

# Fire Detection & Evacuation System





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### Introduction

Competence and innovation driven by consistent market development and customer requirements have shaped the successful development of the SHIELD Brand. The extensive product range of the market leader in the field of fire detection technology contains single, individually integrable system performances. In this way, a customized overall fire protection concept can be planned and realized for every need with optimally synchronized products.

Performance is in international demand, SHIELD is among the highly accredited fire alarm companies that meet rigorous British and American standards for all projects from small conventional system to multi site networks. Certifications such as UL and FM approvals have earned SHIELD a world-renowned reputation with quality products and powerful solutions.

A strong brand is generally known to be a secure basis for close and lasting customer relationships. In accordance with this, SHIELD uses available potential in order to keep on growing in a dynamic competitive environment. And at the same time, SHIELD stands for innovative and high quality fire alarm and evacuation systems.

We invite you to explore and visit our new website www. shieldglobal.com. You can also send us your feedback and inquiry through our user-friendly online forms.

In line with SHIELD policy for continuous product development, SHIELD has the right to change specifications without prior notice. Images shown in this catalogue are for illustrations purposes only.



# **SHIELD** ADDRESSABLE FIRE DETECTORS

The SHIELD range of Addressable Fire Detectors is advanced in design and performance and offers unique features that benefit both the installer and the end user.

SHIELD Fire Detectors uses a 'central intelligence' system where all the decisions are made by the control panel. Each detector is addressed using SHIELD's patented XPERT Card and supplied with the mounting bases. The SHIELD product line includes a photo-electric detector, a heat detector, a multisensor, an isolator and a series of modules.

#### **KEY FEATURES:**

- XPERT Card addressing
- Analog value report
- Alarm flags for fast alarm response
- Synchronization of all loop powered notification devices
- Advanced error check





#### SHIELD Photo-Electric Smoke Detector S-A4011

SHIELD Photo-Electric Smoke Detector works on the light-scatter principle and is ideal for applications where slow-burning or smoldering fires are likely.

- Responds well to slow-burning, smoldering fires
- Well suited for bedrooms and escape routes
- Unaffected by atmospheric pressure



#### SHIELD Heat Detector S-A4013

SHIELD Heat Detector is distinguishable by the low airflow resistant case and uses a single thermistor to sense the air temperature around the detector.

- Ideal for environments that are dirty or smoky under normal conditions
- Well suited for warehouses, loading docks and parking garages
- Unaffected by wind or atmospheric pressure
- Remote test feature



#### SHIELD Multisensor S-A4014

SHIELD Multisensor contains a photoelectric smoke sensor and a thermistor (temperature sensor) whose outputs are combined to give the final analog value.

- Sensitive to a wide range of fires
- Well suited for environments such as hotel bedrooms, warehouses & loading docks
- Unaffected by wind or atmospheric pressure





# **SHIELD**<sup>®</sup> CONVENTIONAL FIRE DETECTORS

The SHIELD conventional detectors incorporate well-proven sensing technologies, together with advances in materials & electronics technology. A wide operating voltage of 9 to 33V DC means that SHIELD detectors can be integrated into security systems when used with a relay base.

SHIELD is a range of conventional fire detectors available in three versions:

- Standard
- Flashing LED
- Flashing LED & magnet operated test switch





#### SHIELD Photo-Electric Smoke Detector S-C2011

SHIELD Photo-Electric Smoke Detector incorporates a pulsing LED located within the housing of the detector. The detector housing is identical to that of the lonization Detector but has an indicator LED which is clear in quiescent state but produces red light in alarm.

- Responds well to slow-burning, smoldering fires
- Well suited for bedrooms and escape routes
- Unaffected by wind or atmospheric pressure
- Wide operating voltage
- Flashing LED option
- Flashing LED and magnet operated test switch option



#### SHIELD Heat Detector S-C2013

SHIELD Heat Detector monitors temperature by using a dual thermistor network which provides a voltage output proportional to the external air temperature. There are nine heat detectors in the series range designed to suit a wide variety of operating conditions.

- Can be used for applications where smoke detectors are unsuitable
- Ideal environments that are dirty or smoky under normal conditions
- Wide operating voltage
- Flashing LED option
- Flashing LED and magnet operated test switch option



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#### SHIELD Low Power Relay Base S-A4005

SHIELD Low Power Relay Base incorporates a low power relay to control field equipment such as automatic door closers.

- Gives a set of voltage free contacts controlled by the remote output of a detector
- Draws negligible current





#### SHIELD Mounting Base S-A4001 S-A4003

SHIELD Mounting Base which is a low insertion force base with stainless steel contacts for the detector terminals. XPERT Cards are supplied with all bases.

- XPERT addressing
- One way fit
- Locking feature to prevent unauthorized removal

S-A4001 Mounting Base 4" S-A4003 Mounting Base 6"



E -Z Fit Base

#### S-A4006

The E-Z Fit Base is a low profile 6" mounting base for SHIELD detectors.

• High degree of protection against unauthorized removal

S-A4006 E -Z Fit Base

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#### SHIELD Isolating Base S

S-A4007

SHIELD Isolating Base senses and detects short circuit faults on loops and spurs.

- Up to 20 devices may be installed between isolating bases
- XPERT addressing



S-A4007 Isolating Base



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#### SHIELD Isolator S-A4051

The Isolator is placed at intervals on the loop and ensures that, in the case of a short circuit, only the section between the isolators will be affected. When the short circuit is removed, the isolators automatically restore power and data to the isolated section.

- Detects wiring short-circuits using patented technology
- Minimizes disruption from short-circuits
- Automatic de-isolation on short-circuit removal
- Up to 20 devices may be installed between isolators



#### SHIELD Mini Monitor Module S-A4041

The Mini Monitor Module is an interface within an entirely new housing. This allows the unit to be fitted onto a standard 35mm DIN-Rail (using a twist-click motion) or mounted within an enclosure, such as a Pull Station. It is designed to monitor the state of one or more single pole, voltage free contacts connected on a single pair of cables and to report the status to compatible analog control equipment.

- DIN-Rail mountable
- Designed for use where space is limited
- Interrupt/non-interrupt in one unit
- 'Pre-alarm' status available
- Three, colored LEDs, giving clearer status indication



#### SHIELD Mini Switch Monitor Module S-A4048

SHIELD Mini Switch Monitor Module is designed to monitor the state of one or more single pole, voltage free contacts and to report the status to compatible analog control equipment.

- Three input states 'normal', 'trouble', and 'alarm'
- Visible LED with remote LED connection option
- Loop-powered
- Designed to fit into equipment with limited space
- Easy to install









#### SHIELD Mini Priority Switch Monitor Module S-A4047

SHIELD Mini Priority Switch Monitor is designed to monitor the state of one or more single pole, voltage free contacts and to report the status to SHIELD compatible analog control equipment. It can also place a signal on the loop to provide early warning if a device such as a pull station is operated.

- Three input states 'normal', 'trouble' & 'alarm'
- Visible LED with remote LED con nection option
- Loop-powered
- Designed to fit into equipment with limited space
- Easy to install
- Monitors equipment where a fast response is required
- Interrupt facility

#### SHIELD Switch Monitor Module

SHIELD Switch Monitor Module is designed to monitor the state of one or more single pole, voltage free contacts connected and to report the status to SHIELD compatible analog control equipment.

- Three input states 'normal',
- 'trouble', and 'alarm'
- Visible LED

S-A4043

Loop-powered

#### SHIELD Priority Switch Monitor Module

SHIELD Priority Switch Monitor Module is designed to monitor the state of one or more single pole, voltage free contacts and to report the status to SHIELD compatible analog control equipment. It can also place a signal on the loop to provide early warning if a device such as a Pull Station is operated. • Three input states - 'normal', 'trouble', and 'alarm'

S-A4044

- Visible LED
- Loop-powered
- Fast response time
- Interrupt facility







#### SHIELD Dual Priority Switch Monitor Module S-A4042

SHIELD Dual Priority Switch Monitor Module contains two Priority Switch Monitor Modules on a single plate.

- Loop-powered
- Fast response time
- Interrupt facility





## SHIELD : Modules UL / ULC



#### SHIELD Switch Monitor Input/Output Module S-A4045

SHIELD Switch Monitor Input/Output Module provides a voltage free, single pole, change-over relay output, a single, monitored switch input and unmonitored, non-polarized optocoupled input.

- Reports 'trouble', 'switch open' and 'switch closed' levels
- Visible LED
- Loop-powered



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#### SHIELD Sounder Control Module

S-A4046

SHIELD Sounder Control Module monitors and controls the operation of a zone of conventional sounders and reports their status to the control panel.

- Allows sounders to be operated continuously or be pulsed, 1 second on, 1 second off
- May be synchronized when in pulsed operation
- Can also be used for public address speakers



SHIELD Relay Output Module provides a single 2-pole changeover relay.

- Loop-powered
- Can be placed anywhere on loop





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#### SHIELD 120V AC Input/Output Module S-A4049

SHIELD 120V AC Input/Output Module is a loop powered device which incorporates a monitored input circuit for connection to dry contacts, as well as a 4A rated dry contact relay output. It is mounted in a plastic facia plate for use with a 4" square or 2 gang electrical back box.

- Loop-powered
- Visible LEDs
- 4A rated dry contact





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#### SHIELD Open-Area Sounder S-A4021 S-A4022

SHIELD Open-Area Sounder has been designed for use in open areas and can be connected to any UL or SHIELD system.

- Self-test trouble monitoring
- Two volume settings 92dB(A) and

S-A4021 Open-Area Sounder (Red) S-A4022 Open-Area Sounder (White)

#### 100dB(A)

- Synchronization of tones
- Individual and group addressing
- Available in red or white
- Loop-powered
- IP65 rated



#### SHIELD Sounder Beacon Base S-A4023 S-A4024

SHIELD Sounder Beacon Base is a loop powered sounder and beacon combined with a standard Intelligent Mounting Base. It is used to signal a fire alarm in enclosed areas. The Sounder Beacon Base can be used either with a detector fitted or with a cap for operation as a stand-alone alarm device.

- Two volume ranges 55-75dB(A) and 75-91dB(A)
- Beacon flash rate of once per secondSynchronization of 'alert' and
- Synchronization of alert an 'evacuate' tones
- Synchronization of beacon flash
- Individual and group addressing
- Unique acoustic and beacon self test



S-A4023 Sounder Beacon Base (Yellow LEDs) S-A4024 Sounder Beacon Base (Red LEDs)

#### SHIELD Open-Area Sounder Beacon S-A4025

SHIELD UL Open-Area Sounder Beacon makes full use of the protocol and has been designed for use in indoor, outdoor and open-areas. When the fire system is being commissioned, a Magnetic Wand can be used to adjust and test each sounder locally.

- 15 tone pairs
- Sounder and beacon are independently configurable
- Volume and tone settings are independently selectable from the control panel
- Tones can be used for other purposes in addition to warning of fire, making the device ideal for use in schools etc.
- Soft start option, ideal for hospitals and nursing homes
- Group and global control for increased response time



S-A4025 Sounder Beacon





# SHIELD Pull Stations UL / ULC

#### SHIELD Addressable Manual Pull Station

S-A4061 S-A4062

The Addressable Manual Pull Station is dual action and features translucent plastic at the center, allowing visibility of an internal LED that indicates alarm condition and polling status. The unit is addressable using a DIP switch protected within the pull station. The Manual Pull Station may be flush mounted on a single gang work box or use an optional back cover.

- Control Panel Compatibility
- Key lock
- Easily resettable
- LED visible even when Pull Station is closed



S-A4061 Addressable Manual Pull Station S-A4062 Polycarbonate Backbox





Shield Omega Fire Alarm Control

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#### SHIELD OMEGA SR-P1OR (1 Loop), SR-P2LR (2 Loops)

#### Analog Addressable Fire Control Panels (1 or 2 Loops)

#### **Standard Features**

- One full SLC circuit expandable to two
- 3 programmable relays
- 5.25A power supply
- Large graphic display
- Real time clock
- Compatible with graphics annunciator
- Powerful, network wide cause and effects (500 total). Fully user programmable by point or zone
- Can be networked with additional panel and / or SHIELD Omega panels

#### **Product Overview**

- SHIELD Omega is a versatile range of open protocol fire alarm control panels compatible with existing SHIELD Omega fire alarm panel technology.
- Available with one or two detection loops for a total of 250 primary points or 400 points using subpoints. SHIELD Omega uses leading edge micropro-

#### Added Features

#### SHIELD OMEGA with Internal Modem/DACT

- Dual line digital communicator & modem
- Central Station reporting; SIA and Contact ID
- On-board loop start terminal connections for both primary and secondary Telco lines

#### SHIELD OMEGA with Ether/DACT

- Dual line digital communicator and modem
- Central Station reporting; SIA and Contact ID
- Phone line jacks RJ-11 (two)
- Modem speed: 33.6 Kbps for program downloading
- Virtual panel capability via Ethernet

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- Compatible with Omega R Annunciator
- Programmable through a PC connection to the panel
- Same look and feel as SHIELD Omega range
- Stores 1000 last events in history log
- Model ranges include with or without a Dual-Line internal DACT
- Compact, stylish enclosure
- Available in Red or Gray
- 2 Programmable NAC circuits with internal synchronization support

cessor based electronics to provide a flexible control system with high reliability and integrity.

 Suitable for all small to medium sized fire detection systems, SHIELD Omega control panels can be expanded and networked to become part of much larger systems if the need arises,



- Network uses standard Cat 5 cabling
- Up to 2,000 ft. between adjacent panels
- 115 Kbps constant network speed
- TCP and UPD communications through Omega-N
- Total network delay less than 3 sec. with 127 panels
- Network jacks RJ-45 (Omega-N and Ethernet)
- Mapped Network; Display messages for Any or All nodes

#### SHIELD OMEGA with Media Gateway®

- All the features of the Ether/DACT and NIC plus:
- Enables network programming with direct TCP/IP access to each panel

Technical Specifications		
Construction: 16AWG sheet steel	Fault contact rating: 30V DC 1 Amp	
Dimensions: 14.5"W x 18.9"H x 4.25" D	Alarm contact rating: 30V DC 1 Amp	
Weight (without batteries): 20lb	NAC output rating: 3.1V across both channels, 2.3V across any one	
Finish (lid & box): RAL3002 (Red) or BS 00 A 05 (Gray)	Detection loop: 250 milliamp output	
Finish (product labels): BS 00 A 05 (Gray)	Serial expansion port: Serial RS485	
Mains voltage supply: 230V AC 50 or 60 Hz.	PC port: Serial RS232	
Mains supply fuse: 1.6A 250V	Network connection: Optional network Cards allow the use o SHIELD Omega-N interface SA-EI	
Power supply DC rating: 24V 5.25 Amps		
Aux 24V supply: Fused at 500 milliamps	NAC Synchronization: Internal Support	
Battery (24 hour standby): 9Ah 12V (2 per panel) (non-networked)	NAC Protocols: System Sensor, Wheelock, Gentex, Amseco	

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therefore providing a future proof

With its large graphical display and

layout, the SHIELD Omega control

ing engineers and end users alike.

panel is simple and straight forward to understand for installers, commission-

ergonomic button and indicator

solution for any installation.

## SHIELD # Fire Detection System UL / FM

#### SHIELD OMEGA X SA-P20R (2 Loops), SA-P4LR (4 Loops)

#### Analog Addressable Fire Control Panels (2 or 4 Loops)

#### **Standard Features**

- UL 864 9th Edition listed
- Multi-Loop 2 Analog Addressable
- Loops Field upgradable to 4
- 126 primary points per loop
- Powerful, network wide cause and effects (500 total). Fully user programmable by point or zone
- 800 points per panel when using devices with sub-points
- Up to 10,000 ft. wiring length on SLC loop
- 64 Panels on a network
- Programmable through a PC connection to the panel, or through keypad
- Programmable relays 5
- Supervised Powered Outputs 3
- Programmable notification appliance circuits:4
- Power per NAC: 1.6 Amps Max
- Programmable outputs on SLC loop
- Programmable Function button on front display

#### **Product Overview**

- The SA-P2OR and SA-P4LR analog addressable FACP supports 2 or 4 SLC loops for a total of 500 primary points or 800 points using subpoints. SLC loop communications uses standard twisted pair cabling, shielded cable is not necessary.
- The panel may be configured with various communication cards; Communications options support central station monitoring, Virtual Panel, and networking.

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- Fire Drill button on front display
- Day and night sensitivity settings (user programmable)
- Power Supply: 5.25 Amp, regulated & integrated
- LCD Display: 8x40
- Zonal Mode: Annunciation by zone w/o individual relationships
- Panel Ring Modes: Common, Zonal, and Stage 2
- NAC Outputs programmable as Continuous, March, Temporal
- Program cause and effects AND, OR, or any two (Cross Zone)
- Battery size: Up to 17 Ah in standard enclosure; up to 52 Ah with external cabinet
- Access levels: 3
- Access key switch: Yes
- Recognized for use in High Rise
- One-man walk test Fire Test Mode
- Available in Red
- The Panel can be configured as a stand alone panel with just a few devices for a small building, it can also operate as the building system and can be part of a network with a total of 64 nodes serving a multiple building campus or a very large facility.
- Auto Learn capability provides a convenient method to troubleshoot new installations before final programming is loaded.

**Technical Specifications** 





#### Added Features

#### SHIELD Omega-X with eNET

- Network uses standard RS485 cabling
- Up to 2,000 ft. between adjacent panels
- 115 Kbps constant network speed
- Secure, fault tolerant communication
- Up to 64 nodes

#### SHIELD Omega-X with DACT

- Dual line digital communicator & modem
- Contact ID and SIA reporting
- UL 864 9th edition listed
- Zone or point reporting
- Backup and duplicate reporting

Primary AC: 230VAC @ 2 Amps 60hz	NAC Outputs: (4) 1.6 Amp @ 24	VDC (class B)
Output DC: 24VDC @ 4 Amps	Relay Outputs: (5) Form C1 Amp	@ 30VDC
Power Supply: 5.25 Amp regulated and integrated	Voltage Outputs: (3) 500mA @ 24VDC, reverse polarity super-	
Charger Current: 1.25 Amps max.	vised	
Dimensions: 14.5"W x 24"H x 5"D	Aux. Power: 500mA @ 24VDC	
Weight: 25 lbs. (without batteries)	Aux. Inputs: (3) digital pull dow	ns
Color: Red (optional gray)		
Display: 8 line x 40 character LCD (320 characters total)	Current Consumption	
Zones: 500 Zones per network	SA-P2OR	355 mA Standby
SLC loops: 2 or 4 (class A or B)		650 mA Alarm
Devices per loop: 126 sensors & modules (800 addresses + subaddresses max. per panel)	SA-P4LR	455 mA Standby 765 mA Alarm



#### SHIELD OMEGA-R SA-EVR

#### Addressable Repeater Panel

#### **Standard Features**

- Available in Red
- Up to 15 annunciators can be connected to each SHIELD Omega fire control panel
- Large liquid crystal display (240x64 pixels)
- High brightness LED indications
- Internal sounder
- Replicates all panel controls

#### **Product Overview**

- Designed and manufactured to the highest standards in a quality controlled environment the SHIELD Omega-R fire alarm reporter provides a simple and convenient method of extending the controls and indications of the SHIELD Omega fire alarm control panel to other locations.
- The large, graphic liquid crystal display and high brightness LED indicators

- Simple, two-wire serial connection
- Small, style enclosure
- Removable electronics for easy installation
- 24V DC powered
- Low power consumption
- Multi language options
- Connection supervised by SHIELD Omega fire control panel

duplicate the indications on the SHIELD Omega fire alarm control panel at up to 15 additional locations via a simple, twowire serial data connection.

- The SHIELD Omega-R is powered by 24V DC (which can be via an additional 2 conductors from the control panel or local 24V DC listed supply).
- SHIELD Omega-R is housed in a small enclosure which is styled similarly to



the SHIELD Omega control panel and is ideal for installations where a large control panel would be detrimental to décor such as entrance halls.

• Up to 15 SHIELD Omega-R annunciators can be connected to each control panel on the Omega network making Omega-R ideal where multiple points of indication and/or control are required such as nurses stations or shop units.



#### Technical

Construction Cable entry Weight	-	1.2mm mild sheet steel 4 knockouts in back of box and 1 in left and right sides 1.6kg
Finish	_	RAL3002 (Red) or BS 00 A 05 (Grey)
24V supply	-	21 to 30V DC
Maximum ripple current	-	200 millivolts
Quiescent current of panel in mains fail	-	0.03 Amps
Serial data connection	-	2 core RS485 (Up to 1200 metres total cable length)
Manufacture Association Income when		12 4 14 (2)

- Maximum terminal capacity 12AWG

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#### **Panels**

**Product Code** SA-EVR

Description Omega-R Repeater

#### Size (mm) 263 x 191 x 42

Panel - Red

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#### SHIELD LOCATOR

#### Graphical User Interface for Fire Detection Equipment

#### **Standard Features**

- Choice of text, graphic, event list display when an event occurs
- Versatile event analysis
- Total history archive
- Easy to programme

#### **Product Overview**

- SHIELD fire control panels can send data to, and be controlled by, the LO-CATOR system providing a single point of co-ordination for all alarms.
- The powerful 32 bit programme features a standard Windows look and feel and runs under Windows® 2000 , XP, Vista or Windows 7 Professional.

- Secure system
- Cost effective compared to other systems
- Simple to use
- Unlimited map linking & zoom facility
- The system is highly configurable in terms of the style of presentation so that the end user can be presented with maps, text, photographs, audio or a combination of all as required.
- User profiles allow the system manager to control the facilities available to each individual system user.

- Support for 100's of graphics
- Display and control for multiple panels
- Event history explore and export facility to text or HTML documents
- A comprehensive history logging and reporting system allows analysis of events and trends to be identified to reduce unwanted alarms.
- Easy to programme and simple to use, Locator provides a cost effective solution for fire alarm management at many levels.





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Powerful Event log filtering





#### Range

Description
Locator software - Single panel package
Locator software - 4 panel package
Locator software - 8 panel package
Locator software - 16 panel package
Locator software - 32 panel package
Locator software - 64 panel package

Note: Locator for use with SHIELD Panels. SHIELD Omega 6 & 8 loop panels are considered 2 panels in the packages above.

#### Technical

	Recommended Minimum	Notes
Processor	Intel Pentium 1Ghz	The faster the better
Operating system	Windows® XP/Vista , 7 Professional	Will operate under Windows® 2000
Memory	1Gb minimum	The larger the better.
Hard disk	10GB minimum	The driver must allow this mode with large fonts. Separate Graphics card with 256MB graphics
Graphics	1024 x 768 16M colours	memory recommended
Sound card	Any PC sound card	More convenient if built into PC.
Loudspeaker	Any PC speakers	
Monitor	Any that supports above graphics driver	17 inch minimum recommended, the larger the better. (1024 x 768)
Pointing device	Mouse essential	Third button and wheels are supported. Touch screen option supported
Printer	Optional	Any type.
Parallel port	Optional	Required if parallel printer to be used.
Serial ports	One RS232 per network	Isolated converter supplied for connection to fire alarm system.
CDROM drive	Any	Required for installation of software and updates.
Backup drive	CD Writer	To back up history.

Note: Locator will be operating 24 hours a day for many years. It may be desirable to include on site PC maintenance as part of the package. The SHIELD Omega panel to which the Locator system is connected must not have a printer fitted.









#### SHIELD Voice Evacuation System

#### **Standard Features**

- True Multiplex 6 Channel Distributed Audio
- Integrated Fire Phone capability
- Modular System components added as needed
- Integrated 2 Channel Digital Message Repeater
- Live Microphone Page to any zone
- Fast RS-485 Communication Protocol
- Fully Supervised
- Easy Installation and Operation
- Natural Sound Voice Recordings
- Built in Alarm and Alert Signals
- Up to 4 Minute Message Capacity
- Works with 12VDC or 24VDC Fire Alarm Panel
- Works with Analog/Addressable and Microprocessor based Fire Alarm Panels
- 3 Minute Message Restart on Microphone Key



SHX-MP32/P



The SHIELD SHX Voice Evacuation System operates in conjunction with the Fire Alarm Control Panel (FACP) in a building to provide automatic response to life safety emergencies.

The SHEILD SHX includes all necessary features to provide an effective voice evacuation system. It can be custom configured to satisfy the needs of any high rise application.

Fire department authorities can easily take command of evacuation or relocation procedures and emergencies. Building management and fire brigades can monitor and control emergency response even before the professionals arrive. The SHX system includes capacity for 6 channels of simultaneous audio. This provides for evacuation, stay-in-place, or other public address announcements and automatic messages.

Fire Fighter Phones or Warden Stations may be included as required. Area-of-Rescue stations can reassure handicapped occupants that help is on the way. Smoke control, stair pressurization, and HVAC shutdown can be completely automatic, unless controlled manually by management or fire authorities.



#### SHIELD SHX True-Multiplex System Capabilities

#### NetComm Loop

- Twisted Pair, Category 5
- 4,000 feet between panels
- 50,000 feet total System Loop
- Data and 6 Audio Channels Simultaneously
- High speed RS-485 Communications
- Style "4" or Style "7" Field Selectable

SHIELD Master Panel

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#### **Typical Floor Riser Diagram**





#### System Configuration

#### **Basic System Includes**

- Master Panel (SHX-MP)
- Master Mic Control
- 16 switch control points (max 128)
- Dual channel DMR
- High speed communication loop
- Distributed Panel (SHX-DP)
- 4 output zones (may be configured for 8)
- Dual channel Audio Interface
- Dual Channel Amplification

#### Optional

- Integrated Fire Phone
- Area-of-Rescue
- Number of distributed panels to be determined by building specifications
- Maximum system configuration Up to 250 Distributed
  Panels (SHX-DP) and up to 1000 switch points

#### **Engineering Specifications**

The SHX system shall include one Master Panel and one or more Distributed Panels. The system shall be microprocessor based, and shall be compatible for use with contact closures from the Fire Alarm Control Panel (FACP). The system shall have a highspeed communication bus and have the capacity for 6 channels of audio and data on a single pair of wires.

The field wiring for the communication bus may be configured for either Style "4" or Style "7" supervision. The system shall have the capacity for Fire Fighters Phone, Area of Rescue communication and also have the capacity for Fan & Damper control with monitored feedback. The system shall have a minimum capacity of 1000 monitor and control points.

The Master Panel shall contain an integral microphone, dual channel digital message repeater (DMR) and digital tone generator, 220 VAC power supply, and battery charger. The system shall be modular in design, and shall be expandable such that additional system control points may be configured. The system shall include integral self-diagnostic routines that shall continually monitor system status, and shall indicate the precise type of trouble conditions should they occur in the system. A trouble condition within the system shall cause a trouble indication to be transmitted to the FACP. Distributed panels shall provide a minimum of 4 Class "B" speaker circuits, expandable to sixteen total. Alternately, the panel may be configured for 4 Class "A" speaker circuits, up to 8 total.

Panel may be configured for 1 to 8 amplifiers. Panel must provide up to 6 simultaneous audio channels, up to 8 Fire Phone circuits, up to 4 Area of Refuge circuits and up to two Control/ Monitor loops. Amplifiers will contain their own power supplies, battery chargers and provide auxiliary power for other components. Speaker circuits shall be supervised for short and open circuit conditions, and shall be able to withstand transient or continuous short-circuit conditions without damage to the system.

System may be configured for General Alarm All Call operation, Alarm by Zone or Floor Above / Floor Below as required. Contact closures shall allow immediate broadcast of an alarm signal and evacuation message to the appropriate area. Non-Alarm areas may receive alert tones and messages as required or activated by the FACP. The alarm signal/evacuation message shall be broadcast until the FACP is reset, or until emergency personnel interrupt the broadcast with a manual page.

To prevent unauthorized tampering, the voice evacuation system shall disable the microphone if the microphone is keyed continuously for 3 minutes or more. Systems that do not have this feature shall not be acceptable.



**SHX Master Panels** 

SHX-MP16 Master Panel, 16 Selector Switch

SHX-MP32 Master Panel, 32 Selector Switch

SHX-MP48 Master Panel, 48 Selector Switch

SHX-MP64 Master Panel, 64 Selector Switch

SHX-MP80 Master Panel, 80 Selector Switch

SHX-MP96 Master Panel, 96 Selector Switch

SHX-MP16/P Master Panel, 16 Selector Switch and Master Fire Phone

SHX-MP32/P Master Panel, 32 Selector Switch and Master Fire Phone

SHX-MP48/P Master Panel, 48 Selector Switch and Master Fire Phone

SHX-MP64/P Master Panel, 64 Selector Switch and Master Fire Phone

SHX-MP80/P Master Panel, 80 Selector Switch and Master Fire Phone

SHX-MP96/P Master Panel, 96 Selector Switch and Master Fire Phone SHX-DPS25 Distributed Panel, Single Channel, 25W

SHX-DPS50 Distributed Panel, Single Channel, 50W

SHX-DPS100 Distributed Panel, Single Channel, 100W

SHX-DPS25/P Distributed Panel, Single Channel, 25W, and Fire Phone

SHX-DPS50/P Distributed Panel, Single Channel, 50W, and Fire Phone

SHX-DPS100/P Distributed Panel, Single Channel, 100W, and Fire Phone

SHX-DP25 Distributed Panel, Dual Channel, 25W

SHX-DP50 Distributed Panel, Dual Channel, 50W

SHX-DP100 Distributed Panel, Dual Channel, 100W

SHX-DP25/P Distributed Panel, Dual Channel, 25W, and Fire

SHX-DP50/P Distributed Panel, Dual Channel, 50W, and Fire Phone

SHX-DP100/P Distributed Panel, Dual Channel, 100W, and Fire Phone



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#### **SHX Accessories**

AMI Audio / Module Interface

ASC Audio / System Control

DCC Data Communications / Controller

FPI Fire Phone Interface

SH-BRK Break out Card

MBR Mother Board Relays

MBK Mother Board Card

MFP Master Fire Phone Card

MMC Master Microphone

IOI Input Output Interface

MFH Master Fire Phone Handset Card

MX-PWR Power Supply

SLC Switch / LED Card

SSC Switch Scan Card

SH-FO Fiber Optic Card

SH-LLC LED Lamp Card

SH-BA-100 Backup Amplifier Switcher

SH-ISO Serial Port Isolator

#### System Configuration

#### Basic System Includes:

- Master Panel (SHX-MP)
- Master Mic Control
- 16 switch control points
- Dual channel DMR
- High speed communication loop (optional)
- Integrated Master Fire Phone
- Area-of-Rescue
- Maximum System Configuration up to 1000 Monitor and Control Points.

Technical Specification	
Primary Power	220 Vac
Battery Power	24Vdc
Electrical Ratings	All Circuits @ 24Vds
Communications Bus	Rs-485 Standard 1M Baud Data Rate, Category 5 Cable
Voltage	5V Peak-To-Peak Max
Current	50Ma Max
Impedance	120 Ohms
Frequency	1.024 Mhz
Backbox Dimensions	W 36.8 X H 68.6 X D 10.2 Cm
Colour	Red

Master Panel	Standby	Alarm
DCC	73mA	
ASC	34mA	147mA
MMC	38mA	
MFP	10mA	20mA
SSC	29mA	15mA
SLC	0.2mA	8mA
IOI	20mA	20mA
Frequency	1.024 MHz	
Backbox Dimensions	W 36.8 x H 68.6 x D 10.2 cm	
Colour	RI	ED



#### **Fire Phone Equipments**

#### **Features**

- Heavy-duty construction
- Red finish
- Flush or surface mount
- Rugged ABS plastic handset with coiled cord
- Portable handsets and telephone jacks (optional)

#### Description

SHIELD Fire Fighter Telephones are designed to operate in conjunction with the SHIELD SHX Voice Evacuation System. These telephone handsets are permanently installed throughout a building to allow Fire Fighters easy communication with the main control panel. The SH-FS Fire Fighter telephone stations and SH-WS Warden Stations provide a handset in an enclosure. These fixed telephone and warden stations are available in surface or flush mount cabinet.

In addition to the Fire Fighter telephone stations, SHIELD provides portable Fire Fighter telephone handsets which plug-in to permanently installed telephone jacks throughout the building. Plugging in the portable handset allows the Fire Fighters to communicate with the main control panel. As with the permanently installed telephones, these portable handsets are made from durable ABS plastic and come equipped with a coiled cord and a male phone plug which plugs into the Fire Fighters' telephone jack.

#### **Fire Phone Components**

#### SH-FS Telephone Station/SH-WS Warden Station

The Telephone Station comes with a coiled cord and magnetic catch. The Warden Station comes with an armored cable and a magnetic catch.

Dimensions Station Back Box (Surface Mount) W 32.4 x H 18.5 x D 9.6cm







#### SH-TC Fire Phone Storage Cabinet

The SH-TC Storage Cabinet holds up to six portable SH-FH telephone handsets. The SH-TC is a surface mount enclosure and comes with a key locked door.

Dimensions: W 36.8 x H 68.6 x D 10.2cm



## SH-FH Fire Fighter's Portable Handset & SH-FJ Fire Fighter's Telephone Jack

The red portable telephone handset comes with a coiled cord and a male phone plug which plugs into the SH-FJ Fire Fighter's Telephone Jack, allowing Fire Fighters to make direct communication with the main control panel. The Fire Fighter's Telephone Jack consists of a single phone jack which is mounted on a single gang, stainless steel plate. The stainless steel plate is clearly marked "FIREMAN PHONE" and mounts to any standard single gang box.



#### Ordering Information

Model	Description
SH-FS	Fire Phone Station, Surface Mount
SH-WS	Warden Station with Armored cable and magnetic catch. Surface mount
SH-FH	Portable Fire Fighter's Telephone Handset
SH-FJ	Fire Fighter's Telephone Jack on a single gang front plate
SH-TC	Emergency Telephone Handsets Storage Cabinet (Holds up to six portable handsets.)





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