with Simplex and third party panels product releases are compatible with earlier systems.

When non-voice fire alarm control panels require the addition of voice and tone generation, Simplex 4003 EC Emergency Communications Voice Control Panels are the answer. The 4003 EC conveniently supplies an extensive feature list, with available equipment including up to 18 remote microphones, up to 5000W of distributed remote booster amplifiers, and extensive non-fire alarm general paging controls.