

CHEETAH



Product Manual



Cheetah Xi™
P/N: 10-068

Addressable Fire Suppression Control System

Fike®

Manual P/N: 06-356
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World Headquarters

704 SW 10th Street

P.O. Box 610

Blue Springs, Missouri 64013

U.S.A.

Phone: +1.800.979.FIKE (3453)

+1.816.229.3405

Fax: +1.816.229.0314

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Warning Symbol – This symbol is used in this manual to warn of possible injury or death from improper use or application of the product under noted conditions.



Caution Symbol – This symbol warns of possible personal injury or equipment damage under noted conditions. Follow all safety standards of professional practice and the recommendations in this manual. Using equipment in ways other than described in this manual can present serious safety hazards or cause equipment damage.



Notes – This symbol indicates the message is important, but is not of a Warning or Caution category. These notes can be of great benefit to the user and should be read.



Tips – Tips provide advice that may save time during a procedure, or help to clarify an issue. Tips may include additional reference.

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1.0 PREFACE

1.1 ABOUT THIS MANUAL

The manual is intended for those individuals who are responsible for the design, installation and/or maintenance of the Fike Cheetah Xi Addressable Control System. Others such as architects, engineers, sales and marketing personnel, etc. will find the information useful as well. It also allows those parties responsible for verifying the system design to determine if the design parameters have been met.

1.2 PRODUCT SUPPORT

If you have a question or encounter a problem not covered in this manual, you should first try to contact the distributor that installed the protection system. Fike has a worldwide distribution network. Each distributor sells, installs, and services Fike equipment. Look on the inside of the door, left side, there should be a sticker with an indication of the distributor who sold the system. If you can not locate the distributor, please call Fike Customer Service for locating your nearest distributor, or go to our web-site at www.fike.com. If you are unable to contact your installing distributor or you simply do not know who installed the system you can contact Fike Product Support at (800) 979-FIKE (3453) Option 21, Monday through Friday, 8:00 AM to 4:30 PM CST.

1.3 REVISION HISTORY

Document Title: Cheetah Xi Addressable Fire Suppression Control System Product Manual
Document Reorder Number: 06-356

Revision	Section	Date	Reason for Change
0	All Sections	07/2005	Initial Release
1	All Sections	11/2007	Product Update, Firmware Version 3.00
2	2.4, 3.1, 3.8, 6.7, 7.4, 8.3, 8.5	04/2008	Release of new system modules
3	1,2,3,4,7 & Appendix	08/2008	Release of 20 Zone Remote Annunciator
4	1,2,3,6 & 8	03/2010	Added IRM Compatibility

1.4 TERMS USED IN THIS MANUAL

The following are various terms used in this manual with a brief description of each.

<u>Term</u>	<u>Description</u>
Ω	Symbol for "ohm". Unit of resistance.
Abort State	("Abort" Yellow LED ON, Piezo pulsing) The Abort occurs when an input circuit configured for abort operation has been activated while an alarm condition is present. The abort state is a non-latching event and is intended for preventing a suppression zone from advancing to the release state.
AC Normal State	("AC Normal" Green LED ON) The system is in the AC Normal state when appropriate AC power is being applied to the system.
Alarm State	("Alarm" Red LED ON, Piezo pulsing) The alarm occurs when an input circuit configured for alarm operation (typically a detector or contact device) has been activated. The alarm state is a latching event in the Cheetah Xi. The operator will be required to RESET the Cheetah Xi in order for the panel to exit/clear the alarm state.

<u>Term</u>	<u>Description</u>
Class A wiring	Input circuits capable of transmitting an alarm signal during a single open or a non-simultaneous single ground fault on a circuit conductor shall be designated as Style D or Class A. Similarly, output circuits capable of activating during a single open or a non-simultaneous ground fault on a circuit conductor shall be designated as Style Z or Class A. Commonly referred to as redundant or 4-wire connection.
Class B wiring	Input circuits incapable of transmitting and alarm signal beyond the location of the fault condition (listed for Class A wiring above) shall be designated as Style B or Class B. Similarly, output circuits incapable of operating beyond the location of the fault condition shall be designated as Style Y or Class B. This manual refers to 2-wire connections as Class B wiring.
Initiating Device	A system component that originates transmission of a change-of-state condition, such as in a smoke detector, manual fire alarm box, or supervisory switch. This manual interchanges the terms initiating device and input device.
Initiating Device Circuit	A circuit to which automatic or manual initiating devices are connected where the signal received does not identify the individual device operated. This manual interchanges the terms initiating device circuit and input circuit.
Normal State	("Trouble" Yellow LED OFF) The system is in the normal state when the power supply and all circuits are configured properly, connected, and responding properly. The system remains in normal state until a trouble condition occurs.
Notification Appliance	A fire alarm system component such as a bell, horn, speaker, light, or textual display that provides audible, tactile, or visible output, or any combination thereof. The device notifies building occupants of system status. This manual interchanges the terms notification and audible appliance.
Notification Appliance Circuit	A circuit or path directly connected to a notification appliance(s). This manual interchanges the terms notification appliance circuit and audible circuit.
Non Power-Limited	A circuit designation given for wiring purposes. The amount of current flowing through the circuit is unlimited vs. being limited, or power-limited. AC power and Battery wiring is Non Power-limited.
Power-Limited	A circuit designation given for wiring purposes. The amount of current flowing through the circuit is limited (typically by fuse) vs. being unlimited, or non-power-limited. The addressable loops and output circuits are power-limited. The circuit has a maximum power that flows through it or it current limits and opens the circuit.
Pre-Discharge State	("Pre-Discharge" Red LED ON, Piezo pulsing) Pre-Discharge occurs when an input circuit configured for alarm operation has been activated and the Suppression Pre-Discharge type is satisfied. The Pre-Discharge state is a latching event in the Cheetah Xi. The operator will be required to RESET the Cheetah Xi in order for the panel to exit/clear the Pre-Discharge state.
Release State	("Release" Red LED ON, Piezo pulsing) Release occurs when an input circuit configured for manual release operation has been activated or the Pre-Discharge automatic countdown has expired with no Abort input active. The release state is a latching event in the Cheetah Xi. The operator will be required to RESET the Cheetah Xi in order for the panel to exit/clear the release state.
Supervisory State	("Supervisory" Yellow LED ON, Piezo Warble) The supervisory state occurs upon activation of a supervisory input circuit. The supervisory state is non-latching and will follow the status of the supervisory input contact.
Trouble State	("Trouble" Yellow LED ON, Piezo Constant) The trouble state occurs upon any detectable condition which could impair system operation including connection problems, ground faults, hardware problems, power problems, or configuration problems. Certain trouble conditions are latching; others allow the system to reset upon trouble condition removal. Depending upon the type of trouble condition, the system may or may not remain operational. When the system is in trouble state, it is not in the normal state.

2.0 SYSTEM OVERVIEW

2.1 PRODUCT DESCRIPTION

The Fike Cheetah Xi (P/N 10-068) is a state of the art, true addressable peer-to-peer fire suppression control system. It provides the latest technology in detection communication with extensive programmability in one cost effective system. The intelligence of the system has every device communicating as a peer on the signaling line circuit. This intelligence provides speed with response times between manual pull station to notification appliance as little as one-quarter second.

Its *Cat-like* flexibility provides you the freedom to attach the devices you require for your specific installation. The Cheetah Xi has two signaling line circuits standard and two optional additional loops at 254 devices each in any combination (1,016 devices total). Each Cheetah Xi is capable of being networked (up to 128 panels total) providing 130,048 devices total.

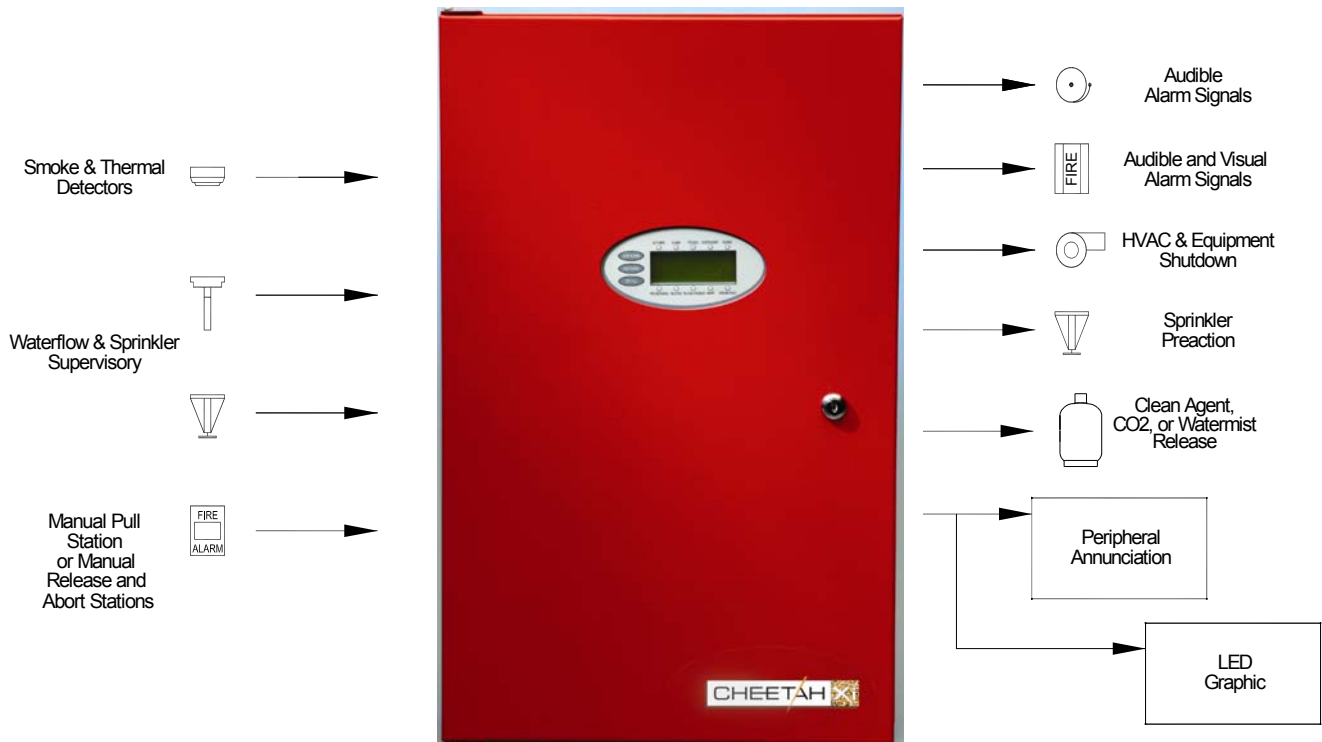


Exhibit 2-1 Cheetah Xi Block Diagram

2.2 LISTINGS AND APPROVALS

<u>Approval Agency</u>	<u>File Number</u>
Underwriters Laboratories	S2203
Type:	Local, Remote Station, Central Station PPU, Proprietary PPU, Proprietary Receiving Unit
Service Type:	A-Automatic Fire Alarm, M-Manual Fire Alarm, Releasing Device Service, WF-Water-flow alarm, SS-Sprinkler Supervisory Service, DACT
Type Signaling:	Non-coded
Factory Mutual (FM)	3020297
California State Fire Marshall (CSFM)	7165-0900:149
City of New York (MEA)	307-05-E
City of Denver	Approved

2.3 AGENCY STANDARDS AND COMPLIANCE

2.3.1 This Fire Alarm Control Panel Complies With The Following Standards

- NFPA 72 – National Fire Alarm Code
- UL 864 – Control Units and Accessories for Fire Alarm Systems
- UL 2017 – General Purpose Signaling Devices and Systems

2.3.2 Related Fire Alarm Codes and Standards

The installer should also be familiar with the following documents and standards.

National Fire Protection Association (NFPA) Codes

- NFPA 12 – Carbon Dioxide Extinguishing Systems
- NFPA 12A – Halon Fire Extinguishing Systems
- NFPA 13 – Sprinkler Systems
- NFPA 15 – Water Spray Fixed Systems
- NFPA 16 – Deluge, Foam-water and Foam-water Spray Systems
- NFPA 70 – National Electrical Code (NEC)
- NFPA 70, Article 300 – Wiring Methods
- NFPA 70, Article 760 – Fire Protective Signaling Systems
- NFPA 72 – National Fire Alarm Code
- NFPA 101 – Life Safety Code
- NFPA 110 – Emergency Standby Power Systems
- NFPA 2001 – Clean Agent Extinguishing Systems

Underwriters Laboratories (UL) Standards

- UL 38 – Manually Actuated Signaling Boxes
- UL 217 – Smoke Detectors, Single and Multiple Station
- UL 228 – Door Closers – Holders for Fire Protective Signaling Systems
- UL 268 – Smoke Detectors for Fire Protective Signaling Systems
- UL 268A – Smoke Detectors for Duct Applications
- UL 346 – Waterflow Indicators for Fire Protective Signaling Systems
- UL 464 – Audible Signaling Appliances
- UL 521 – Heat Detectors for Fire Protective Signaling Systems
- UL 1481 – Power Supplies for Fire Protective Signaling Systems
- UL 1638 – Visual Signaling Appliances
- UL 1971 – Visual Signaling Appliances

Factory Mutual (FM) Standards

- FMRC 1011 and 1012– Deluge and Pre-Action Sprinkler Systems

Applicable Local and State Building Codes

Requirements of the Local Authority Having Jurisdiction

2.4 RELATED DOCUMENTATION

To obtain a complete understanding of the specific features of the Cheetah Xi or to become familiar with related functions in general, refer to the

documentation listed below. Please reference the most current version or the version noted on the label located on the product.

Document Title	Part Number
Compatible Notification Appliances and Releasing Devices	06-186
14-Button Remote Display Unit	06-182
LED Graphic	06-231
Zone Annunciator	06-452
Reverse Polarity Module (Remote Station)	06-156
Masterbox Supervisor	06-229
Series Solenoid Resistor/Diode	06-344
CRM4, Panel relay module	06-345
VESDA High Level Interface	06-158
Network Interface	06-349
Fiber Optic Network Module	06-387
Agent Release Module (ARM III)	06-106
Supplemental Loop Module	06-339
Supplemental Power Supply	06-340
Hand Held Programmer	06-390
Multi-Interface Module	06-367
2-Button Expanded Protocol Remote Display Unit	06-393
10-Button Expanded Protocol Remote Display Unit	06-394
14-Button Expanded Protocol Remote Display Unit	06-395
Ethernet Module	06-388
20 Zone Remote Annunciator	06-453
Impulse Release Module (IRM)	06-552

2.5 CHEETAH XI FEATURES

GENERAL

- ◆ Two 24V DC, 2A NAC (audible) circuits on main board with integrated synchronization
- ◆ 254 user defined zones
- ◆ 80 character, backlit LCD display
- ◆ Real time clock
- ◆ 3200 event history buffer (up to 1600 alarm events and 800 supervisory events)
- ◆ Critical process monitoring
- ◆ One-person Walktest capability
- ◆ Disable by zone (or address with password)
- ◆ Drill function at panel and 10 & 14 button remote displays
- ◆ Provides solenoid releasing operation
- ◆ Alarm verification
- ◆ Easy to add/remove devices
- ◆ Diagnostic menus
- ◆ Removable terminal blocks for field wiring
- ◆ Local piezo with distinct event tones
- ◆ 10 Status LED's to easily identify system status
- ◆ Available with and without integral **SERIAL, Point ID** DACT interface
- ◆ Supports up to 31 peripheral devices such as Remote Display and LED Graphic
- ◆ Supports ability to network up to 128 nodes (each could be Cheetah Xi or CyberCat)

POWER

- ◆ 6 amps useable alarm power, 2A standby-expandable to 12 amps alarm power, 4 A standby
- ◆ Operation from 120VAC/ 60 Hz or 240VAC 50 /60Hz
- ◆ Two 24V DC, 2A continuous auxiliary power outputs (Expandable to 5 circuits with SPS)
- ◆ One 24V DC, 2A resettable auxiliary power output
- ◆ Supports up to 75 AH of batteries, expandable to 150 AH using SPS

SIGNALING LINE CIRCUIT

- ◆ Address devices with Infrared (IR) tool, similar to remote control device, **non-listed** see pg 89
- ◆ Two addressable loops, expandable to four, NFPA style 4, 6, or 7
- ◆ 254 devices per loop, maximum 1016 devices with SLM
- ◆ True peer-to-peer digital protocol for extremely fast and reliable communications
- ◆ Device "learn/auto-program" function
- ◆ Automatic day/night sensitivity adjustment
- ◆ Automatic holiday sensitivity adjustment
- ◆ *New* Acclimate operation for sensors
- ◆ IR Tool provides ability to read sensitivity levels or perform remote test of device
- ◆ Devices contain multi-color LED for quick reference of device status
- ◆ Sensors provide early warning pre-alarm detection and can also provide a summing feature (up to 8 sensors), **non-listed** pg 89
- ◆ Sounder or Relay Bases fully programmable
- ◆ Optional Remote LED can be added to a sensor base, programmable for any device, zone/state

ENCLOSURE

- ◆ Steel Enclosure 23.6" high by 14.35" wide by 4" deep (Back-box dimensions)
- ◆ Enclosure is equipped with a 0.50" wide lip to facilitate flush mounting
- ◆ Removable door for ease in installation
- ◆ Two door options available: with or without lexan cover on oval opening
- ◆ Available in Red or Grey

3.0 EQUIPMENT/PRODUCTS

3.1 SYSTEM MODULES

The following system modules are available for the Cheetah Xi control System:

Part Number	Description
10-068-c-p or 10-068-c-p-L	Cheetah Xi System, includes Controller, Enclosure, and Transformer c: (R=Red, G=Grey) p: (1=120V, 2= 240V) L=Lexan
10-2542	Cheetah Xi System Controller (included with 10-068-c-p and -L)
10-2541-c or 10-2541-c-L	Enclosure c: (R=Red, G=Grey; included with 10-068-c-p and -L) L=Lexan
02-10881	Transformer, 120VAC primary; (included with -1 option)
02-10882	Transformer, 240VAC primary; (included with -2 option)
10-2474-p	SPS - Supplemental Power Supply p: (1=120V, 2= 240V)
10-2473	SLM - Supplemental Loop Module (adds 2 loops 254 devices each)
10-2528	BOSCH DACT Model D9068, 5 zone with Serial interface-for mntg. Internal
10-2476	BOSCH DACT Model D9068, 5 zone with Serial interface-w/enclosure
10-2482	Network Module
10-2624	Fiber Optic Network Module
10-2204	CRM4 - Relay Module
10-2254	CRPM - Reverse Polarity Module
10-2321	14-Button Remote Display Unit
10-2646	14-Button Expanded Protocol Remote Display Unit
10-2631	10-Button Expanded Protocol Remote Display Unit
10-2630	2-Button Expanded Protocol Remote Display Unit
10-2627	Ethernet Module
10-2583	Multi-Interface Module
10-2373	Zone Annunciator
10-2411	LED Graphic Microprocessor Board
10-2570	End of Line Resistor, 1.2 K (for NAC 1 & 2)
68-023	VESDA Open Protocol High Level Interface (HLI)
26-031	Ethernet Interface ProCore (non-listed , see pg 89)
10-2667	20 Zone Remote Annunciator

3.2 ADDRESSABLE DEVICES

3.2.1 Standard Devices (for Style 4 or 6 wiring)

Part Number	Description	
63-1052	Photoelectric Sensor	
67-033	Ionization Sensor	
63-1053	Photo/135°F Heat Combination Sensor	
60-1039	Intelligent Heat Detector, 135-190°F (57-88°C) Fixed Temp./ Rate of Rise	
63-1054	Sensor Base, 6"	
63-1055	Sensor Base, 4"	
63-1064	Sounder Base, 6"	
63-1063	Relay Base, 6"	
55-045	MMM - Mini Monitor Module	
55-041	MM – Monitor Module, 4"	
20-1063	APS - Addressable Pull Station	
55-042	SCM – Supervised Control Module	
10-2360	Series Solenoid Diode/Resistor	
10-2413	Masterbox Interface	
55-043	RM – Relay Module	
55-052	RCM – Release Control Module	
63-1057	Photo DUCT sensor	Note: new installation requires
63-1056	DUCT Detector Housing with relays (isolator base)	both pieces to be ordered.
02-3721	Sampling Tube, Duct Detector, 1.5'	
02-3722	Sampling Tube, Duct Detector, 3.0'	
02-3723	Sampling Tube, Duct Detector, 5.0'	
02-3724	Sampling Tube, Duct Detector, 10.0'	

3.2.2 Isolator Devices (required for Style 7 wiring - base AND head if applicable)

Part Number	Description
63-1058	Photo Sensor with Isolator (ED-PI)
67-034	Ionization Sensor with Isolator (ED-II)
63-1059	Photo/135 F Heat Combination Sensor with Isolator (ED-PTI)
60-1040	Intelligent Heat Det., 135-190°F (57-88°C) Fixed Temp./ Rate of Rise with Isolator (ED-TI)
63-1060	Sensor Base, 6" with Isolator (EBFI)
63-1061	Sensor Base, 4" with Isolator (EBI)
55-050	MMM – Mini Monitor Module with Isolator (EM-1MMI)
55-046	MM – Monitor Module, 4" with Isolator (EM-1SMI)
20-1064	PSMM – Pull Station Monitor Module with Isolator (EM-1PI)
55-047	SCM – Supervised Control Module with Isolator (EM-1SRI)
55-048	RM – Relay Module with Isolator (EM-1RI)
55-053	RCM – Release Control Module with Isolator (EM-1RMI)
63-1062	Photo DUCT sensor with Isolator (for replacement) (ED-PDI)



Maximum of 50 non-isolator devices between isolator devices.

3.3 PROGRAMMING/CONFIGURATION EQUIPMENT

The following parts are used for configuration, testing, and or diagnostics of the Cheetah Xi:

Part Number	Description
55-051	Infrared (IR) Tool Remote Control for Programming/Testing Devices (non-listed , see page 89)
10-2648	Hand-held Programmer (non-listed , see page 89)
06-327	C-Linx Software
10-1874A	Interface Cable for C-Linx Software (DB9 to RJ11)
10-1874B	USB to DB9 Converter (p/n 02-11139) with 10-1874A interface cable Provides ability to use USB serial port on laptop (USB-DB9-RJ11)
10-2629	USB A/B Cable for network diagnostics with Fiber Optic Module
10-2477	DACT Programmer

3.4 NOTIFICATION APPLIANCES

Refer to Compatible Notification Appliances and Releasing Devices manual part number 06-186.

3.5 FACTORY MUTUAL APPROVED SOLENOIDS

Refer to Compatible Notification Appliances and Releasing Devices manual part number 06-186.

3.6 BATTERIES AND BATTERY ENCLOSURES

Part Number	Description
10-2626	12 AH Battery Assembly w/ wiring assembly
10-2190-2	18AH Battery Assembly w/ wiring assembly
10-2192	Wiring Assembly for 7.2AH and 18AH Batteries (wire only)
10-2517	Wire Assembly with Battery EOL
02-11725	Battery, 12V, 12AH (requires 2 each)
02-2820	Battery, 12V, 18 AH (requires 2 each)
02-3468	Battery, 12V, 33AH (requires 2 each)
A02-0252	Battery, 12V, 40 AH (requires 2 each)
02-4206	Battery, 12V, 75AH (requires 2 each)
10-2154-R	33AH Battery Enclosure, Red, no batteries
10-2154-G	33AH Battery Enclosure, Grey, no batteries
10-2236-R	75AH Battery Enclosure, Red, no batteries
10-2236-G	75AH Battery Enclosure, Grey, no batteries

3.7 SPARE PARTS

Part Number	Description
02-4035	Hardware Kit, #6 lock washers and hex nuts (30 each)
02-10788	Standoff kit, 5/8" M/F, 5 each required (10 each supplied)
02-4009	Standoff, 2" M/F, for 10-2528 DACT, 4 each required (1 each supplied)
02-11127	Terminal Block, 4 position for P1 Power or P21 SPS Power
02-10996	Terminal Block, 9 position for P2 Relays OR P8 Aux Power
02-10998	Terminal Block, 5 position for P8-P11, P31-P32 SLC or NAC circuits
02-1606	Key lock with cam (no lexan door/enclosure)
02-11205	Key lock with cam (lexan door/enclosure)
02-4983	Panel Key Only (without cam)
02-10881	Transformer, 120VAC
02-10882	Transformer, 240 VAC
02-4040	Battery, Lithium Coin Cell, 3V, BR2032-B
10-2625	Monitor & Control Module EOL Assembly, 39K
02-11151	14K Ω Series Resistor, for Monitor Module Short Circuit detection
10-2570	Audible output circuit EOL assembly, 1.2K
02-4174	Fuse, 15 Amp, Mini-Auto, Fast Acting (For F1 & F2) (Littelfuse p/n 297015)
02-11412	Fuse, 4 Amp, Mini-Auto, Fast Acting (For F3-5) (Littelfuse p/n 297004)
02-4981	End Of Line Relay – System Sensor EOLR-1
02-2519	Termination Resistor, 100 ohm (for RS485 circuit)
02-11167	Lexan for mounting to the –L version door
Touch-Up Paint (Not available from Fike)	
Sherwin Williams, Signal Red, RAL 3001 per RAL 840-HR (matt finish)	
Sherwin Williams, Light Gray, RAL 7035 per RAL 840-HR	

3.8 SPECIFICATIONS – SYSTEM MODULES

3.8.1 Environmental:

All electronics are rated 32° - 120°F (0° - 49°C) 93% relative humidity.

3.8.2 Primary Input AC Power:

120 VAC, 60 Hertz, 2.22 Amps, 225 VA (Transformer 02-10881)
 240 VAC, 50/60 Hertz, 1.45 Amps, 348 VA (Transformer 02-10882)
 System AC line power must originate from a dedicated circuit at the main building power distribution center. This wiring is non power limited. The circuit breaker shall be equipped with a lockout mechanism and be clearly labeled as a "Fire Protection Control Circuit."

3.8.3 Cheetah Xi Control System, 10-068-c-p (-L)

The enclosure is available in a red (-r) or grey (-g) color option. There are two different power options available 120VAC (-1) or 240VAC (-2). It comes with an oval opening in the door for the viewing window of the LCD. This oval opening is available as blank with no cover or with a clear lexan (-L) cover. The 10-068-c-p-d comes with the back-box, door, Cheetah Xi controller, transformer, and mounting hardware. See the installation section for complete dimensional specifications on the enclosure. The enclosure, 10-2541-c if ordered separately, accommodates space for the Controller, an optional 10-2528 DACT, a second transformer when the Supplemental Power Supply (10-2474) is used, and an 18AH battery pack.

The door is easily removable, via two screws, from the enclosure during installation. Mounting Method:

Surface: Using four teardrop shaped mounting holes on back of panel

12.5" horizontal centers

19.2" vertical centers

Flush: Using two through holes on each side.

Back Box has a .50" wide front lip to facilitate flush mounting.

Dimensions:

Backbox: 23.6" (H) x 14 .35" (W) x 4" (D)

Door: 24.6" (H) x 15.3" (W) x 11/16" (D) without lexan cover
 Or 15/16" (D) door w/lexan



Exhibit 3-1 Cheetah Xi Control System

3.8.4 Cheetah Xi Controller, 10-2542:

The Cheetah Xi Controller contains the power supply, microprocessors, hardware interface, Display, and keypad. The controller's internal power supply provides 2 Amps Normal Standby Current / 6 Amps Alarm Current.

Adding the 10-2474-p SPS to the Cheetah Xi raises the available current to 4A Normal Standby / 12A Alarm.

Power consumption of the controller itself is 0.275 amps at 24VDC in the normal standby mode.

Keypad is 7.0" (H) x 6.3" (W)
Control Board is 11" long x 8" tall x 3" deep; (1.2 lbs).



Exhibit 3-2 Cheetah Xi Controller

The following are the specifications for the 10-2542 controller listed in order of terminal block designation (P) number:

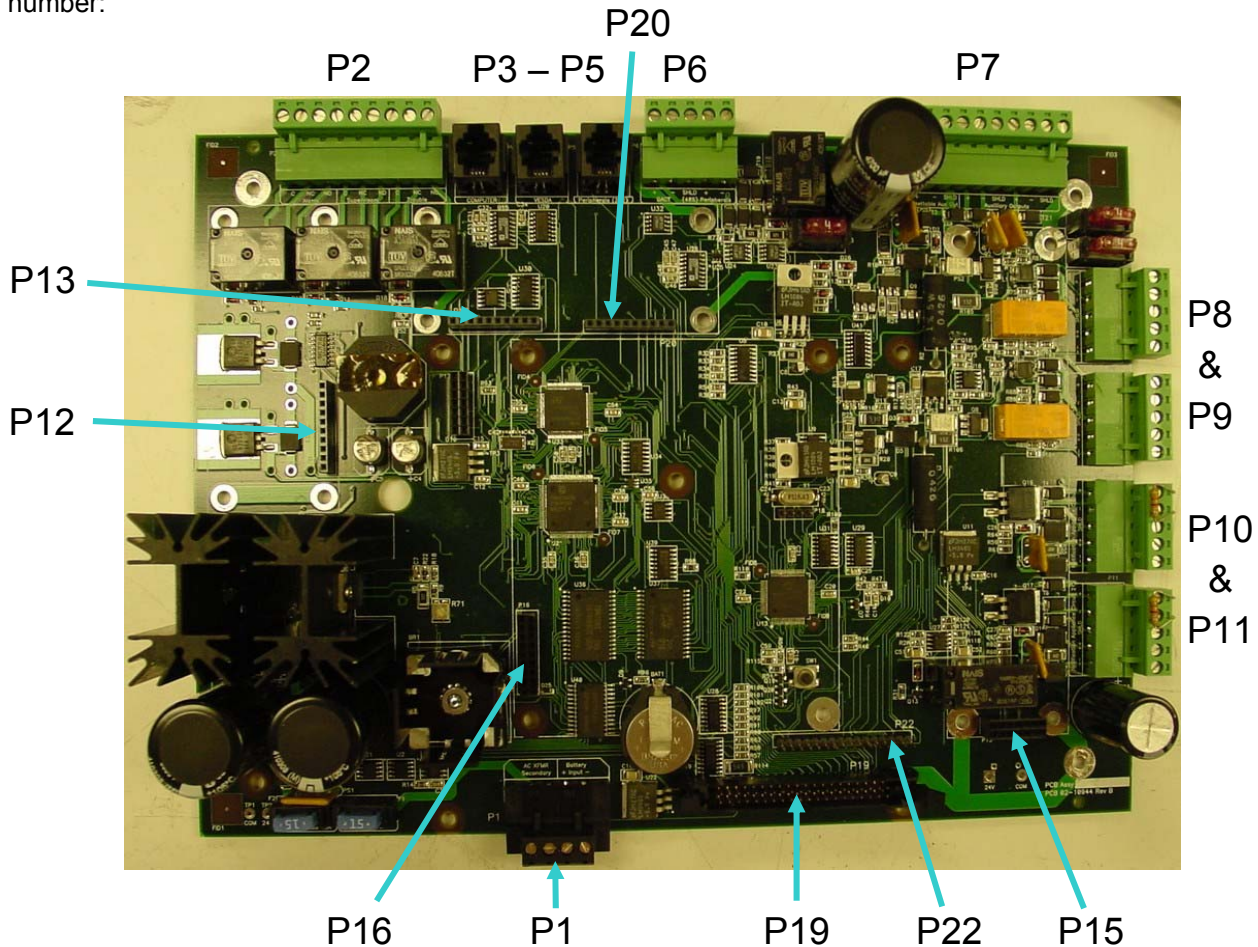


Exhibit 3-3 Cheetah Xi Terminal Block Locations

P1 - Power Supply Input



Exhibit 3-4 Terminal P1

TERMINAL	DESCRIPTION	NOMINAL RANGE	SPECIFICATION DETAILS
AC XFMR 24 Volt AC Secondary Term. 1 & 2 (same for both 120VAC and 240VAC xfmr)	Transformer secondary	Non-power-limited Supervised	Fused by F1, 15A field replaceable fuse P/N 02-4174 Wiring 16AWG minimum, THHN Terminal block accepts 12 AWG–16 AWG
BATTERY 24 Volt DC Term. 3 & 4 + -	Standby Battery	24VDC nominal Non-power-limited Supervised	Sealed lead-acid batteries only. 75 amp-hour maximum. Maximum supply current: 12 amps/ 27VDC Fused by F2, 15A field replaceable fuse, P/N 02-4174 Maximum charge current: 4 amps/ 27Vdc Batteries larger than 18 AH shall be mounted in external enclosure and the following qualifications apply: Wire Gauge shall be 14 AWG minimum. Maximum wire length shall not exceed 10 feet.



CAUTION: It is critical that AC is applied to the left terminals of P1 and **NOT** the right terminals (battery) 3 and 4. Damage to the controller could occur if not followed. See Section 6.3.

P2 – Relays:

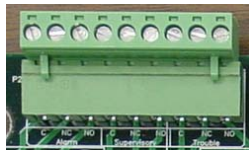


Exhibit 3-5 Terminal P2

	TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
ALARM	Term. 1 C	Common	*See below	SPDT Form C relay contact DC operation: 2 amps @30VDC (pf=.35) AC operation: 0.5 amps @120VAC (pf=.35) Common (system) operation
	Term. 2 NC	Normally Closed		
	Term. 3 NO	Normally Open		
SUPER-VISORY	Term. 4 C	Common	*See below	SPDT Form C relay contact DC operation: 2 amps @30VDC (pf=.35) AC operation: 0.5 amps @120VAC (pf=.35) Common (system) operation
	Term. 5 NC	Normally Closed		
	Term. 6 NO	Normally Open		
TROUBLE	Term. 7 C	Common	*See below	SPDT Form C relay contact DC operation: 2 amps @30VDC (pf=.35) AC operation: 0.5 amps @120VAC (pf=.35) Normally Energized relay, contacts shown with power applied and no troubles Common (system) operation
	Term. 8 NC	Normally Closed		
	Term. 9 NO	Normally Open		

*May be connected to power-limited or non power-limited sources. All connections to terminal block shall be either power limited or non-power limited, not both.

P3 – P5 - RS232 Interface Circuits:

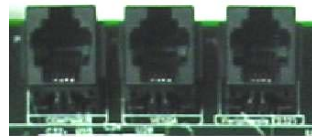


Exhibit 3-6 Terminal P3-P5

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P3	Computer Interface	Fike Communication Cable, 10-1874A or B Power Limited Supervised	50 Feet Maximum, 19200Baud, 8 data bits, No Parity, 1 Stop bit. A PC is required to run C-Linx Software (P/N 06-327). Not intended for continuous connection - Configuration and data retrieval only. DO NOT CONNECT THE PC IF A GROUND FAULT IS PRESENT.
P4	VESDA HLI P/N 68-023	RS232 Cable 02-3053 Power Limited Supervised	50 Feet Maximum (the HLI includes the 14' RS232 Cable, 02-3053). HLI must be powered from Cheetah Xi AUX. power output. Intelligently links Vision Systems VESDA detectors (by zone #) to the Cheetah Xi (each a unique zone #, 0-255). Does NOT require loop address.
P5	Peripherals	Power Limited Supervised	Fike Guard voice evacuation interface (must be installed in the same room as Cheetah Xi) 50 feet maximum. Also used for C-Linx connection to configure RS485 Peripheral Devices.

P6 – RS485 Peripheral Interface:



Exhibit 3-7 Terminal P6


TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P6	RS485	Power Limited Supervised Belden 9841 or equivalent. For plenum applications use Belden 82841, 82842, or 89841.	4000 feet , 31 devices maximum, 9600 bps 5VDC, 1mA Maximum wire impedance 110 ohms, Maximum capacitance 0.05uF 100Ω termination is required on the last device – supplied with the remote device (02-2519) Typical voltage will be varying between 0-1VDC. It should never be a constant voltage or 0VDC.
POS 1-2 + -	DACT		Peripheral Device must be configured as 'Supervised', if 2-way operation is required (using Reset, Silence, Acknowledge from Remote Display)
POS 3 SHLD	Drain-Chassis	No t-tapping	<u>Field Peripherals include:</u> <ul style="list-style-type: none"> • Fike Remote Displays • Zone Annunciator • LED Graphic • Multi-Interface Module • Ethernet Module
POS 4-5 + -	Field Peripherals		

P7 – Auxiliary Power:



Exhibit 3-8 Terminal P7

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
RESETTABLE AUX OUT + - SHLD	Resettable 24VDC Power output	Power Limited Supervised	24VDC, 2A maximum, Regulated (28V max.) Fused by F3 for short circuit, 4A field replaceable fuse P/N 02-11412 Turned off momentarily during system reset Used to power flame detectors, conventional DUCT detector, 4-wire detectors, etc.
AUXILIARY OUTPUTS + - SHLD + - SHLD	Continuous 24VDC Power Output	Power Limited Supervised	Two separate circuits rated 24VDC, 2A maximum each, Regulated. (28V max) Fused by F4/F5 for short circuit, 4A field replaceable fuse P/N 02-11412 Used to power Control Modules, Remote Displays, Graphics, etc.

 **Note:** The standard Cheetah Xi Control Panel has a total power capability of 6A, expandable to 12A with Supplemental Power Supply p/n 10-2474-p. Use Battery Calculation software in C-Linx Software or the form in Appendix 1 to determine proper system design.

P8-P9 – Signaling Line Circuits (SLC):



Exhibit 3-9 Terminal P8 & P9

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
<p>P8</p> <p>+ - SHLD ++ --</p>	Addressable Loop 1	<p>Power Limited</p> <p>Supervised</p>	<p>Supports up to 254 addressable devices (only those listed in this manual)</p> <p>Supports Class B, Style 4 or Class A, Style 6 or Class A, Style 7* (using isolator devices)</p> <p>100mA maximum, 28VDC maximum</p> <p>Maximum Resistance = 70 ohms (35 ohms per leg)</p> <p>Maximum Capacitance = .60 uf</p> <p>12,000 ft. max distance from panel to last device. (total line length, tested using 14 AWG)</p> <p>Terminal block accepts 12 AWG – 24 AWG</p> <p>*When installing the addressable loop in a Style 7 format, the first and last addressable isolator device to be wired to the control panel shall be mounted within conduit, within the same room, and no more than 20 feet from the Cheetah Xi enclosure.</p>
<p>P9</p> <p>+ - SHLD ++ --</p>	Addressable Loop 2	<p>Power Limited</p> <p>Supervised</p>	<p>Same as noted in Loop 1 above</p>



NOTE: Shielded cable should be used for electrically noisy environments.

P10-P11 – Notification Appliance Circuits (NAC):



Exhibit 3-10 Terminal P10 & P11

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P10 + - SHLD ++ --	Notification Appliance Circuit 1	Power Limited Supervised No t-tapping	Regulated 24VDC, 2.0 Amps maximum (Continuous output, 28V max.) Supports Class B, Style Y using 1.2KΩ End Of Line (EOL) resistor, P/N 10-2570; OR Class A, Style Z using redundant wiring. Always active during DRILL Each circuit can be programmed for either continuous operation or automatic Synchronization protocols from System Sensor, or Gentex. Both circuits must use the same protocol, however, the system can be configured so sync protocol is used on one circuit, while the other circuit is set to Constant (ie: bells). If a sync protocol is selected, when silenced, just the horn portion of the device will silence (strobes remain flashing). Maximum # of synchronized devices is limited to the amount of current for the circuit (2 amps). Refer to the 06-186 Compatibility Document for compatibility with Wheelock notification appliances.
P11 + - SHLD ++ --	Notification Appliance Circuit 2	Power Limited Supervised No t-tapping	Same as noted in NAC1 above

The NAC circuit field wiring resistance is limited by the amount of anticipated load. Many local authorities require a voltage drop calculation be performed to demonstrate the lowest voltage present at the last device. The designer shall determine the resistance of the wire specified and distance for the installation needs. From this information, they can determine the total resistance for the circuit. The following chart provides the maximum field wiring resistance for total device current that can also be used as a tool:

Max Current (Amps)	.1	.2	.3	.4	.5	.6	.8	1.0	1.5	2.0
Audible Max Ω's	24	12	8	6	4.8	4.0	3.0	2.4	1.6	1.2

Exhibit 3-11 NAC Circuit Field Wiring Resistance

Further details on Notification Appliances may be found in the Compatible Notification Appliances and Releasing Devices Manual P/N 06-186.

P12 – Optional Module :

Connects 10-2204 CRM4, 10-2254 RPM Reverse Polarity Module, or if Bosch Dialer Model D9068 (Fike P/N 10-2528) is used, this space is not available.

P13 – Optional Module, 10-2204 CRM4 :

Connects 10-2204 CRM4, or if either the 10-2482 Network or 10-2624 Fiber Optic module are being used at P20, this space is not available.

P14 – No terminal provided**P15 – Optional Supplemental Loop Module, P/N 10-2473****P16 – Optional Supplemental Power Supply, P/N 10-2474-p****P17 – Fike use only****P18 – Fike use only****P19 – Display interface (Keypad and LED's)****P20 – Optional Module, 10-2482 Network or 10-2624 Fiber Optic Network Module**

Connects 10-2482 Network module and provides capability to network/communicate 128 total network devices (panels) at distances up to 4000 feet between devices (panels).

Connects 10-2624 Multi-Mode Fiber Optic module and provides capability to network/communicate 128 total network devices (panels) at distances up to 3 Km between devices (panels).

P21 – No terminal provided**P22 – LCD Display interface (LCD only)**

3.8.5 DACT, 5 zone with Serial Interface, 10-2528 OR 10-2476 same DACT with Enclosure

The Digital Alarm Communicator Transmitter (DACT) provides interface with Central Station or Remote Station monitoring systems. It is available with 5 contact zones of connection OR the intelligent serial point id interface. The Contact ID format is the preferred reporting format. It provides a four digit account code followed by a three digit event code, a two digit group number, and a three digit contact number, all of which are used to provide specific point identification. This dialer can also provide an SIA or 4/2 Pulse reporting format. The Fike 10-2528 is a BOSCH model D9068. The Fike 10-2476 is a BOSCH D9068 with an enclosure for installations outside of the Cheetah Xi enclosure. DACT must be purchased from Fike for proper Point ID functionality.

4" long x 6-1/2" tall x 1" deep; 0.32 lb.



Exhibit 3-12 DACT

TERMINAL	DESCRIPTION	NOMINAL RANGE	SPECIFICATION DETAILS
+/-	24VDC	10.2 – 28VDC	Connect to Cheetah Xi 24VDC Aux. power. Pulls 150mA Standby; 190mA Alarm
A/B	RS485		Connect to the Cheetah Xi P6, position 1&2 A wires to -; B wires to +

Report Format	Compatible Receivers (√)					
	Radionics D6500	Radionics D6600	Sur-gard SG-SLR	Osborne/Hoffman Quick Alert Model II	Ademco	Silent Knight SK9000
Contact ID	√	√	√	√	√	
SIA 300		√	√	√		
SIA 110		√	√	√		
4/2	√	√	√	√	√	√

Refer to document 45386C, "D9068 Operation and Installation Guide" for more details.

3.8.6 DACT Programmer P/N 10-2477

This Programmer is necessary for configuring the 10-2528 and 10-2476 Dialer shown above. Reference D9068 Operation & Installation Guide, Bosch document 45386D or D9602 Reference Guide, Bosch document 45387D respectively.

6.2" wide x 4.2" tall x 1.4" deep;

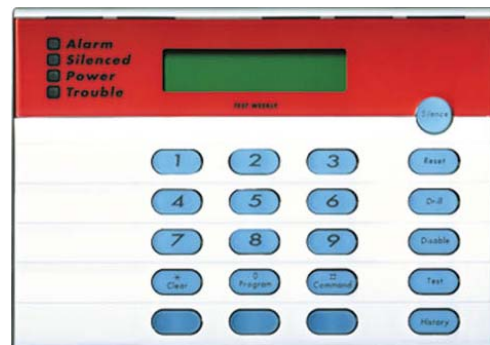


Exhibit 3-13 DACT Programmer

3.8.7 Supplemental Power Supply (SPS), 10-2474-p

The 10-2474-p includes the power supply circuit board and transformer (-1 for 120VAC primary; -2 for 240VAC primary). This module adds up to 2.0A external standby power and 6.0A alarm power (4 A standby / 12 A alarm total). AC power and standby batteries are supervised.

P21 Supports charging up to 75Ah of additional standby battery. Supervision may be turned off in configuration if batteries are not required on SPS.

The SPS interfaces to P16 on the Control Panel behind the Display using four standoffs and hardware supplied with SPS.

120 VAC, 60 Hertz, 2.22 Amps, 225 VA (Transformer 02-10881)
240 VAC, 50/60 Hertz, 1.45 Amps, 348 VA (Transformer 02-10882)

System AC line power must originate from a dedicated circuit at the main building power distribution center. This wiring is non power limited. The circuit breaker shall be equipped with a lockout mechanism and be clearly labeled as a "Fire Protection Control Circuit."

4-1/2" long x 5-1/2" tall x 2" deep; 0.66 lbs.

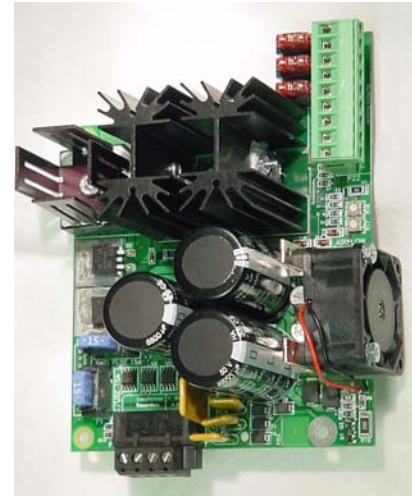



Exhibit 3-14 SPS

 **NOTE:** The SPS expands the power capability of the Cheetah Xi Controller to a total of 12 amps of useable current and 150 Ah of standby batteries. It also adds three more 2A auxiliary circuits.

TERMINAL	DESCRIPTION	NOMINAL RANGE	SPECIFICATION DETAILS
P21 Transformer Secondary Term. 1 & 2	Transformer secondary (same for both 120V & 240V xfrmr)	Non-power-limited Supervised (both xfrmrs)	Fused by F1, 15A field replaceable fuse P/N 02-4174 Wiring 16AWG minimum, THHN
P21 Battery Input Term. 3 & 4 + -	Standby Battery	24VDC nominal Non-power-limited Supervised	Sealed lead-acid batteries only. 75 amp-hour maximum. Maximum supply current: 12 amps/ 27VDC Fused by F2, 15A field replaceable fuse P/N 02-4174 Maximum charge current: 4 amps/ 27Vdc Wire Gauge shall be 14 AWG minimum. Maximum wire length shall not exceed 10 feet.
P22 Auxiliary outputs	Continuous 24VDC Power Output	Power Limited Supervised	Three separate circuits rated 24VDC, 2A maximum in alarm each, Regulated. Used to power Control Modules, DUCT detectors, Graphics, etc.

3.8.8 Supplemental Loop Module (SLM), 10-2473

The SLM adds two more SLC loops to the Cheetah Xi. Loop specifications and wiring for P31 and P32 are same as P8 and P9 from the main controller. It interfaces to P15 on the Control Panel using four standoffs supplied with the SLM. This module adds 100mA to the system during standby and alarm.

2" long x 6-1/2" tall x 1" deep; 0.12 lb.



NOTE: If the SLM is used, the loops will not be recognized until the program has been configured for the presence of the SLM (see section 7.5.3.3).



Exhibit 3-15 SLM

TERMINAL	DESC.	WIRING	SPECIFICATION DETAILS
P31 + - SHLD ++ --	Addressable Loop 3	Power Limited Supervised	<p>Supports up to 254 addressable devices (only those listed in this manual)</p> <p>Supports Class B, Style 4 or Class A, Style 6 or Class A, Style 7* (using Isolator Devices-base & head)</p> <p>100mA maximum, 27.6VDC maximum</p> <p>Maximum Resistance = 70 ohms (35 ohms per leg)</p> <p>Maximum Capacitance = .60 uf</p> <p>12,000 ft. max distance total from panel to last device. (Using 14AWG-Total run for wiring circuit, not 6,000 ft out and 6,000 ft back)</p> <p>*When installing the addressable loop in a Style 7 format, the first and last addressable isolator device to be wired to the control panel shall be mounted within conduit, within the same room, and no more than 20 feet from the Cheetah Xi enclosure.</p>
P32 + - SHLD ++ --	Addressable Loop 4	Power Limited Supervised	Same as noted in Loop 3 above



Note: Shielded wire should be use for electrically noisy environments.

3.8.9 Relay Module (CRM4), 10-2204

The CRM4 provides 4 additional independently programmed relays. Cheetah Xi Control Panel supports up to 2 CRM4 modules (if other options are not used) at main controller P12 and P13. Each Relay may be wired across Normally Open or Normally Closed contacts. This module adds 10mA to the system per active relay in the alarm state. Interfaces to P12 and/or P13 using four standoffs supplied with the CRM4.

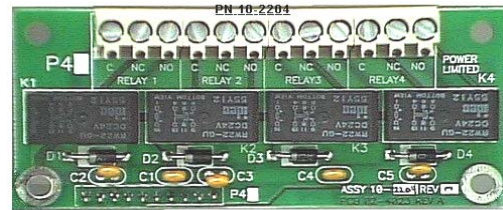


Exhibit 3-16 CRM4

3.5" long by 1.5" tall by 2" depth Weight: 0.10 lbs.

	TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
RELAY 1 - 4	Term. 1 C	C=Common	*See below	SPDT Form C relay contact DC operation: 2 amps @30VDC (pf=.35) AC operation: 0.5 amps @120VAC (pf=.35) Programmable If using for critical function disable/control on power up of control panel.
	Term. 2 NC	NC=Normally Closed		
	Term. 3 NO	NO=Normally Open		

* All field wiring connections to the CRM4 are non power limited and unsupervised.

3.8.10 Reverse Polarity Module (RPM), 10-2254

The Reverse Polarity module provides the ability for UL Remote Station supervision. This supervision is typically performed with a direct, leased line connection. It interfaces to P12 using four standoffs supplied with the RPM.

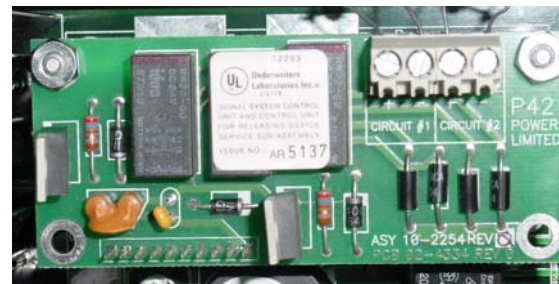


Exhibit 3-17 CRPM

3.5" long by 1.5" tall by 2" depth Weight 0.08 lbs

Output has two programming options:.

Option	Operating Condition	CRPM Circuit 1	CRPM Circuit 2
1	Alarm	Reverse Polarity	No Change
	Trouble	0 Volts	No Change
	Supervisory	No Change	Reverse Polarity
2	Alarm	Reverse Polarity	No Change
	Trouble	No Change	Reverse Polarity
	Supervisory	No Change	No Change

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
Circuit 1 + -- Circuit 2 + --	Reverse Polarity 24VDC Output	Non Power limited Supervised for Grounds	This module pulls no current during standby and a maximum of 60mA during alarm plus the external load. INTENDED FOR CONNECTION TO A POLARITY REVERSAL CIRCUIT OF A REMOTE STATION RECEIVING UNIT HAVING COMPATIBLE RATINGS. Provides two reverse polarity outputs For use with NFPA 72 Remote Stations 30mA each, 24VDC maximum load output

3.8.11 Network Module, 10-2482

The Network Module provides intelligent interface between other network devices. The network is designed to operate with 128 network nodes (panels) which operate in a peer-to-peer communication. The communication protocol is designed using RS485 communication with repeaters in each network module. It interfaces to P20 using four standoffs supplied with the Network Module. This module uses 40mA of standby and alarm current.



Exhibit 3-18 Network Module

4.15" long by 1.5" tall by 2" depth Weight: 0.10 lbs.

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P50		Non Power Limited	4000 feet between each network device, 128 devices maximum
POS 1 2 A+ A-	RS485	Supervised	Maximum wire impedance 110 ohms, Maximum capacitance 0.05uF
POS 3 SHLD	Drain-Chassis	Belden 9841 or equivalent. For plenum applications use Belden 82841, 82842, or 89841.	Typical voltage will be varying between 0-1VDC. It should never be a constant voltage or 0VDC.
POS 4 5 B+ B-	RS485	No t-tapping	Network module must be configured on Cheetah Xi for proper network operation.

3.8.12 Fiber Optic Network Module, 10-2624

The Fiber Optic Network Module provides intelligent interface between other network devices. The network is designed to operate with 128 network nodes (panels) which operate in a peer-to-peer communication. The communication protocol is designed using fiber communication with repeaters in each fiber optic network module. It interfaces to P20 using four standoffs supplied with the Fiber Optic Network Module. This modules uses 50mA of standby and alarm current.

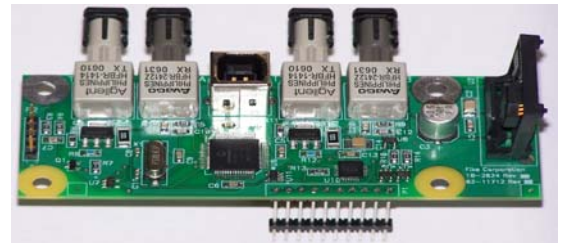


Exhibit 3-19 Fiber Optic Module

4.15" long by 1.5" tall by 2" depth Weight: 0.10 lbs.

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
TXA	Transmit Circuit A	Connects to RXB of previous panel	Power-Limited and Supervised Utilizes ST style fiber connectors (0.2 dB loss)
RXA	Receive Circuit A	Connects to TXB of previous panel	<u>Max Fiber Attenuation</u> 50/125µm – 5.7 dB @ 6560 ft. 62.5/125µm – 12.0 dB @ 9840ft. <u>Max Distance</u> 50/125µm – 6,560 feet (2km) 62.5/125µm – 9,840 feet (3km)
TXB	Transmit Circuit B	Connects to RXA of next panel	
RXB	Receive Circuit B	Connects to TXA of next panel	
P3	Diagnostics	USB/B	

3.8.13 Remote LCD Display, 10-2321

This module provides information about the host Cheetah Xi System in a remote location. It receives the intelligent datastream from the RS485 output of the Cheetah Xi. It also provides the capability to operate up to 8 programmable buttons (Rest, Silence, Acknowledge, etc). Each button may be labeled using Avery label 6467 or 5418. It also has an internal piezo to provide instant audible notification of status change. Security to the unit is available via the standard Fike key. It mounts to a 5 gang masonry box (Raco 694). The unit can be surface or flush mounted. See Remote LCD Display manual 06-182 for more details.



Exhibit 3-20 Remote Display

Approx. 9 ⁷/₃₂" long x 3 ³/₄" high x 2 ¹/₂" deep; Weight 2 lbs.

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P1	24VDC power	Power limited Unsupervised	Each Fike Remote Display pulls 25mA during normal standby and 105mA during alarm.
P2/P3	RS485 In/Out	Power limited Supervised	Belden 9841 or equivalent, 4000' maximum cable distance. For plenum applications use Belden 82841, 82842, or 89841. Maximum of 31 devices with last device on network terminated with 100 Ω resistor (02-2519).

3.8.14 14-Button EXP Protocol RDU, 10-2646

The FIKE Remote Display Exp protocol 14-Button (P/N 10-2646) is an ancillary device that can be connected to the Fike Control System via RS485 connection. The Remote Display provides a 4x20 character LCD and five status LED's to provide immediate system condition from a remote location. It also has the capability of performing 2-way communications via eight configurable buttons. See the 06-395 Fike Remote Display Unit (RDU) EXP Protocol 14-Button manual for more details.



Exhibit 3-21 14-Button Remote Display

Approx. 9 ¹/₂" long x 2 ¹/₄" deep x 4" high; Weight 0.5 lbs.

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P1	24VDC power	Power limited Unsupervised	Each 14-Button RDU pulls 36mA during normal standby and 139mA maximum.
P2	RS485 In/Out	Power limited Supervised	Belden 9841 or equivalent, 4000' maximum cable distance. For plenum applications use Belden 82841, 82842, or 89841. Maximum of 31 devices with last device on network terminated with 100 Ω resistor (02-2519).

3.8.15 10-button EXP Protocol RDU, 10-2631

The FIKE Remote Display Exp protocol 10-button (P/N 10-2631) is an ancillary device that can be connected to the Fike Control System via RS485 connection. The Remote Display provides a 4x20 character LCD and five status LED's to provide immediate system condition from a remote location. It also has the capability of performing 2-way communications via the Reset, Silence, Acknowledge, and Drill buttons. See the 06-394 Fike Remote Display Unit (RDU) EXP Protocol 10-Button manual for more details.



Exhibit 3-22 10-Button Remote Display

Approx. 7 3/4" long x 2 1/4" deep x 4" high; Weight 0.5 lbs.

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P1	24VDC power	Power limited Unsupervised	Each 10-Button RDU pulls 36mA during normal standby and 139mA maximum.
P2	RS485 In/Out	Power limited Supervised	Belden 9841 or equivalent, 4000' maximum cable distance. For plenum applications use Belden 82841, 82842, or 89841. Maximum of 31 devices with last device on network terminated with 100 Ω resistor (02-2519).

3.8.16 2-button EXP Protocol RDU, 10-2630

The FIKE Remote Display Exp protocol 2-button (P/N 10-2630) is an ancillary device that can be connected to the Fike Control System via RS485 connection. The Remote Display provides a 4x20 character LCD and five status LED's to provide immediate system condition from a remote location. See the 06-393 Fike Remote Display EXP Protocol 2-Button manual for more details.



Exhibit 3-23 2-Button Remote Display

Approx. 5 3/4" long x 1 1/2" deep x 4" high; Weight 0.5 lbs.

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P1	24VDC power	Power limited Unsupervised	Each 2-Button RDU pulls 36mA during normal standby and 139mA maximum.
P2	RS485 In/Out	Power limited Supervised	Belden 9841 or equivalent, 4000' maximum cable distance. For plenum applications use Belden 82841, 82842, or 89841. Maximum of 31 devices with last device on network terminated with 100 Ω resistor (02-2519).

3.8.17 Zone Annunciator, 10-2373

The Zone Annunciator provides instant visual status of up to 10 zones of fire protection. Each zone has a red Alarm LED and yellow Trouble/Supervisory LED. Each LED is individually programmable for zone(s) and state(s). Each LED can be labeled using Avery label 6467 or 5418. It is intended to be powered via the Cheetah Xi panel 24VDC auxiliary power. It communicates with the main control panel via RS485 communication. The annunciator provides the capability to remotely reset, silence, and acknowledge the main control panel. Security to the unit is available via the standard Fike key. It mounts to a 5 gang masonry box (Raco 694). The unit can then be surface or flush mounted. See Zone Annunciator manual 06-452 for more details.



Exhibit 3-24 Zone Annunciator

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P1	24VDC power	Power limited Unsupervised	Each Zone Annunciator pulls 34mA during normal standby and 83mA during alarm.
P2	RS485 In/Out	Power limited Supervised	Belden 9841 or equivalent, 4000' maximum cable distance. For plenum applications use Belden 82841, 82842, or 89841. Maximum of 31 devices with last device on network terminated with 100 ohm resistor (02-2519).

3.8.18 Ethernet Module, 10-2627

The Fike Ethernet Module is an ancillary device that can be connected to the Fike Control System via RS485 connection. It allows networking amongst panels located in different buildings to provide annunciation at a central location. See the 06-388 Ethernet Module manual for more details.



Exhibit 3-25 Ethernet Module

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P1	24VDC power	Power limited Unsupervised	Each Ethernet Module pulls 97mA during normal standby and 134mA in alarm.
P2	RS485 In/Out	Power limited Supervised	Belden 9841 or equivalent, 4000' maximum cable distance. For plenum applications use Belden 82841, 82842, or 89841. Maximum of 31 devices with last device on network terminated with 100 ohm resistor (02-2519).
P3	RJ45 Jack – 10Base-T LAN Connection NOTE: Equipment connected to the P3 port must be in the same room as the Ethernet Module.		

3.8.19 Multi-Interface Module, 10-2583

The Fike Multi-Interface Module is an ancillary device that can be connected to the Fike Control System via RS485 connection. It can provide three different interface connections:

1. Gateway (Cheetah Xi to Cheetah)
2. Parallel Printer
3. Serial Printer (Keltron 90-series)

The module is wired to the RS485 output at the Cheetah Xi P6 connection. When used as a gateway interface, it is designed to be located in the space for the 2nd transformer (if Supplemental Power Supply is not used). The module can be located inside the main controller or in a separate box as required.

See the 06-367 Multi-Interface Module manual for further details and specifications.



Exhibit 3-26 Multi-Interface Module

3.8.20 FIKE / VESDA HIGH level INTERFACE (HLI), 68-023

The Fike VESDA Open Protocol High Level Interface (HLI) is a custom device that will transmit all Xtralis VESDAnet LaserPLUS detector information intelligently from the VESDAnet into the Fike control panel. The HLI is connected to the Cheetah Xi at P4 (within 50') and must be powered from the Cheetah Xi 24V continuous Auxiliary output. The HLI is mounted in a 12" long x 6" tall x 4" deep gray enclosure (the electronics are mounted on the cover. The HLI can be located at any point on the VESDAnet (within 4000' of the other VESDA devices in the loop). See the 06-158 VESDA HLI manual for more details.



Exhibit 3-27 VESDA Open Protocol HLI

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P1	24VDC power	Non Power limited Unsupervised	The HLI pulls 190mA during normal standby and alarm.
P2	VESDAnet RS485 In/Out	Power limited Supervised	Belden 9841 or equivalent, 4000' maximum cable distance. For plenum applications use Belden 82841, 82842, or 89841. Maximum of 100 detectors
P3	RS232	Power limited Supervised	Intelligent serial data provided from the VESDAnet to Cheetah Xi terminal P4 using supplied cable (02-3053 four conductor cable). Must be within 50'.

3.8.21 Addressable LED Graphic, 10-1XX

The LED Graphic is a custom made display that provides a specific building layout pictorial with the actual fire alarm devices indicated with a color status LED (red, green, yellow or orange). When an event occurs, the intelligent data will be transferred via the RS485 output to the graphic and the specific device or zone LED will light as programmed. See the 06-231 Intelligent Graphic Annunciator manual for more details.



Exhibit 3-28 LED Graphic

TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
P1	24VDC power	Power limited Unsupervised	Each GDB256 pulls 43mA during normal standby and 74mA during alarm.
P2	RS485 In/Out	Power limited Supervised	Belden 9841 or equivalent, 4000' maximum cable distance. For plenum applications use Belden 82841, 82842, or 89841. Maximum of 31 devices with last device on network terminated with 100 ohm resistor (02-2519).

3.8.22 Twenty Zone Remote Annunciator, 10-2667

The Remote Twenty Zone Annunciator is a tabular based display with a dedicated red (for Alarm) and yellow (for Supervisory or Trouble) LED per assigned zone. Connection between the Cheetah Xi and the annunciator is made via the panel's RS485 peripheral bus. See the 06-453 Remote Twenty Zone Annunciator manual for more details.

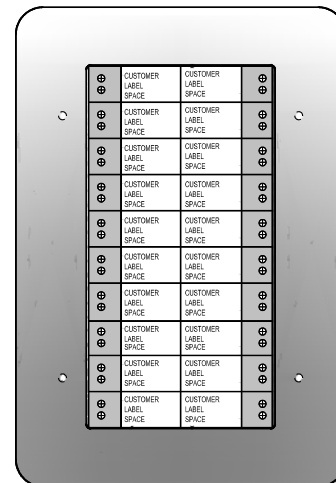


Exhibit 3-29 Twenty Zone Remote Annunciator

3.9 SPECIFICATIONS – ADDRESSABLE DEVICES

All electronics are rated 32° - 120°F (0° - 49°C), 10- 93% relative humidity, unless otherwise noted. Each addressable device requires a normal operating voltage 15 to 30VDC (supplied by the SLC).

3.9.1 Photoelectric Smoke Sensor, 63-1052 Photoelectric with isolator, 63-1058

The photo sensor provides peer-to-peer digital protocol for reliable fast communications. The sensor includes a tri-color LED for instant indication of device status. An Acclimate feature is defaulted ON to provide optimum fire detection response. This feature allows sensors to respond to the particular environment. Its operating parameters are maintained within non-volatile RAM in the sensor. The sensors should be spaced at 30' apart for smooth ceiling/low airflow as per NFPA.

Dual Alarms (night and day sensitivity) with threshold settings between 1.3 – 3.6%/ft. Dual Pre-Alarms with threshold setting between 0.5-3.6%/ft. Configurable for Acclimate, Alarm Verification, and Drift Compensation. Timebased groups may be assigned for switching sensitivity levels between Day and Night levels during different times of the day and Holidays. The isolator version provides complete short circuit isolation for NFPA Style 7 wiring if used with an isolator base.

Standby Current: 0.481mA

Alarm Current: 2.0mA max.

Weight: 5.2 oz (147g)

Height: 2.1" (51mm) installed in base

Diameter: 4.1" (104mm)



Exhibit 3-30 Photo Sensor

3.9.2 Ionization Sensor, 67-033 Ionization Sensor with Isolator, 67-034

The ion sensor provides peer-to-peer digital protocol for reliable fast communications. The sensor includes a tri-color LED for instant indication of device status. An Acclimate feature is defaulted ON to provide optimum fire detection response. This feature allows sensors to respond to the particular environment. Its operating parameters are maintained within non-volatile RAM in the sensor. The sensors should be spaced at 30' apart for smooth ceiling/low airflow as per NFPA.

Dual Alarms (night and day sensitivity) with threshold settings between 100-40 uAmps MIC. Dual Pre-Alarms with threshold setting between 100-40 uAmps MIC. Configurable for Acclimate, Alarm Verification, Drift Compensation, and Summing. Timebased groups may be assigned for switching sensitivity levels between Day and Night levels during different times of the day and Holidays. The isolator version provides complete short circuit isolation for NFPA Style 7 wiring if used with an isolator base.

Standby Current: 0.481mA

Alarm Current: 4.4mA max.

Weight: 5.2 oz (147g)

Height: 2.1" (51mm) installed in base

Diameter: 4.1" (104mm)



Exhibit 3-31 Ion Sensor



NOTE: The Ion sensor has an approved airflow rating of 1200 fpm maximum.

3.9.3 Photo / Heat Combination Sensor, 63-1053 Photo / Heat Sensor with Isolator, 63-1059

The photo/heat sensor provides peer-to-peer digital protocol for reliable fast communications. The sensor includes a tri-color LED for instant indication of device status. The photoelectric with thermal sensor provides ability to alarm from either/ both different types of detection. **Dual** electronic thermistors add 135° F fixed temperature thermal sensing (alarm only) to the standard photoelectric sensor (capable of separate Supervisory or single Alarm combined with heat). In most cases, the photoelectric sensing should activate the sensor first. If the heat sensor begins to sense a change it incorporates a flame-enhancement feature that will speed the photo-sensing response time. The isolator version provides complete short circuit isolation for NFPA Style 7 wiring if used with an isolator base. The sensors should be spaced at 30' apart for smooth ceiling/low airflow as per NFPA.



Exhibit 3-32 Photo/Heat Sensor

Standby Current: 0.481mA Alarm Current: 2.0mA max.
Weight: 5.2 oz (147g) Temperature Range: 32° - 100°F (0° - 38°C)
Height: 2.1" (51mm) installed in base Diameter: 4.1" (104mm)

3.9.4 Heat Sensor, 60-1039 Heat Sensor with Isolator, 60-1040

The intelligent heat sensor provides peer-to-peer digital protocol for reliable fast communications. The sensor includes a tri-color LED for instant indication of device status. The spot-type heat sensor is designed to be programmable for a setpoint range of 135°F to 174°F for ordinary detection or 175°F to 190°F for intermediate detection. Detectors in the ordinary range may be programmed for either fixed temperature or 15°F rate of rise operation. The detection setpoint is software programmable in single degree increments from 135-190°F. The heat sensor identification looks like the photo sensor from a distance. The difference is noted by looking at the side view; the photo sensor has a screen covering the opening, the heat sensor has a thermistor that can be seen in the center of the chamber. The isolator version provides complete short circuit isolation for NFPA Style 7 wiring if used with an isolator base.



Exhibit 3-33 Thermal Sensor

The sensors should be spaced as per UL at alarm setpoints as follows...

- 135°F to 155°F – 50 feet spacing
- 156°F to 174°F – 15 feet spacing
- 175°F to 190°F – 50 feet spacing

The sensors may be spaced as per FM at 30' apart for all setpoints.

Standby Current: 0.215mA Alarm Current: 2.0mA max.
Weight: 4.8 oz (137g)
Height: 2.1" (51mm) installed in base Diameter: 4.1" (104mm)

Installation Temperature: -4°F to 100°F (-20°C to 38°C); 135°F-174°F setpoint
-4°F to 150°F (-20°C to 38°C); 175°F-190°F setpoint

3.9.5 Sensor Bases, 63-1054 = 6"; 63-1055 = 4" Sensor Bases with Isolator, 63-1060 = 6"; 63-1061 = 4"

The 63-1054, 6 inch sensor base will mount directly to 3 1/2 inch and 4 inch octagon boxes, 4 inch square boxes (with or without plaster rings) and single gang boxes. This base is approximately 2 inches larger than the sensor, providing a contouring effect and covering junction box. It is to be used with any of the Cheetah Xi sensors.

The 63-1055, 4 inch sensor base will mount to 3 1/2 inch octagon boxes, 4 inch square boxes with plaster rings, and European boxes with 50, 60, and 70 mm screw spacing. This base is approximately the same size as the sensor head. It is to be used with any of the Cheetah Xi sensors.

The base connects from the SLC + to terminal 1 of the base; SLC - to terminal 3 of the base. The base also facilitates a method for connection of a Remote LED between terminals 4 (+) and 3 (-). The Remote LED receives its operating current from the SLC. The maximum total current to be pulled from each SLC is 100mA (total for loop devices and remote LED devices). The isolator version provides complete short circuit isolation for NFPA Style 7 wiring if used with an isolator sensor head. The isolator version provides segregation of the + terminal on the base; terminal 1 for incoming and terminal 2 is provided for an outgoing.

Terminal blocks accept a 12-18 AWG wire (0.9 – 3.25mm²)



Exhibit 3-34 Sensor Bases, 6" & 4"

3.9.6 Sounder Base, 6", 63-1064

The sounder base provides the ability to notify occupants near the detection device(s). The base includes a local 85db sounder. The sounder is designed to follow the Remote LED programming for the sensor but can also be configured to activate and output different patterns based on the configured state or event. This base requires separate 24VDC auxiliary power from the main control panel.



Exhibit 3-35 Sounder Base

3.9.7 Relay Base, 6", 63-1063

The relay base provides a local dry contact relay output that activates as programmed for the device remote LED function. This base does NOT require separate 24VDC auxiliary power from the main control panel. It obtains its necessary power from the SLC. (1 Form C relay rated 2A@30VDC; 0.5A@125VAC)



Exhibit 3-36 Relay Base

3.9.8 Module Cover, 4" Square

Each 4" Square addressable device is shipped with a module cover and two self-tap mounting screws. This cover has a vertical IR opening to provide access with the IR Tool and visual access to the status LED.



Exhibit 3-37 Module Cover, 4"

3.9.9 Input Modules

The Cheetah Xi input modules provide peer-to-peer digital protocol for reliable fast communications. The module includes a tri-color LED for instant indication of device status. The addressable input module provides a fire alarm dry contact device direct connection to the Cheetah Xi intelligent addressable loop. Each module may be assigned to single zone or up to four zones. Any number of UL listed contact closure devices may be used. Maximum wire resistance between module and EOL device is 100 ohms. The Mini and 4" square version both allow a short circuit detection if an additional series resistor (14K Ω , p/n 10-2530) is installed at each contact. The input module is available in three versions:

Initiating Device Circuit (IDC) Max wire resistance: 100 Ω
 IDC End of Line (EOL) resistor for Class B wiring: 39K Ω

55-045 Mini Monitor Module

55-050 Mini Monitor Module with Isolator

2.75" x 1.75" miniature module for mounting in a small junction box behind a monitoring device. This device will monitor a Class B wired input device using the 39K ohm end of line resistor. The isolator version provides complete short circuit isolation for NFPA Style 7 wiring. This module provides 6.5" pigtail wire leads and is intended to be wired and mounted without rigid connections made inside a standard electrical box.

Standby Current: 0.485mA Alarm Current: 2.0mA max.
 1.31"H x 2.73"W x 0.61"D (33mm H x 69mm W x 15mm D)

55-041 4" Square Monitor Module

55-046 4" Square Monitor Module with Isolator

Mounted with cover plate (see section 3.9.8) on a 4" square junction box. This device will monitor a Class B OR Class A wired input device. Class B wiring requires the use of a 39K ohm end of line resistor. The isolator version provides complete short circuit isolation for NFPA Style 7 wiring.

Standby Current: 0.485mA Alarm Current: 2.0mA max.
 4.17"H x 4.26"W x 1.22"D (106mmH x 108mmW x 31mmD)

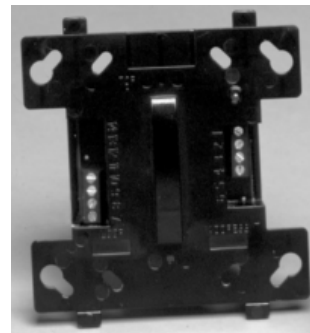
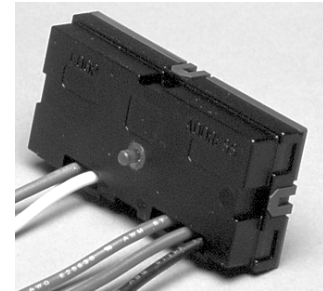


Exhibit 3-38 Mini & 4" Input Modules

NO Only

Detect
 Manual Alarm
 Reset
 Waterflow
 Drill
 Supervisory
 Supervisory
 Latching
 Zone Disable
 Silence
 Predischarge
 Man Release
 Abort
 Fan Restart

NO/NC

Process

Exhibit 3-39 Input Module Functions

20-1063 Addressable Pull Station (APS) 20-1064 Addressable Pull Station with Isolator

The addressable pull station has all of the same addressable input module electronics inside the pull station for one complete addressable pull station. Activation of the pull station is accomplished by pushing in and pulling down as instructed. The module contains hardware key used for resetting the device after activation. To reset, unlock with the key then open the station. Return the internal toggle switch to normal, then re-close and re-lock the station.



Exhibit 3-40 Addressable Pull Station

3.9.10 Supervised Control Module, 55-042 SCM with Isolator, 55-047

The Supervised Control Module provides peer-to-peer digital protocol for reliable fast communications. The module includes a tri-color LED for instant indication of device status. The Supervised Control Module (SCM) provides building notification appliance circuits (NAC) an intelligent interface to the Cheetah Xi addressable loop. It also has the capability of operating solenoids rated up to 2 amps @ 24V DC. *May operate NAC's, solenoids, or Masterbox but not multiple at the same time.* Mounts on a 4" x 4" x 2 1/8" junction box with the cover illustrated in section 3.9.8.

NAC circuit Max wire resistance: 100Ω
NAC circuit EOL resistor for Class B wiring: 39KΩ
Standby Current: 0.630mA Alarm Current: 2.0mA max.
4.17"H x 4.26"W x 1.22"D (106mm H x 108mm W x 31mm D)

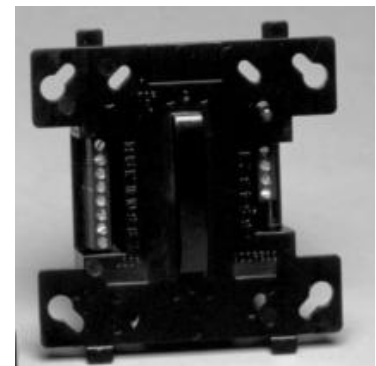


Exhibit 3-41 Supervised Control Module

10-2360 Solenoid Series Impedance

Each 55-042/047 can control one solenoid each (2 amps maximum). The 10-2360 Solenoid Series Impedance device must be used when connecting a solenoid to the SCM. Compatible Releasing Solenoids (see 06-186, Factory Mutual Approved Groups A-G):

Viking	See 06-186
Skinner	73218BN4UNLVNOC111C2
Skinner	73212BN4TNLVNOC322C2
Skinner	71395SN2ENJ1NOH111C2
ASCO	T8210A107
ASCO	R8210A107
ASCO	8210A107
ASCO	8210G207

10-2413 Masterbox Interface

The Masterbox interface provides the ability to activate on a Local Energy Type Auxiliary Fire Alarm System (as noted by NFPA 72). This module will operate with 1500' of 18 AWG wire for a trip coil rated at 14.5 ohms to the SCM. This part is supplied with a metal plate and the circuit board with mounting hardware. The plate mounts to a 2 gang switch box (RACO 680 or equivalent). Configure the Control module for Non-Silenceable, NO Walktest or Drill. 10-500 ohm trip coil, 2 Amps, 27.6VDC maximum.

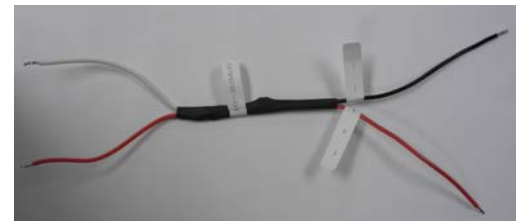


Exhibit 3-42 Solenoid Series Impedance



Exhibit 3-43 MasterBox Interface

3.9.11 Relay Module, 55-043 Relay Module with Isolator, 55-048

The RM provides building dry contact output interface via the intelligent addressable loop. Two configurable (single operation) relay Form C contacts rated for 2 Amps @ 30V DC, 0.5a @120VAC.

It contains a wide range of operating modes including multi-zone operation and multi-state programming. Operating parameters are maintained in non-volatile RAM for quick and reliable response to emergency conditions. A feedback input is available for monitoring/supervising the state of the relays or for non-critical input functions.

Mounts on a 4" x 4" x 2 1/8" junction box with the cover illustrated in section 3.9.8.

Max wire resistance, dry contact input: 100Ω
 Dry contact ratings: 3A@30VDC resistive, non-coded
 0.9A@70.7VAC resistive, non-coded
 Standby Current: 0.750mA Alarm Current: 0.750mA max.
 4.17"H x 4.26"W x 1.22"D (106mm H x 108mm W x 31mm D)

3.9.12 Releasing Control Module, 55-052 Releasing Control with Isolator, 55-053

The RCM provides an interface between the Suppression System Solenoid, Agent Release Module (ARM), Impulse Releasing Module (IRM) and the intelligent addressable loop. This module requires 24VDC continuous output power from Panel Terminal P7 to power the selected releasing device(s). The module provides two different output connections of which ONLY ONE can be used per module (Solenoid or Release Module).

Depending on the output type, it can be configured to activate on Alarm, Pre-Discharge, or Release. The module can be configured to participate in up to 3 different zones. Operating parameters are maintained in non-volatile RAM for quick and reliable response to emergency conditions.

Mounts on a 4" x 4" x 2 1/8" junction box with the cover illustrated in Section 3.9.8.

Listed as a Special Application Output for Extinguishing System Activation
 Max wire resistance, Solenoid output: 5Ω
 Max wire resistance, Agent Release output: 35Ω
 Max current to output: 2A@24VDC
 Standby Current: 0.450mA Alarm Current: 6.0mA max.
 4.17"H x 4.26"W x 1.22"D (106mm H x 108mm W x 31mm D)

Refer to the installation sheet supplied with the Releasing Control Module and the following documents for further information:

Fike document 06-106, "Agent Release Module (ARM) Manual" and Fike document 06-552, "Impulse Release Module (IRM) Manual" for proper connections to the ARM(s) and IRM(s).



NOTE: ARM's and IRM's may be intermixed on the same releasing module.

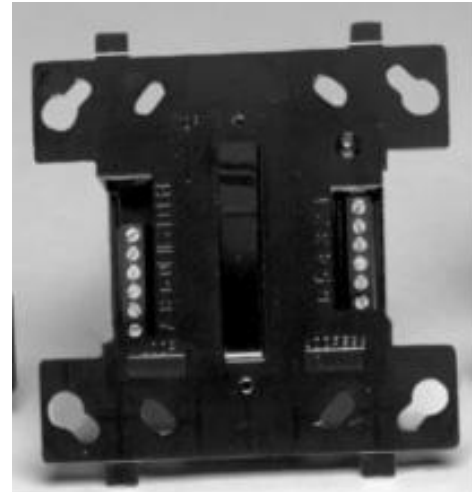


Exhibit 3-44 Relay Module

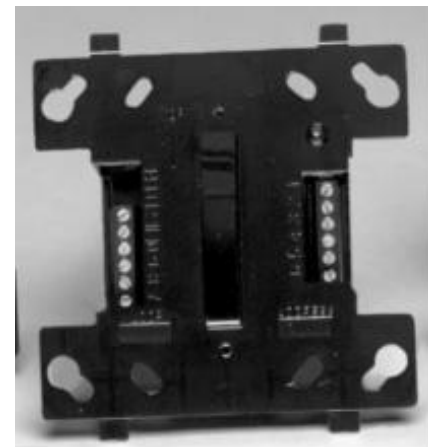


Exhibit 3-45 Releasing Control Module

3.9.13 Duct Sensor

P/N 63-1057 Sensor


P/N 63-1062 Sensor with Isolator

P/N 63-1056 DUCT Housing (includes base w/Isolator)

If installing a new DUCT sensor, both parts will be required on the purchase order. The DUCT housing contains a circuit board that provides connection to a remote LED (output follows head LED) and also provides a relay contact output that is programmable to activate with the DUCT detector OR as programmed. Unlike similar DUCT sensors, separate 24VDC is NOT required (note accessory device(s) current add in the total available loop current of 100mA). Relay operation on the DUCT detector is fully configurable for independent multi zone/state functionality. Four different lengths of sampling tube are available for penetrating into the DUCT:

02-3721 1.5'	02-3722 3.0'
02-3723 5.0'	02-3724 10.0'

Refer to NFPA 90A and the applicable code.

 **NOTE:** If installing a new DUCT sensor, both parts will be required on the purchase – (sensor and housing)

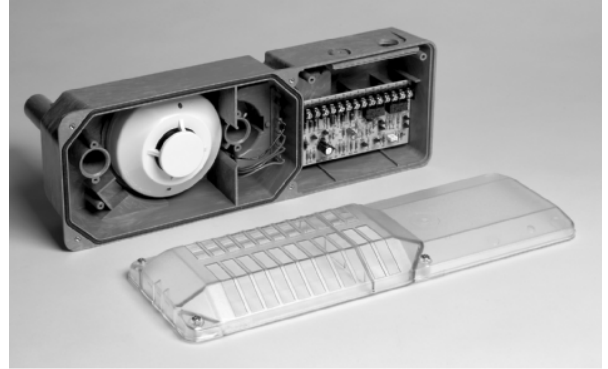


Exhibit 3-46 DUCT Sensor

3.10 SPECIFICATIONS – PROGRAMMING/CONFIGURATION EQUIPMENT

3.10.1 IR Remote Tool, P/N 55-051

Non-listed, See Page 89

The hand-held configuration tool is a remote control that is designed to communicate with the panel and other devices through any selected device on the loop. It can read device information such as type, loop, address and sensitivity. It can also write device information such as loop, address, branch and service date and initiate device test. It features a 16-character liquid crystal display and a 17-button keypad.

Features of the IR Remote Tool:

- Operates with 2 AA Batteries
- Communicates bi-directionally with any device
- Easily configure devices by setting the loop and address
- Quickly read sensitivity levels
- Easily test or reconfigure photo and ion detectors in the sub-floor, as well as duct detectors
- Immediately record the date serviced
- Instantly perform a remote test of any sensor or module
- Effortlessly complete a Walktest as required
- Access and test hard-to-reach sensor or module through any device



Exhibit 3-47 IR Remote Tool

Specifications

Dimensions: 1.3" H x 2.2" W x 7.7" L

Communication Range: Up to 30 ft.
Up to 24 ft. with dust cover on device

Battery Life : 168 hours typical usage
(alkaline batteries recommended)
(2 AA batteries, not included)

Operating Temperature Range: 32 – 122° F

Operating Humidity Range: 10% - 90% RH
Non-condensing

3.10.2 Hand Held Programmer, 10-2648

Non-listed, see page 89

The FIKE hand held programmer is designed for addressing intelligent sensors and modules that are used with the FIKE Cheetah Xi control system.

Features

- Easy to use
- Compact size
- Used to address intelligent sensors and modules
- Can be used as a training panel for new technicians
- USB port
- Powered by either an AC adapter (included) or two 9V batteries.
- 2' BNC to Alligator clip cable included for addressing intelligent modules



Exhibit 3-48 Hand Held Programmer

Specifications

Power Supply	120VAC 60 Hz / 24VDC 400mA (Tip +, Ring -, for 24VDC plug) OR 2 9V batteries
Dimensions	6" x 2" x 12"
Weight	Approx. 3 lbs. (1.4 kg) total HH Prog 1.6 lbs. (0.72 kg) AC transformer 0.9 lbs. (0.41 kg) BND leads 0.15 lbs. (0.07 kg)
Temperature	32°F to 120°F (0°C to 49°C)
Operating Humidity	93% RH max., non-condensing

3.10.3 C-Linx Software, 06-327

The C-Linx Software provides a computer interface to the Cheetah Xi controller. It provides the designer the tools to design a system in their office and then load the configuration at the installation. It also provides the ability to retrieve, save and print the configuration and history of events from the control panel.



3.10.4 Interface Cable, DB9-RJ11, 10-1874A

The 10-1874A is a communication cable that consists of a RJ11 jack, serial cable, and a RJ-11/DB9 connector (wired Fike specific). It should be used when connecting the C-Linx Software to the Cheetah Xi using a computer with a DB9 serial (com) port.



Exhibit 3-49 DB9 Communication Cable

3.10.5 Interface Cable, USB to RJ11, 10-1874B

This cable consists of a USB-to-RS232 (DB9) converter (Fike p/n 02-11139) and also includes the 10-1874A cable. It should be used when connecting the C-Linx Software to the Cheetah Xi using a computer with a USB connector instead of a DB9 serial (com) port.



Exhibit 3-50 USB/232 Communication Cable

3.10.6 Interface Cable, USB/A male to USB/B male, 10-2629

This cable consists of a USB 2.0 A/B Male-to-Male assembly. It should be used when connecting the C-Linx Software to the Fiber Optic module for network diagnostics.



Exhibit 3-51 USB Communication Cable

3.11 SPECIFICATIONS – BATTERIES AND BATTERY ENCLOSURES

Batteries are required for alarm systems for maintaining emergency back-up power. Two each 12V batteries are required and are to be wired in series for maintaining a 24VDC back-up. Most systems require at least a 24 hour standby current with 5 minutes alarm current for determining minimum battery size. Refer to Appendix 1 for Battery Calculation form for determining required battery size for system. The 10-2190-2 consists of 2 each 18 A-H, 12VDC batteries with a wiring harness.

3.11.1 Battery Assemblies

P/N 10-2626	12 AH Battery set with wiring assembly
P/N 10-2190-2	18 AH Battery set with wiring assembly
P/N 10-2192	Wiring assembly only for 7.2 AH and 18 AH batteries
P/N 10-2517	Wire Assembly with Battery EOL for use if batteries give fault but load test good.

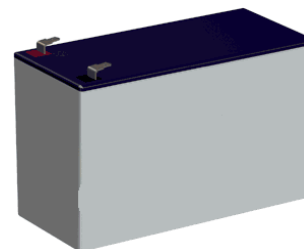


Exhibit 3-52 Batteries

3.11.2 Batteries

P/N 02-11725	12 AH Battery, Requires 2 each
P/N 02-2820	18 AH Battery, Requires 2 each
P/N 02-3468	33 AH Battery, Requires 2 each
P/N A02-0252	40 AH Battery, Requires 2 each
P/N 02-4206	75 AH Battery, Requires 2 each

3.11.3 Battery Enclosures

The 33 AH and 75 AH batteries do not fit in the CHEETAH XI panel enclosure therefore separate enclosures are required. Interconnecting cables shall be installed in conduit.

10-2154-c 33 AH Battery enclosure (no batt.)
c = R (Red) or G (Grey)

The 33 AH Enclosure is a heavy gauge metal enclosure 21”w x 11”h x 5”d and is large enough to house two each 33 AH batteries. Conduit knockouts are provided to provide entry of battery wiring. The box lid is installed onto the back-box using the 4 mounting screws provided.

10-2236-c 75 AH Battery enclosure (no batt.)
c = R (Red) or G (Grey)

The 75 AH Enclosure is a heavy gauge metal enclosure 26 1/4”w x 14”h x 7”d and is large enough to house two each 75 AH batteries. Conduit knockouts are provided to provide entry of battery wiring. The box lid is installed onto the back-box using the 4 mounting screws provided.

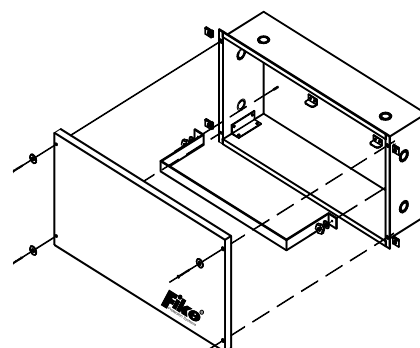


Exhibit 3-53 33 AH Battery Enclosure

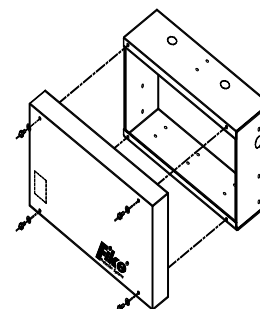


Exhibit 3-54 75 AH Battery Enclosure

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4.0 SYSTEM DESIGN

Fire Alarm systems must be designed per applicable codes and other requirements imposed by the Authority Having Jurisdiction. The following steps should be used as a guideline:

4.1 BASIC SYSTEM LAYOUT

Evaluate all areas to be protected and determine logical area's (**zone**) where detection and notification are required:

Input devices will be assigned to these zones to cause the zone to enter a specific **state** such as Alarm, Trouble, Supervisory, Process, Pre-Alarm, etc.

Output devices will be configured to activate when a specific zone(s) is in a specific state such as Alarm, Trouble, Pre-Discharge, Release, Supervisory etc.

Determine location of Control Panel:

Easily accessible and readily visible

On a flat wall free from vibration

In a clean and dry environment

Not outdoors or in a harsh environment

Determine the type and location of every detection device:

Detector spacing is determined to the area protected and the associated code. **If using Cross Zone or Count Zone detection types for Suppression activation there shall be a minimum of two detectors located in the protected space and reduce the detection spacing to 0.7 times the linear spacing in accordance with NFPA 72.**

Make note of the total quantities of each device.

Determine the type and location of each input device such as Manual Alarms, Supervisory, contact Detection, Process, Pre-Alarm, etc.:

These devices require contact monitoring modules.

Determine the total quantity of each device and the number of modules needed.

Determine the type and location of notification devices:

Type and location of devices must meet local code.

Each circuit of notification devices may either be connected to the two on-board, P10 and P11, circuits or connected to an SCM via the

addressable loop. The SCM has the ability to provide a modulated output.

All notification circuits may support up to 2 Amps of current to the devices.

Determine how many contact controls will be used for shutdown and interfacing. This will determine how many relays will be needed:

The P2 Relays for Supervisory, Alarm and Trouble may be used for system wide applications.

The CRM4 may be used to configure relays for a specific state in one or more zones.

The RM relays may be used to configure for a specific state in one or more zones and may be installed on the addressable loop closer to the equipment being controlled.

Determine Ancillary devices desired to meet specification requirements:

An optional DACT p/n 10-2528 (for Central Station monitoring) can be installed in the upper left corner of the enclosure and powered through terminal P7. It communicates with the Cheetah Xi via P6 RS485 connection.

Total the number of addressable devices. If the total exceeds 508 devices but is less than 1016, you will need to order a Supplemental Loop Module p/n 10-2473.

Remote Displays (p/n 10-2321, 10-2646, 10-2631, 10-2630) provide system status on an LCD display in areas other than just on the main panel.

The LED Graphic, 20 Zone Remote Annunciator p/n 10-2667, and Zone Annunciator p/n 10-2373 devices are available to provide instant visual system status at a remote location.

The VESDA HLI p/n 68-023 can be used to intelligently interface VESDA air sampling detectors.

4.2 CONFIGURE THE SYSTEM

Using the construction drawings and the information determined in the previous section, create a configuration file using C-Linx software or use the auto-configure mode to attach to the devices.

Using C-Linx Software, check for configuration errors.

Save the configuration file.

4.3 COMPLETE BATTERY CALCULATIONS

Using C-Linx software, load the configuration file then complete battery calculations or use Appendix 1 to complete manual battery calculations. If more power or battery back-up is required, field expanders or the Cheetah Xi SPS may be required.

4.4 REVIEW INSTALLATION REQUIREMENTS

Review installation requirements to determine if system can be installed within system requirements and meet specifications.

Plan circuit division and routing for all field wiring, including type and size of wire to be used.

Complete voltage drop calculations, if required, or determine worst case wire resistance determination for circuit.

4.5 COMPLETE INSTALLATION DRAWINGS

Using Construction Drawings from the installation create Fire alarm installation drawings. Place all Fire alarm control system components showing location, equipment list, zoning, wiring, system riser wiring, and sequence of operation.

4.6 COMPLETE DOCUMENTS WITH AS-BUILT INFORMATION

After the installation is complete, revise the drawings, configuration, battery calculations, etc. to match the final as-built/as-installed system.

5.0 OPERATION

This section defines the system operation pertaining to the front panel controls, display, defining the operational states, test modes and general panel operation.

5.1 DISPLAY

The LCD Display contains 4 Rows of 20 Characters. This display provides status information and other user interface information.

There are three main displays for the Cheetah Xi system:

- System Status** (time/date)
- System Event** (if events are present)
- Top Level Menu** (config/diagnostics.)

System Status displays a standard message on the first line of the display. The second line is defaulted to Fike Corporation, but can be edited. The third line is the current time and date. The fourth line is the number of Alarm, Supervisory, and Trouble events currently present on the system. This display is present when no events are present on the control system.

When an event occurs on the protection system, the display adds the System Event display. The top line shows the description of the event. The 2nd line displays the custom message for the device/circuit that caused the event. Press F1 to toggle to display Panel-Loop-Address of event. Press F2 to toggle for an extra 40 characters of device custom message. Press ESCAPE to switch back to the System Status menu or view the Top Level Menu. Press Step All to go back to the System Events.



Exhibit 5-1 Cheetah Xi Display

```
CHEETAH Xi V3.00
FIKE CORPORATION
08:00:00A 02/01/2008
AL:000 SU:000 TR:000
```

Exhibit 5-2 System Status Display

```
ALARM TYPE #1
CUSTOM MESSAGE L-ADR
HH:MM:SSA MM/DD/YYYY
EVENT XXXX OF YYYY
```

Exhibit 5-3 System Event Display

```
TOP LEVEL MENU
F1 - CONFIG F4 - PASSWRD
F2 - HISTORY F5 - MAINT
F3 - DIAG F6 - IR COMM
```

Exhibit 5-4 Top Level Menu

5.2 STATUS LEDS

5.2.1 AC POWER

The AC POWER LED is Green. It illuminates steady when proper AC power is present. This LED turns off when AC power is removed or is too low for proper AC operation.

5.2.2 ALARM

The ALARM LED is Red. It flashes when the panel enters the Alarm State. It illuminates steady after Acknowledge or Silence is initiated. This LED remains ON (alarms are latching events) until the panel is Reset.

5.2.3 TROUBLE

The TROUBLE LED is Yellow. It flashes when the panel enters the Trouble State. It illuminates steady after Acknowledge or Silence is initiated. This LED turns off if the Trouble condition clears and no other trouble events are present.

5.2.4 SUPERVISORY

The SUPERVISORY LED is Yellow. It flashes when the panel enters the Supervisory State or if a Zone or Device is Disabled. It illuminates steady after Acknowledge or Silence is initiated. This LED turns off if the Supervisory condition clears and no other supervisory events are present.

5.2.5 SILENCE

The SILENCE LED is Yellow. It illuminates steady when the panel is silenced by pressing the 'SILENCE' button (or remotely silenced). This LED turns off when the panel is reset. This LED indicates Notification Appliance Circuits that are programmed as Silenceable have been manually SILENCED. (Note: NFPA 72 requires that a silenced panel resound every 24 hours).

5.2.6 PRE-DISCHARGE

The PRE-DISCHARGE LED is Red. It flashes when the panel enters the Pre-Discharge State. It illuminates steady after Acknowledge or Silence is initiated. This LED remains ON until the panel is Reset.

5.2.7 RELEASE

The RELEASE LED is Red. It flashes when the panel enters the Release State. It illuminates steady after Acknowledge or Silence is initiated. This LED remains ON until the panel is Reset.

5.2.8 RELEASE DISABLED

The RELEASE DISABLED LED is Yellow. It illuminates steady when any zone is disabled. This LED turns off when panel is reset. It indicates all inputs in the zone disabled will not operate. Note: a Supervisory is also created when the zone is disabled.

5.2.9 ABORT

The ABORT LED is Yellow. It flashes when the panel enters the Abort State. It illuminates steady after Acknowledge or Silence is initiated. This LED turns off if the Abort condition clears and no other abort events are present.

5.2.10 GROUND FAULT

The GROUND FAULT LED is Yellow. It illuminates steady when a system ground fault trouble is present on the system. This LED turns off when the ground fault is removed or the panel is Reset.

5.3 KEYPAD

The Cheetah Xi has a 3,200 event history buffer. This buffer continuously cycles in new information, replacing the oldest information. A 1,600 event alarm history is held storing just the alarm events within that same 3,200 event buffer. There is a maximum of 1,600 alarms between reset in order to keep the first alarm events (Pre-Alarms are not recorded once an alarm is recorded from an address). An 800 event supervisory buffer is held storing just the supervisory events within that same 3,200 event buffer. The three oval STEP buttons just to the left of the LCD are accessible with the enclosure door closed on the version with no door cover. These buttons are accessible with the enclosure door opened only with the lexan-covered opening door.

These buttons provide the capability to step through these current events.



NOTE: Each history or diagnostic screen has a 100 second time-out. When a specific menu or screen is selected, a timer will begin. Each button press restarts the timer. After 100 seconds of no user interaction, the display will revert back to the System Event Menu or System Status Display. The switches have a 5 minute timeout. Pressing a switch changes the display to the switch function pressed and keeps that display for up to 5 minutes, followed by the 100 second timeout.



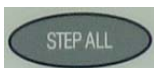
5.3.1 STEP ALARM

Press to step through the current ALARM events on the display.



5.3.2 STEP SUPER

Press to step through the current SUPERvisory events on the display.



5.3.3 STEP ALL

Press to step through the all current events on the display. Note: Pressing F5 will toggle the display between current history events and all history events (3200 events).

The four red buttons below the oval display on the keypad may be accessed with the enclosure front door opened.



5.3.4 DRILL

Press to activate outputs assigned for Drill Function in the configuration. Press RESET to clear the Drill activation.



5.3.5 ACKNOWLEDGE

Press to acknowledge an Alarm, Trouble or Supervisory State. Deactivates local piezo without silencing active outputs. Creates 'Acknowledge' event in the history.



5.3.6 SILENCE

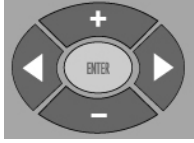
Press to Silence any notification appliance circuits that are sounding and programmed as silenceable outputs. Also deactivates local piezo. Creates 'Silence Function' event for all loops. NFPA requires a panel that has been silenced for 24 hours to resound (which UL requires that it also re-send to the DACT). Some local authorities require this sooner. The Cheetah Xi has a configurable option for resound from 0-24 hours with 24 hours programmed as the default.

5.3.7 RESET



Press to restore system to Normal. Deactivates control functions, flashes LEDs and momentarily interrupts resettable auxiliary power. Clears any latching event. If events are still present, they will immediately restore.

5.3.8 NAVIGATION (+, >, -, <)



These buttons are used for data entry during maintenance and configuration.



The <> arrows are used to move about in the configuration displays. The +/- buttons will increment or decrement the value at the cursor when in a configuration display. They can also be used when cycling through the event history. The Step Alarm button only cycles forward in events. These buttons allow you to go forward and backward through the events.

5.3.9 ESCAPE



Toggles from **System Event** display(if events are present) to **System Status** (time/date) to **Top Level Menu** Menu. If in a menu, this button EXITS the current menu and returns to the previous menu screen.

5.3.10 Function Buttons

The function buttons F1, F2, F3, F4, F5 and F6 are used to navigate the menu system during maintenance and configuration of the system. If an event is present and the display is in the SYSTEM EVENTS mode,

Pressing the F1 button will display the EVENT SOURCE information for an addressable device type event. Event source consists of 'PNLxxx LOOPxxx ADDRxxx' information. Thus indicating the panel number, SLC loop number and the specific address that caused the event.

Pressing F2 will show the extra 40 characters of custom message for the device (toggles on each press of the key). If the ESCAPE button is pressed, the display will toggle to the TOP LEVEL MENU display:

TOP LEVEL MENU	
F 1 - CONFIG	F 4 - PASSWRD
F 2 - HISTORY	F 5 - MAINT
F 3 - DIAG	F 6 - IR COMM

Exhibit 5-5 Top Level Menu Display


5.3.10.1 F1

CONFIG (Configuration). Press this button to enter the Configuration menus in the Cheetah Xi. (or displays EVENT SOURCE if in the SYSTEM EVENTS mode)

5.3.10.2 F2

HISTORY (History). Pressing this button will display the HISTORY MENU screen. From this screen, the user can select Alarm, Supervisory, Trouble, Events, Zone, and Erase functions. If one of these are selected, the history messages are displayed in the sequential order they occurred. Other states, such as Drill and Walktest, are available only in the Event History.



 **NOTE:** To select Alarm, Supervisory, or Trouble events from this menu, there must be at least one of the respective type of event within the current history buffer.

5.3.10.3 F3

DIAG (Diagnostics). Press this button to cycle through two diagnostic displays. See the Troubleshooting section of this manual for more details. (Requires level 2 or higher password)

5.3.10.4 F4

PASSWRD (Password). Press this button to access the Password entry menu. A password has to be entered to be able to configure the panel. Each Cheetah Xi is shipped with a default Level 3 Password. This password is obtained at Fike authorized training classes.

5.3.10.5 F5

MAINT (Maintenance) Press this button to enter the Maintenance menu. Depending on user access level, this menu allows you to do Walktest, Device Read, Device Address, Device Replace, and Buzzer functions.

5.3.10.6 F6

IR_COMM (IR Communication). The IR tool is recommended for use in system set-up and service. It is recommended that the IR communication be enabled only during these times and disabled during normal operation. The system devices will pull 50% more power with the IR communication enabled. Level 3 - Distributor password required.

5.3.11**Escape**

Toggles from **System Event** display(if events are present) to **System Status** (time/date) to **Top Level Menu**. If in a menu, this button EXITS the current menu and returns to the previous menu screen. If in the System Status Menu, pressing ESCAPE takes you back to event #1.

5.3.12**Enter**

Saves and enters the current configuration settings. Use Navigation buttons to change variables at the blinking cursor position.

5.4 SYSTEM OPERATIONAL OVERVIEW

The Cheetah Xi is an Addressable Fire Alarm system. Most connections are made to an addressable smoke sensor, input or output module. Each Cheetah Xi addressable loop can contain up to 254 devices, any combination. Each device is supervised by a unique address, 1-254. The device address as shipped from Fike is Loop 0, Address 0 and is changed/programmed into the device using the IR Tool. If configured to do so, the panel will auto-address a new device if a loop 0, address 0 is wired to the loop. It will recognize the new device by recording a DEVICE NOT IN CONFIG trouble and address it to the first available empty address on the loop (if one exists).

The operation of the Cheetah Xi Control System is based upon a Zone and State Relationship. All devices, Input or Output, must be assigned to at least one Zone or All Zones. A zone is defined as a specific area of protection or hazard to protect. There are 253 software zones available on the Cheetah Xi. A state is defined as 'a status which describes a specific operation of the fire alarm system.' Input devices can be assigned to up to four individual zones (only one zone is typical) or to a range of zones. Output devices may be configured for any zone (Z254 (disableable) or Z255 non-disableable) or maximum zones in action table (3 x 32 = 96 different zones). Panel events report in zone 254.

Each one of the addressable devices is intelligent and maintains its own operating configuration. The devices use the Cyber-loop to transmit and receive status information with one another and the control panel (the control panel appends zone information to the event and also holds the custom message information). The control panel sends this information from Cyber-loop to Cyber-loop and transmits data to on-board and peripheral devices. The control panel also performs supervision of devices and user communication/interface.

When an input is activated, it is configured to cause its associated zone(s) to enter an operational State. Any Detection device will cause their associated Zone(s) to enter the Alarm State (or Supervisory if programmed). All other input devices must be configured for a specific type of input State, which will cause its associated Zone(s) to enter that Operational State. Output devices are then configured to activate when their associated zone(s) enter into the configured State(s).

Example: MMM configured for Supervisory Input for Zone 3. When activated will cause any Output configured for Supervisory Zone 3 to turn ON.

5.5 PASSWORDS

The Cheetah Xi provides 4 different levels of security:

Level	Type	Created	Function
1	CUSTOMER	Keylock	Button access History Diagnostics
2	MAINTENANCE	C-Linx	Date/time View Config Maintenance
3	DISTRIBUTOR	Cheetah Xi	Configuration Change lev 3
4	FACTORY	Cheetah Xi	Factory Init. Create level 3

The Password Menu can be accessed from the Top Level Menu. The levels are also noted on the Appendix 3 Menu Structure.

Each Cheetah Xi is shipped with a default Level 3 Password (PW). This password is announced at the Fike Cheetah Xi training class. Once a successful password is entered on the control panel, the user has the ability to perform the functions noted.

The passwords can only be changed by a certified technician with a proper password. Press F4 from the Top Level Menu to access the password menu. Once a successful password has been entered, press ESCAPE to use/access other menus.

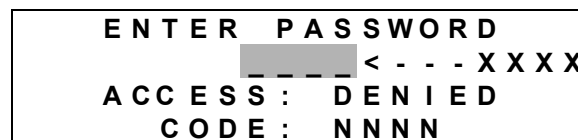


Exhibit 5-6 Password Menu

Line 2 4 digit password. Use the <> buttons to move the cursor and the +/- buttons (cycles through 0 – 9) to enter a password.



NOTE: Successful Level 3 – Distributor password provides the ability to change the default password (by changing the 4 digit number represented by XXXX and then pressing ENTER). If this is changed and then unknown, call Fike with the 4 digit CODE represented by NNNN.

Line 3 Displays the current access level (Denied, Level 2(A-H), Sys Admin, Factory) granted with the password provided.

Line 4 Random 4 digit code that changes periodically.

5.6 SYSTEM RESET/POWER UP

When appropriate power is applied to the Cheetah Xi system, it performs a POWER UP RESET. The control panel sends a BROADCAST ADDRESS message to the devices and requests their response.

If the RESET button is pressed, or if a Reset is transmitted from an input module or peripheral, the control panel provides a Reset and displays the following screen for 4 seconds:

```

RECORD NEW DEVICE
MESSAGES FROM RESET?
NO
    
```

Exhibit 5-7 Reset Display

If no button is pressed, the control panel performs a RESET but does not record, nor display, NEW DEVICE records. All latched events are cleared from the panel and the panel returns to the Normal State. If events are still present, the events are re-reported.

If the ACKNOWLEDGE button is pressed, the NO changes to YES, and the panel performs a RESET. With this option, the panel records and displays a NEW DEVICE record for each addressable device. All latched events are cleared from the panel and the panel returns to the Normal State. If events are still present, the events are re-reported.

5.7 NORMAL STATE

The only LED illuminated on the Front Panel is the AC POWER for the Normal State.

The display will show the "System Status Display" which consists of the standard Cheetah Xi message on the top line; user editable second line (Fike Corporation default); time and date on the third line; and total Alarm (AL), Supervisory (SU), and Trouble (TR) on the fourth line.

```

CHEETAH XI V3.00
FIKE CORPORATION
08:00:00A 02/01/2008
AL:000 SU:000 TR:000
    
```

Exhibit 5-8 System Status Display

While in the Normal State, the control panel will listen to the loops of devices. The panel sends a command to the loops every 8 seconds to request device status. If the device is missing it will report a DEVICE MISSING trouble within 30 seconds. Likewise, if a new device is present on the system, and not in the configuration, a DEVICE NOT IN CONFIG trouble will be reported.

The addressable devices are all true peer-to peer devices and will communicate their status to the loop of devices providing a very fast response to an alarm event. The panel passes this information between loops and constantly monitors the status. Addressable devices that are powered normal and being supervised by the panel will blink their green LED every 5 seconds.

5.8 ALARM / WATERFLOW STATE

The Alarm State may be activated by Sensors, Manual Alarms (Pull Station), or any input configured for Detection. Upon Waterflow input the system will also enter the Alarm State. When an input device is active, it will turn on its RED LED steady to indicate the activated status. It will light its REMOTE LED as programmed, if connected.

The ALARM LED flashes and panel piezo pulses. The Alarm LED illuminates steady and piezo turns OFF after ACKNOWLEDGE or SILENCE buttons are pressed. Any output circuit/module programmed for the Alarm State will be ON until Silenced (if programmed as Silenceable). The alarm history events are limited to 1600 after the 1st alarm (to save the first alarms). Once an alarm is recorded on an address, further pre-alarms are not logged in history until the panel is reset.

The Alarm State is a latching event and will require panel reset to clear the event and return the panel to the Normal State.

```

ALARM TYPE # 1
CUSTOM MESSAGE L - ADR
HH:MM:SSA MM/DD/YYYY
EVENT XXXX OF YYYY
    
```

Exhibit 5-9 Alarm Display

- Line 1 Alarm or Waterflow Event
- Line 2 Device Custom Message
- Line 3 Time and Date of Event
- Line 4 This event is number XXXX for the total YYYY current events

5.9 SUMMING ALARM STATE

(Non-listed, see page 89)

The Summing Alarm State may be activated by Sensors. When a sensor is active with a summing alarm, it will turn on its RED LED steady to indicate the activated status. It will light its REMOTE LED as programmed, if connected.

If configured for ALARM, the ALARM LED flashes and panel piezo pulses. The Alarm LED illuminates steady and piezo turns off after ACKNOWLEDGE or SILENCE buttons are pressed. Any output circuit/module programmed for the Summing Alarm State will be ON until Silenced (if programmed as Silenceable). The Z255 Alarm will also be active.

The Summing Alarm State is a latching event and will require panel reset to clear the event and return the panel to the Normal State. The display is similar to Alarm state, except ALARM TYPE #1 is replaced with ALARM TYPE #2.

5.10 ALARM VERIFICATION STATE

When a sensor programmed for alarm verification exceeds its alarm threshold, it broadcasts the Alarm Verification state. Any output device programmed for alarm verification in that same zone would operate. If the sensor is still above the alarm threshold at the end of the verification period, it will broadcast the alarm (alarm verification state will then be OFF). No panel LED's or piezo operate during this state. An event is recorded in the event buffer.

5.11 TROUBLE STATE

The Trouble State may be caused by a system, circuit or device supervision trouble. It can also be activated by an input module programmed for Trouble, a Pre-Alarm input(s), or Walktest activation. Upon entering the Trouble State the following occurs:

The TROUBLE LED flashes and panel piezo is steady. The Trouble LED illuminates steady and piezo off after ACKNOWLEDGE or SILENCE buttons are pressed. If the trouble is caused by an addressable device, the device LED will blink YELLOW approximately every second. Any output circuit/module programmed for the Trouble State in the zone that is in Trouble will be ON until Silenced (if programmed as Silenceable). The P2 System Trouble Relay will activate (this relay is normally energized and will de-energize).

The Trouble state is generally non-latching, excluding 'LOOP CLASS A OPEN', 'LOOP SHORT', and 'DRIFT TROUBLE' troubles which are latching.

Once the trouble is restored, the panel will return to normal if no other events are present. The latching troubles noted require reset of the panel to clear the fault once it is corrected. When a trouble event occurs it will display similar to Exhibit 5-10 for 100 seconds then switch to the System Status Display if no buttons are pressed.

<p style="text-align: center;"> GENERAL TROUBLE CUSTOM MESSAGE L - ADR HH : MM : SSA MM / DD / YYYY EVENT XXXX OF YYYY </p>
--

Exhibit 5-10 Trouble Display

- Line 1 Trouble Event
- Line 2 Device Custom Message
- Line 3 Time and Date of Event
- Line 4 This event is number XXXX for the total YYYY current events

5.12 SUPERVISORY STATE

The Supervisory State may be activated by any input configured for Supervisory. These inputs are typically connected to Sprinkler system Tamper, or Low Air Pressure (or suppression low pressure switch) input contacts.

SUPERV LED flashes and panel piezo warbles (on & off pattern). LED illuminates steady and piezo off after ACKNOWLEDGE or SILENCE buttons are pressed. When an input device is active, it will turn on its RED LED steady to indicate the activated status. Any output circuit/module programmed for the Supervisory State in the zone that is in Supervisory will be ON until Silenced (if programmed as Silenceable).


Supervisory inputs may be configured for latching or non-latching. If configured for latching, the panel will require reset to restore the system to normal. If configured for non-latching, once the Supervisory is restored, the panel will return to normal if no other events are present. When a supervisory event occurs it will display similar to Exhibit 5-11. If all events are restored, it will display for 100 seconds then switch to the System Status Display if no buttons are pressed.

```

SUPERVISORY INPUT
CUSTOM MESSAGE L - ADR
HH : MM : SSA MM / DD / YYYY
EVENT XXXX OF YYYY
    
```

Exhibit 5-11 Supervisory Display

- Line 1 Supervisory Event
- Line 2 Device Custom Message
- Line 3 Time and Date of Event
- Line 4 This event is number XXXX for the total YYYY current events

 **NOTE:** When a Zone Disable is active, it also automatically creates a Supervisory in the disabled zone.

5.13 PRE-DISCHARGE STATE

The Pre-Discharge State may be activated by Sensors, Manual Releases (Pre-Discharge or Man Release), or any input configured for Detection (or VESDA). Each input device is configured for a Pre-Discharge type (defined in Appendix 4).

The Pre-Discharge LED flashes and panel piezo pulses. The Pre-Discharge LED illuminates steady and piezo turns OFF after ACKNOWLEDGE or SILENCE buttons are pressed. Any output circuit/module programmed for the Pre-Discharge State will be ON until Silenced (if programmed as Silenceable). If from a detection device, it begins the Automatic countdown as configured in the zone configuration, if selected in the device's suppression configuration. If from a input type Pre-Discharge, it begins the Manual countdown as configured in the zone configuration, if selected in the device's suppression configuration.

The Pre-Discharge State is a latching event and will require panel reset to clear the event and return the panel to the Normal State.

```

ZONE XXX RELEASE IN
      NNN SECONDS
ZONE XXX CUSTOM MSG
    
```

Exhibit 5-12 Pre-Discharge Display


- Line 1 Zone xxx (1-254) is in a Pre-Discharge state
- Line 2 The Pre-Discharge time is displayed and it will countdown as it approaches release (at 0 seconds)
- Line 3 Custom message assigned for the zone in the Pre-Discharge state.

5.14 ABORT STATE

The Abort State may be activated by any input configured for Abort. An abort is considered a trouble (invalid) until an alarm occurs on the system. Each Cheetah Xi must be configured for one of several different abort types. Reference Appendix 4 of this manual for available Abort Types and their operation. Upon an Abort input the system will enter the Abort State. When an input device is active, it will turn on its RED LED steady to indicate the activated status. It will light its REMOTE LED as programmed, if connected.

The ABORT LED flashes and panel piezo pulses a unique sound. The Abort LED illuminates steady and piezo turns OFF after ACKNOWLEDGE or SILENCE buttons are pressed. Any output circuit/module programmed for the Abort State will be ON until Silenced (if programmed as Silenceable).

The Abort State is a non-latching event. Once an abort is restored to normal, the panel may go back to Pre-Discharge or immediately release depending on the countdown time left and the abort type selected.

 **Note:** Manual Release/Pre-Discharge input will over-ride an abort input and cause the immediate advancement to the release state or manual countdown.

```

ABORT ACTIVE
CUSTOM MESSAGE L - ADR
HH : MM : SSA MM / DD / YYYY
EVENT XXXX OF YYYY
    
```

Exhibit 5-13 Abort Display

- Line 1 The Abort input is active. If no alarms are present, this event is preceded by Invalid Abort Active event.
- Line 2 Device Custom Message
- Line 3 Time and Date of Event
- Line 4 This event is number XXXX for the total YYYY current events

5.15 RELEASE STATE

The Release State will be activated upon successful completion of the Pre-Discharge state (after countdowns AND with no abort present).

The RELEASE LED flashes and panel piezo pulses. The Release LED illuminates steady and piezo turns OFF after ACKNOWLEDGE or SILENCE buttons are pressed. Any output circuit/module programmed for the Release State will be ON until Silenced (if programmed as Silenceable).

The Release State is a latching event and will require panel reset to clear the event and return the panel to the Normal State.

```

ZONE  XXX  RELEASE  IN
      000  SECONDS
ZONE  XXX  CUSTOM  MSG
AL : 001  SU : 000  TR : 000
    
```

Exhibit 5-14 Release Display

- Line 1 Zone xxx (1-254) is in a Pre-Discharge state
- Line 2 The Pre-Discharge time has reached 0 and no aborts are held. The system has advanced to release.
- Line 3 Custom message assigned for the zone in the Pre-Discharge state.
- Line 4 Identification of the number of Alarms, Supervisories, and Troubles on the system.

5.16 ZONE DISABLE STATE

The Zone Disable State may be activated by any input configured for Zone Disable. Disabling a zone from the C-Linx Software or by the main panel menu's will operate in the same manner.

When a Zone Disable event occurs, the panel will enter the Trouble and Supervisory state (as previously described) and the Release-Disabled LED will light. When a zone (1-254) is disabled, outputs ignore active inputs configured for the disabled zone (1-254). However, if the output is configured for zone 255, the output will operate regardless of the zones state (disabled/enabled).

The Zone Disable event is non-latching. Once the Zone Disable contact is restored or the zone is re-enabled, the panel will return to normal if no other events are present. When a zone disable event occurs it will display similar to Exhibit 5-15. If all events are restored, it will display for 100 seconds then switch to the System Status Display if no buttons are pressed.

```

ZONE  DISABLED : 001
CUSTOM MESS ZONE 001
HH : MM : SSA  MM / DD / YYYY
EVENT XXXX OF YYYY
    
```

Exhibit 5-15 Zone Disable Display

- Line 1 Zone Disabled State with Zone #
- Line 2 Device Custom Message
- Line 3 Time and Date of Event
- Line 4 This event is number XXXX for the total YYYY current events

The remaining STATES do not have a dedicated LED but will provide an input/output relationship:

5.17 PRE-ALARM STATE

There are two levels of Pre-Alarms that may be configured, **Pre-Alarm #1** and **Pre-Alarm #2**. These are used for performing an early warning of a fire alarm. As smoke increases in a hazard, the obscuration of the photo-electric sensor rises. Zero %/ft obscuration is a completely clean environment. As the smoke amount rises, the obscuration percentage rises, up to 4%/ft (UL smoke box test maximum alarm level recognized). Pre-Alarm #1 should be set for the lowest level of obscuration percentage desired for notification. Pre-Alarm #2 should be set slightly higher as the obscuration rises. The alarm level is then set at the 3rd level up in the obscuration percentage. The C-Linx Software forces these separated levels and does not allow them to overlap.

Pre-Alarms may be independently enabled/disabled in configuration of each sensor. If Pre-Alarms are enabled in a sensor, and the Pre-Alarm level is exceeded the panel will log the Pre-Alarm1 or 2 state and any output circuit/module programmed for the respective Pre-Alarm State and Zone will be ON until Silenced (if programmed as Silenceable). Pre-Alarm events cause the trouble LED to flash but does NOT create a trouble event.

Pre-Alarms are non-latching. Once the obscuration level lowers below the Pre-Alarm level, the panel will return to normal if no other events are present. When a Pre-Alarm event occurs it will display similar to Exhibit 5-16. If all events are restored, it will display for 100 seconds then switch to the System Status Display if no buttons are pressed.

```

PRE - ALARM # 1
CUSTOM MESSAGE L - ADR
HH : MM : SSA MM / DD / YYYY
EVENT XXXX OF YYYY

```

Exhibit 5-16 Pre-Alarm Display

- Line 1 Pre-Alarm Event
- Line 2 Device Custom Message
- Line 3 Time and Date of Event
- Line 4 This event is number XXXX for the total YYYY current events

The device LED will blink its LED Red in a slow pulse for Pre-Alarm #1. It will change to a fast blink for Pre-Alarm #2.

5.18 PROCESS STATE

The Process State may be activated by any input configured for Process. These inputs are typically connected to non fire alarm system contacts used for process management or other non system critical functions.

When a Process event occurs the panel backlight will turn on and an event will be recorded in the history. No Panel LED will illuminate, nor will the piezo sound. When an input device is active, it will turn on its RED LED steady to indicate the activated status. Any output module programmed for the Process State will be ON until Silenced (if programmed as Silenceable).

Process events are non-latching. Once the Process contact is restored, the panel will return to normal if no other events are present. When a Process event occurs it will display similar to Exhibit 5-17. If all events are restored, it will display for 100 seconds then switch to the System Status Display if no buttons are pressed.

```

PROCESS INPUT
CUSTOM MESSAGE L - ADR
HH : MM : SSA MM / DD / YYYY
EVENT XXXX OF YYYY

```

Exhibit 5-17 Process Display

- Line 1 Process Event
- Line 2 Device Custom Message
- Line 3 Time and Date of Event
- Line 4 This event is number XXXX for the total YYYY current events

5.19 WALK-TEST STATE

Walktest is a means to test a system without unneeded disturbance to building occupants.

The devices are each individually programmed to Walktest with Smoke (default), Walktest with IR, **OR** Walktest at 1.3%. Sensors indicate that they are in the TEST ALARM status by blinking their LED's Green then Red when tested. Sensor LEDs will turn off (back to green only, every 5 seconds) when alarm level clears.

The Walktest functions as a toggle mode, it is either On or Off. While On, the system goes into trouble and accepts normal sensor alarm events and responds by recording the events ('Walktest active') in history and activating chosen output devices for a duration of 4 second (continuous). Only Output devices, which are enabled for Walktest, will respond during this mode:

CM: Configured to respond to Walktest
 RM: Configured to NOT respond to Walktest
 NAC1 & NAC2: Configured to respond to Walktest
 RELAYS: Trouble activated, otherwise not responsive.

Entry to Walktest can be accomplished in two ways:

IR tool- initiated at the device/by device (IR Communication must be enabled at panel). If Test Modes-Test Alarm is entered on the device, it is in a test mode status. If configured for Walktest with IR, it will present a Walktest state to the outputs. If configured for Walktest with Smoke, it will be ready to test with smoke to create the Walktest state for the outputs.

Panel Menu - system (via panel) – All input devices are put in a test alarm status and can then be tested with smoke. Each input programmed for Walktest with IR, will immediately show a Walktest Alarm event.

1. Enter Password. Press F5-MAINT, F4-WALKTS
2. Press ENTER to begin Walktest mode 1 – Buzzer ON (the local piezo will also sound with the activation of the alarm events).
3. Press ENTER again to begin Walktest mode 2 – Buzzer OFF (the local piezo will be silent with the activation of the alarm events).

```

SELECT WALKTEST : MODE
      NOT ACTIVE
      ENTER TO SELECT
      TIMEOUT : 1 HOUR ( S )

```

```

MODE 1 - BUZZER ON

```

```

MODE 2 - BUZZER OFF

```

Exhibit 5-18 Walktest Display



Local and Remote Display will display pertinent information - Walktest active, time and date of event.

A Device may only be activated once during a Walktest mode. Walktest timeout is adjustable up to 4 hours. This timer restarts upon any event or press of button. If no events or buttons are pressed for time specified, the system will reset itself back to normal operation.

The remainder of the Cheetah Xi Operations is basic operation details and is arranged in alphabetical order for ease in location:

5.20 ACCLIMATE

A new feature incorporated into the Cheetah Xi addressable devices is the Acclimate. The acclimate feature allows the photo sensor to adjust to the environment ambient noise levels on a short term basis (1 hour). The Photo, Photo/Heat, Ion, and Photo Duct sensors all have the capability of the acclimate feature. This feature is enabled by default. It is internal to these devices and allows them to become accustomed to the environment.

5.21 AC TROUBLE DELAY

Central and Remote Supervising Station Systems require the use of a Digital Alarm Communicator Transmitter (DACT), 10-2528 or 10-2254 Reverse Polarity Module. These modules transmit all information from the panel output, to the Supervising Station. Since Loss of AC is non-critical and secondary power is available, Supervising Stations typically need not see immediate AC power low troubles. AC power loss trouble will not immediately be sent to the dialer for AC power low or loss Trouble, if it is the only fault. The communication will wait the programmed amount of time. The Cheetah Xi controller is programmable for a 0-30 hour (in 1 hour increments) AC trouble delay.

The piezo and the display of the event do not follow the delay of the relay and are immediately annunciated if the AC trouble is the only trouble.

5.22 ALARM VERIFICATION

Sensors can be individually configured for an alarm verification delay. The delay consists of extra time to confirm that the device is still in alarm. When a sensor is configured for Alarm Verification, it will first report 'Alarm Verification ON' at the first sense of the alarm level being exceeded. The actual alarm event is not broadcast until the Alarm verification time has expired AND the sensitivity level is still above the alarm threshold. Alarm Verification cannot be implemented with systems using cross zone or count zone operation for releasing service.

5.23 CITY TIE/MASTERBOX

A Master Box is a municipal fire alarm box (street box that sends an alarm to the public fire service communications center) that can also be operated by a remote means. If using a master box with an Auxiliary Fire Alarm System, a Supervised Control Module (55-042) and a 10-2413 Masterbox Supervisor module will be required. When configuring for Masterbox, the circuit should be programmed for any alarm event. The activation should be steady state (no pulsing), non-silenceable, and no Walktest or drill.

5.24 CLASS A OPERATION

The two Addressable Loops, Input Monitor Modules, Supervised Control Module and the two on-board Audible Loops (A1 & A2) can all be configured for Class B, two wire, or Class A, four wire wiring. The redundant wiring provided with Class A wiring provides added security that events can still be recognized with a single wire break. When Class A wiring is utilized, Configure the circuit for Class A wiring, no 't-tap' wiring is allowed, the return leg from the last device must be located in a separate conduit as the main leg. The control panel is constantly supervising all wiring. Once an Open Fault is recorded on one of the inside legs of wiring, the panel immediately transfers communication to the redundant leg of Class A wiring.

5.25 DAYLIGHT SAVINGS

Daylight Saving Time (DST) -- for the U.S. and its territories -- is NOT observed in Hawaii, American Samoa, Guam, Puerto Rico, the Virgin Islands, and by most of Arizona (with the exception of the Navajo Indian Reservation in Arizona). The control panel will automatically change the time forward/backward at the appropriate times if daylight savings is selected, YES. The control panel will not change the time if the daylight savings is selected NO. **Note:** Due to the release of the Energy Policy Act of 2005, DST start and stop dates changed in 2007. As a result, some versions of Cheetah Xi firmware followed the original DST. The differences are indicated as follows...

Firmware v3.0 and up

Daylight Saving Time begins at 2 a.m. on the second Sunday of March. Time reverts to standard time at 2 a.m. on the first Sunday of November.

Firmware v1.3 to v2.0

Daylight Saving Time begins at 2 a.m. on the first Sunday of April. Time reverts to standard time at 2 a.m. on the last Sunday of October.

5.26 DAY/NIGHT/HOLIDAY SCHEDULE

If smoke sensors are located in a hazard area that is much more active during typical operation hours, and quiet during off hours, it may be optimum to utilize the Day/Night/Holiday Schedule. This option provides the ability to have two separate alarm thresholds; one less sensitive alarm threshold during operational hours, one more sensitive alarm threshold during non-

operational hours. Each input sensor has two alarm sensitivity thresholds. Night Alarm Level is always used on all sensors. Day Alarm Level is only used if Day/Night /Holiday Schedule are selected. If Day/Night/Holiday is selected as active, the On and Off times must be configured and the holidays need also be configured. The panel can be configured for twenty holiday dates which must be maintained yearly. On non-holiday dates, a start time (hour AM/PM and minute) and stop time are configured for alarm sensitivity changes. Sensors enabled for this will change to Night Alarm Level when the start time is reached and revert back to Day Alarm Level when the stop time is exceeded. On holidays, the system will remain at Night Alarm Level.

Note: the Acclimate feature is not used when day/night thresholds are used.

5.27 DEVICE LED OPERATION

The following are the responses expected from the device LED:

Normal	Green every 5 seconds
Pre-Alarm1	Red, slow
Pre-Alarm2	Red, fast
Alarm/Sum	Red, steady
Trouble, Open	Yellow, slow
Trouble, Short	Yellow, fast
Trouble, General	Yellow, steady
Test Alarm	Red/Green

5.28 DIAGNOSTICS

There are seven diagnostic screens available. Refer to Servicing section for a full description on this operation.

5.29 DRIFT COMPENSATION

The Cheetah Xi intelligent Eclipse sensors perform a drift compensation routine. Drift compensation is a feature that allows the sensor to be accustomed to the environment and helps ensure that dust and dirt do not cause false alarms on a sensor. As dust/dirt is accumulated in the sensor chamber, the sensor will gradually adjust for this increase. This routine is performed on a long-term basis, where the acclimate feature is performed on a short term basis.

5.30 DRILL ACTION

Fire Alarm Drill inputs are frequently needed to perform a practice fire alarm drill/building evacuation test or for the Fire Department to evacuate a building. The Drill State can be activated from the main panel Drill button, an addressable input Monitor Module configured for Drill, or the Remote Display can invoke a Drill Input.

When a Drill event occurs the panel backlight will turn on and an event will be recorded in the history. No Panel LED will illuminate but the piezo will warble. When an input device is active, it will turn on its RED LED steady to indicate the activated status. Any output module programmed for the Drill State will be ON until Silenced (if programmed as Silenceable).

Drill events are latching. The control panel must be reset to return the system to Normal status. When a drill event occurs it will display similar to Exhibit 5-19.

```

INPUT ACTIVE: DRILL
CUSTOM MESSAGE L - ADR
HH:MM:SSA MM/DD/YYYY
EVENT XXXX OF YYYY
    
```

Exhibit 5-19 Drill Display

- Line 1 Drill Event
- Line 2 Device Custom Message
- Line 3 Time and Date of Event
- Line 4 This event is number XXXX for the total YYYY current events

Drill Rules:

- Control Module: Configurable for Drill
- Relay Module: Disabled by C-Linx
- NAC 1 & 2: Configurable for Drill
- Panel Relays: Disabled

5.31 FLAME ENHANCE

(Non-listed, see page 89)

The Photo/Heat sensor provides a *new* flame enhance operation that will provide a faster response than a conventional photo/heat device. If the device senses an increase in obscuration AND an increase in temperature it will speed its alarm response calculations. Also, if the temperature rise is greater than 3° C AND there is greater than 1%/ft obscuration detected it will also speed the alarm response calculations.

5.32 HISTORY BUFFER

There is a 3,200 event history buffer in the Cheetah Xi Control Panel which is continuously cycling. Within this 3,200 event buffer there is a 1600 event alarm buffer and an 800 event supervisory buffer. These extra buffers prevent nuisance event information from over-writing the important alarm and supervisory events. Note that the event recording rules changed with firmware updates.

Firmware v3.0 and up

Upon exceeding 3200 events, the first record/event in, will be the first record/event out. The only exception to this rotating buffer is when an Alarm event occurs. Since the first alarm event is critical for identification of fire initiation, the buffer will keep the first alarm event and then STOP after the next 999 events are recorded.

Firmware v1.3 to v2.0

The panel will only record the first 3200 events after a reset. Across resets, upon exceeding 3200 events, the first record/event in, will be the first record/event out. The panel will record only the first 1600 alarms after reset. The panel will record only the first 800 supervisory events after reset.

The event buffers can be viewed in the following different methods...

Step Alarm – Current Alarm events only

Step Super – Current Supervisory events only

Step All – All current events displayed

Old History (F5) – Old History events (pre-reset, all 3200). Toggles between all and current. Press **Step All** to display an event, then press F5 to toggle between CURRENT and OLD history.

The Step and +/- buttons each display current events. **Current** events are those that have taken place since the last RESET of the panel. Old History will display the entire 3,200 event history buffer including those previous to the reset. This event buffer is a continuously recycling buffer; removing the oldest events and replacing with newest events. This history is battery backed. If power is removed from the system, the history is still saved (held by the lithium coin cell battery).

Use C-Linx Software to obtain a hard-copy of the complete 3200 event history buffer.

History can also be viewed by accessing the History Menu (Press ESCAPE until locating the Top Level Menu, then press F2-HISTORY). Events are displayed only if there are current event states present.

```

HISTORY MENU
F 1 - ALARM      F 4 - EVENTS
F 2 - SUPERV    F 5 - ZONE
F 3 - TROUBL    F 6 - ERASE
    
```

Exhibit 5-20 History Menu

5.32.1 F1 - ALARM

```

ALARM TYPE # 1
CUSTOM MESSAGE L - ADR
12 : 24 : 44 P 02 / 05 / 20 07
ALARM 0001 OF 0001
    
```

Exhibit 5-21 Alarm History Menu

+ / - Use the + and – on the Keypad to scroll through all Alarm events in the history buffer. Use F1 and F2 to further locate device event. Press F5 to toggle between current history and all history.

5.32.2 F2 - SUPERV

```

SUPERVISORY INPUT
CUSTOM MESSAGE L - ADR
12 : 24 : 44 P 02 / 05 / 20 07
SUPVR 0001 OF 0001
    
```

Exhibit 5-22 Supervisory History Menu

+ / - Use the + and – on the Keypad to scroll through all Supervisory events in the history buffer. Use F1 and F2 to further locate device event. Press F5 to toggle between current history and all history.

5.32.3 F3 - TROUBL

```

GENERAL TROUBLE
CUSTOM MESSAGE L - ADR
12 : 24 : 44 P 02 / 05 / 20 07
TROUBL 0001 OF 0001
    
```

Exhibit 5-23 Trouble History Menu

+ / - Use the + and – on the Keypad to scroll through all Trouble events in the history buffer.

5.32.4 F4 - EVENTS

```

POWER - UP RESET
CUSTOM MSG PANEL 0 0 1
01 : 00 : 00 P 01 / 01 / 20 07
EVENT 0001 OF 0004
    
```

Exhibit 5-24 Events History Menu

+ / - Use the + and – on the Keypad to scroll through all events in the history buffer. Use F1 and F2 to further locate device event. Press F5 to toggle between current history and all history.

5.32.5 F5 - ZONE

```

TROUBLE ACT ZONE 00 1
CUSTOM MESSAGE L - ADR
12 : 24 : 44 P 02 / 05 / 20 07
ZONE EV 0001 OF 0005
    
```

Exhibit 5-25 Zone History Menu

+ / - Use the + and – on the Keypad to scroll through all Zone events in the history buffer.

5.32.6 F6 – ERASE

This menu requires prior entry of a successful Level 3 (Distributor) password.

```

PRESS ENTER
TO ERASE HISTORY
    
```

Exhibit 5-26 Erase History Menu

Enter Press ENTER to erase all 3200 events from memory. During the erase sequence, the display will indicate the following...

```

* * ERASING * *
* * HISTORY * *
    
```

Exhibit 5-27 Erase History Status

5.33 MAINTENANCE MENU

To access the Maintenance menu, press F5, from the Function Switches/Top Level Menu:

```

    MAINTENANCE MENU
    F 1 - DEV RD   F 4 - WALKTS
    F 2 - DEV ADR  F 5 - BUZZER
    F 3 - DEV RPL  F 6 -
    
```

Exhibit 5-28 Maintenance Menu

5.33.1 DEV RD – DEVICE READ

To access the Device Read menu, press F1, from the Maintenance Menu:

```

    MOST RECENT DEVICE
    ATTACHED TO PANEL
    LOOP : 1 ADDRESS : NNN
    TYPE : XXXXXXXXXX
    
```

Exhibit 5-29 Device Read Menu

- Line 3 Displays the most recent ADDRESS of the device seen attached to the loop. To read a device address, either add it to the loop while this menu is displayed, or temporarily remove and replace the device for it to read the address.
- Line 4 The Device type of the address that is most recently identified in line 3.

5.33.2 DEV ADR - DEVICE ADDRESS

To access the Device Address menus, press F2, from the Maintenance Menu:

```

    SELECT ADDRESS
    LOOP : 1 ADDRESS : 001
    PRESS ENTER TO START
    
```

Exhibit 5-30 Device Address Menu

- Line 2 Use the <> buttons to move the cursor under the Address range and the +/- buttons to the desired device (1-254)
- Line 4 Press the enter Button and a screen will step you through the device replace sequence (see following steps).



Note: This menu allows you to *change the ADDRESS* of a device. Once ENTER is pressed, the panel needs to see a NEW DEVICE record for the device. Either add it to the loop at this time or remove and replace the single device. This menu does not alter the configuration or the panel supervision, those functions will still be required to be completed for appropriate operation and supervision.

```

    CONNECT DEVICE TO
    ADDRESSABLE LOOP
    PRESS ENTER WHEN
    COMPLETE
    
```

Exhibit 5-31 Device Address Process Menu

This menu will prompt the user to connect the new device (or temporarily remove and replace the desire device to address to the loop):

```

    CONNECT DEVICE TO
    ADDRESSABLE LOOP
    * NEW DEVICE *
    * DETECTED *
    
```

Exhibit 5-32 Device Address/New Device Menu

The panel has detected that a new device message was recorded and is ready for the user to press ENTER to record the device with the new address (the panel will auto-increment the address number after each successful address write):

```

    LOOP : 1 ADDRESS : NNN
    DEVICE ADDR CHANGE
    COMPLETED
    ENTER FOR NEXT DEVIC
    
```

Exhibit 5-33 Device Address/Changed Menu

5.33.3 DEVICE REPLACE

If a **sensor type (device with base/head)** device needs replacement, with a successful Password Level 2 or higher this menu can be used to replace a device. To access the Device Replace menu, press F3, from the Maintenance Menu:

```

SELECT ADDRESS
LOOP : 1 ADDRESS : 0 0 1
TYPE : PHOTO SENSOR
PRESS ENTER TO START

```

Exhibit 5-34 Device Replace Menu

- Line 2 Use the <> buttons to move the cursor under the Address field and the +/- buttons to the desired device (1-254) to replace.
- Line 4 Press the enter Button and a screen will step you through device replace. The panel will read the configuration from the copy that the panel has (if it contains a checksum loaded by C-Linx) and then load it to the new device when replaced. This menu will replace the existing serial number information for the device. Once ENTER is pressed to start, wait for the process to complete before going to other menu's.

Note: This menu allows you to replace a device. The replacement device **MUST** be the same type of device. Testing of the changed device is recommended after replacement.

When this menu is invoked, the panel will retrieve the configuration and store that configuration:

```

SELECT ADDRESS
LOOP : 1 ADDRESS : 0 0 1
TYPE : PHOTO SENSOR
PRESS ENTER TO START

```

Exhibit 5-35 Device Replace/Source Menu

```

RETRIEVING CONFIG
FROM DEVICE
>>>>>>>>>>>><<
PLEASE WAIT

```

Exhibit 5-36 Device Replace/Read Menu

The panel will then prompt to replace the device and will then send the same configuration from the old device to the new one:

```

CONFIGURING
NEW DEVICE
>>>>>>>>>>>><<
PLEASE WAIT

```

Exhibit 5-37 Device Replace/Write Menu

The panel will record the DEVICE REPLACE OK (or FAIL is if there was a failure) event and display COMPLETED on the bottom line, then allow replacement of another device:

```

REPLACE SUCCEEDED
LOOP : 1 ADDRESS : 0 0 1
TYPE : PHOTO SENSOR
ENTER FOR NEXT DEVIC

```

Exhibit 5-38 Device Replace/Source Menu

The panel will perform a reset and log a CONFIG CHANGE TIMEOUT record at the conclusion of the device replacement. If there is no button entry within 100 seconds.

5.34 NETWORK OPERATION

Multiple Cheetah Xi panels can be networked together to provide one/multiple points for entire system status using either a 10-2482 Network or 10-2624 Fiber Optic Network module on each controller. Each panel on the network will receive, display, and log all events across the network, including the custom message information (2nd line of display). Each panel on the network must be configured for its:

Network ID – 1-128

Network ID's to Supervise (First only)

Custom message – 20 Characters

Wiring style – 4 or 7

Network location - first/middle/last device

Switch status - global/local

When a networked panel receives an event, the event will be displayed on the panels LCD display and recorded in history. If the panel's network zone configuration matches the received event*, the panel will also respond by activating the local piezo, appropriate LED, Contact ID DACT (p/n 10-2528), and output devices for that zone. Press F1 to locate the panel that created the event. Network information is transmitted to the Dialer ADEMCO contact ID as :

Area = Panel id 1-99 (limited to two digits, so Serial Dialer interface is limited to 99 panels)

Point =

loop 1, addr 1-254 displays as 001 to 254

loop 2, addr 1-254 displays as 255 to 508

loop 3, addr 1-254 displays as 509 to 762

loop 4, addr 1-236 displays as 763 to 998

loop 4, addr 237 – 254 displays as 999

The 10-2482 Network Module has a separate installation and operation manual, 06-349.

The 10-2624 Fiber Optic Network Module has a separate installation and operation manual, 06-387.



* Pre-Discharge and Abort states/events are NOT acted upon when received across the network.



Although the Release state does function across the network, use of this feature should be restricted to Pre-Action/Sprinkler applications only. Because Abort inputs function on the local panel only, Clean Agent release functions should NOT be controlled across the network.

5.35 POSITIVE ALARM SEQUENCE

This feature is enabled or disabled for all sensors present on the panel. When enabled, the alarm signal from an automatic fire detection device shall be acknowledged at the remote keypad (or input module) within 15 seconds of annunciation in order to initiate the alarm investigation phase. The annunciation to this point consists of only the Cheetah Xi local piezo alarm and the event message on the remote display. If the alarm signal is not acknowledged within 15 seconds, all notification circuits assigned to the same zone as the initiating device will be activated immediately.

Trained personnel have up to 180 seconds during the alarm investigation phase to evaluate the fire condition and reset the panel. If the panel is not reset during this investigation phase, all notification circuits assigned to the same zone as the initiating device will be activated upon expiration of the investigation phase.

If a second automatic fire detector is actuated during the alarm investigation phase, or any other initiating device (such as manual alarm station) is actuated, all notification circuits assigned to the same zone as the initiating device will be activated immediately.

A means has been provided to bypass this feature without re-configuring the panel. An input module configured with the PAS INHIBIT function will disable this feature temporarily while the module is activated and produce a trouble event. The module must be returned to its normal status to re-enable the positive alarm sequence feature. This will clear the trouble event from the module actuation.

5.36 RELAY BASE

The relay base provides an unsupervised dry contact output near the detection device(s). The base includes a local form C relay that can be activated for ANY or MULTIPLE states or zone activation. If default programming is used, the relay will follow the Remote LED programming for the sensor.

5.37 SILENCE INHIBIT

Certain jurisdictions require a silence inhibit timer. This feature requires that the panel not allow silencing for one minute following the first alarm event. If this is configured to be ENABLED, the SILENCE button on the Display (or other Silence input) will not silence the panel for one minute following the receipt of the first alarm event.

5.38 SILENCE REMINDER

Certain jurisdictions require a silence reminder. This feature requires that the panel produce a momentary pulse from the panel piezo/buzzer following the silencing of outputs. If this is configured to be ENABLED, the momentary piezo pulse is ½ second long every 14 seconds on a silenced panel.

5.39 SOUNDER BASE

The sounder base provides the ability to notify occupants near the detection device(s). The base includes a local 85db sounder that can be activated in a slow, fast, continuous, or temporal output for ANY or MULTIPLE states or zone activation. If default programming is used, the sounder will follow the Remote LED programming for the sensor. This base requires separate 24VDC auxiliary power from the main control panel (pulling 7mA standby; 35mA alarm current).

5.40 SUMMING

(Non-listed, see page 89)

The Cheetah Xi photo, photo/heat, photo/duct and ion sensors are capable of providing an accumulating percentage for groups of devices. This accumulating percentage can activate an alarm from the **same types** of devices where there may not possibly be enough obscuration to cause an individual sensor alarm. To set up this operation, a single sensor is selected as a SUMMER. The Summer can look at information from 8 photo (or ion, **same type** as summer and **same loop** as summer - can include the summer) sensors called the SUMMEE(s). The Summer will total the obscuration percentages received from each summee defined. The Summer can be set to

alarm from 1-10%/ft (programmable in 0.5%/ft increments). Each Summee has configuration settings for defining the level of obscuration to be transmitted to the summer (0.5 – 4%/ft in 0.1%/ft increments. Summing groups can overlap and there is no limitation on the number of Summers.

This operation can be very beneficial to detect a fire early. As a fire builds, the smoke will rise and typically accumulate in several sensors. It typically takes longer for an individual sensor to reach the alarm level. If several sensors are rising in obscuration detected, the alarm can be detected faster and notification can be accomplished in a prompt manner.

Example: Photo Sensor SUMMER, Loop 1 address 5. This device is configured to Sum the following devices which are physically located near one another in the hazard: Loop 1, addresses 10,11,12,13,14,15,16, and 17. The SUMMER is configured to report a Summing Alarm to the panel when the Summing threshold equals or exceeds 4%/ft obscuration. Each Summee (addresses noted previous) is configured to broadcast its obscuration across the loop when the Summee's obscuration reaches 0.5%/ft, 0.6%/ft, and 0.7%/ft (up to 8 levels). The SUMMER receives the obscuration broadcasts from each of the Summees and begins "summing". When the SUMMER obtains an obscuration SUM >= 4%/ft, it reports an ALARM TYPE #2 event to the system.

Note: The summee obscuration levels are sent as it rises and falls in obscuration. The Summer will look at the most current values sent from the Summee's to calculate the SUM for the SUMMING ALARM.

The SUMMER can be configured to report the following states to the panel when the configured obscuration is either met or exceeded...

- Alarm
- Summing Alarm
- Supervisory (Latching or Non-Latching)
- Pre-Alarm 1
- Pre-Alarm 2

6.0 INSTALLATION

System installation is independent of whether the modules were ordered separately or as part of a complete Cheetah Xi system. For optional modules not used, skip the instructions detailing their installation. Proper system installation requires following steps 1-9 in order:

1. Install Enclosure(s)
2. Pull Field wiring segregating Power Limited from Non-Power Limited. Validate within specifications.
3. Install transformer and Wire AC to transformer.
4. Install Optional Electronics onto main controller.
5. Install Controller and electronics into Back-box.
6. Connect AC and batteries to controller and Power up. Validate all work properly. Power Down.
7. Connect Field wiring.
8. Power up with devices connected.
9. Configure System – Autoprogram or Engineered configuration

6.1 INSTALL ENCLOSURE(S)

6.1.1 Cheetah Xi Enclosure

The mounting location for the control panel enclosure is very important. Vibration, dust, moisture, electromagnetic interference, and radio frequency interference are all types of problems that could adversely effect the successful operation of the equipment. Choose a mounting location that is free from environmental problems. Refer to the Specifications, for the exact temperature ratings of the equipment. Do not install in an environment that exceeds these temperature ranges. The Cheetah Xi System enclosure is not fire rated.

The control panel should be installed so the viewing window is approximately 60" above the floor. The back-box can be surface or flush mounted as desired. For surface mounting, utilize the four 'tear-drop' openings in the back of the box. For flush mounting, cut the opening in the wall to fit the back-box and secure the box in place by utilizing the through holes located on the sides of the box.

Determine the maximum number of conductors needed from the design. Wire is to be routed to the control panel through back-box via knock-out openings. Conduit knock-outs are provided for two distinct conduit sizes. Removing just the inside hole creates a one-half inch (1/2") opening. Removing the entire opening provides a three-quarter inch (3/4") opening.

Unless otherwise detailed in this manual, or in other documents relating to this control panel, the technician shall utilize published standards and references such as NFPA 70 National Electrical Code, NFPA 72 National Fire Alarm Code, NFPA 2001 Standard for Clean Agent Fire Extinguishing Systems, and others, which may be relevant to the Local Authority Having Jurisdiction.

The enclosure accommodates the controller, Optional modules and either a 7AH or 18AH battery pack.

- Dimensions are 24.5" tall x 15.31" wide x 4.0" deep including a .50" wide front lip for flush mounting.
- Mount using tear-drop shaped holes at 12.5" horizontal centers and 19.2" vertical centers OR thru holes located on side of box. See Exhibit 6-1.
- The door is easily removable via two screws. If door is removed, re-secure grounding wire to both door and back box to ensure full ground connection.

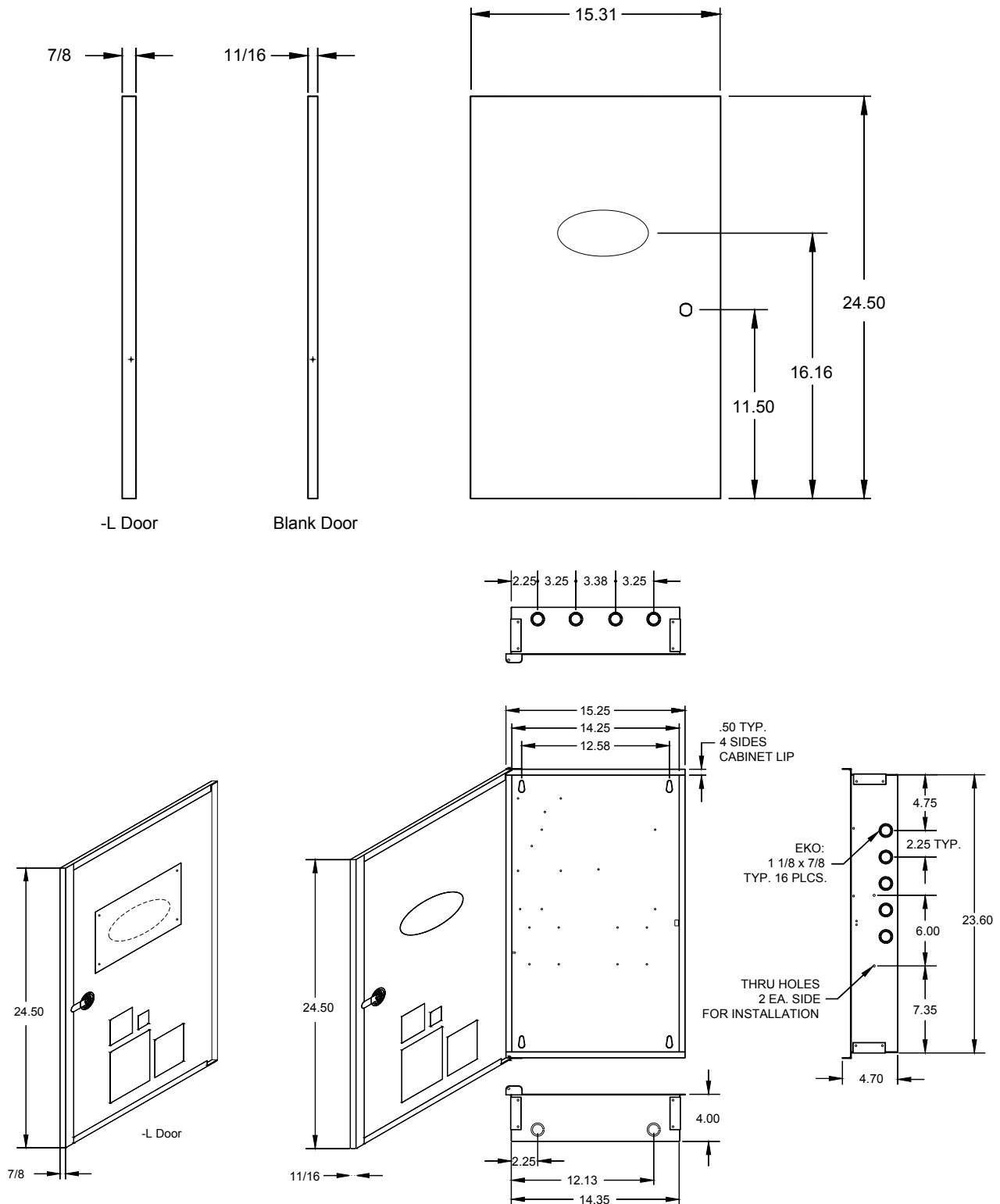


Exhibit 6-1 Enclosure Specifications

6.1.2 Optional 33AH Battery Enclosure, 10-2154-C

The 10-2154 33AH battery enclosure should be installed within 10' of the main system enclosure.

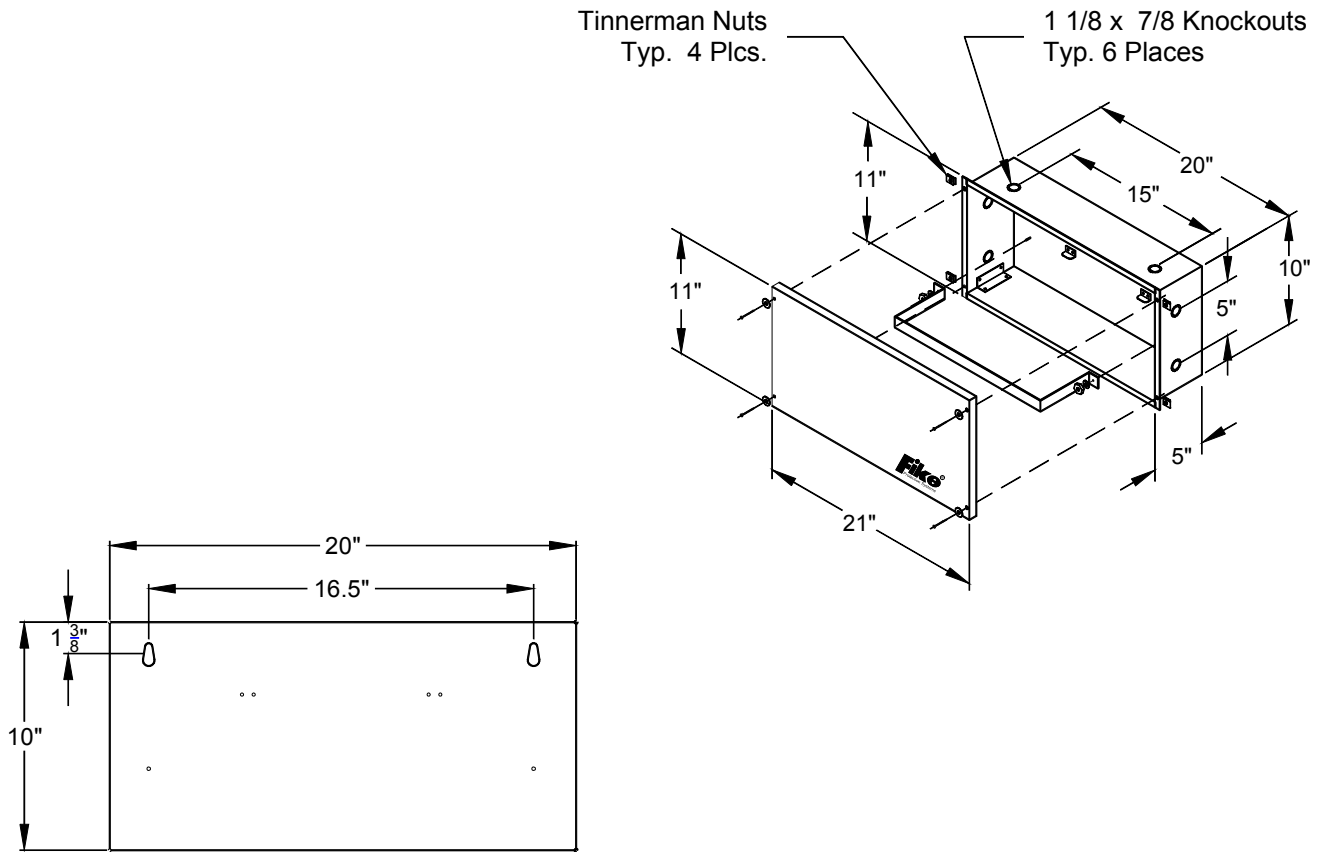
P/N: 10-2154-C (C = color)
 R = Red
 G = Grey

11" High x 21" Wide x 5" Deep with attached door.
 17 lbs. empty

Mounting Methods:

Surface: Use tear-drop openings in back of back-box

Flush: Use tear-drop openings in back of back-box and 3/16 dia. thru holes, 2 each side for secure installation. This method provides a 1/2" lip around back-box and removable door.



Back View
 Tear Drop location for Mounting

Exhibit 6-2 33AH Enclosure Dimension

6.1.3 Optional 75AH Battery Enclosure, 10-2236-C

The 10-2236 75AH battery enclosure should be installed within 20' of the main system enclosure.

P/N: 10-2236-C (C = color)
 R = Red
 G = Grey

14" High x 26 1/4" Wide x 7" Deep with door
 47 lbs. empty

Mounting Methods:

Surface: Use 1/2" diameter thru holes, 4 each in back of enclosure

Flush: Use 1/2" diameter thru holes, 4 each in back of enclosure and recess into wall for secure installation.

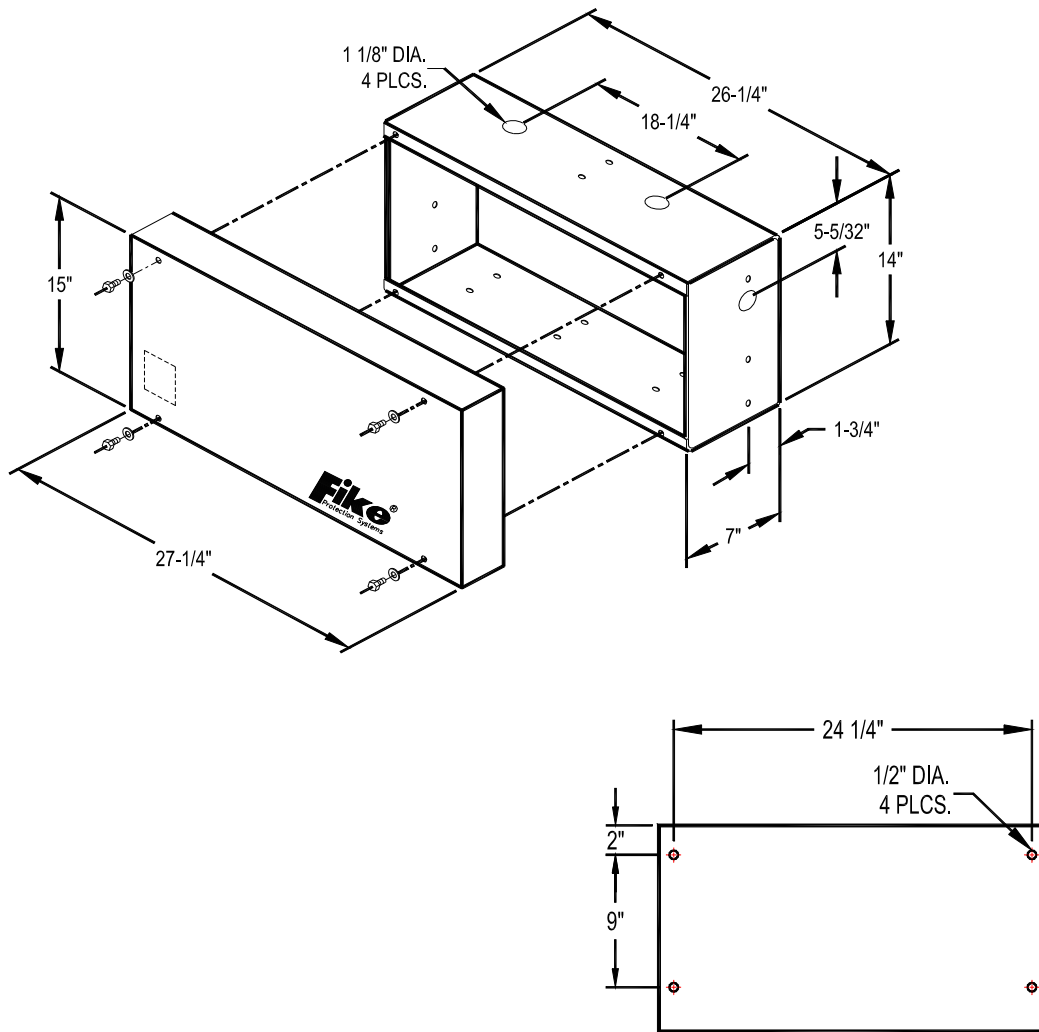


Exhibit 6-3 75AH Enclosure Dimension

6.2 PULL FIELD WIRING – SEGREGATE POWER LIMITED FROM NON-POWER LIMITED

6.2.1 Power Limited Requirements

Route all field wiring through the appropriate conduit knockouts, then to the appropriate circuit terminals. Provide adequate wire length to allow strain relief. Cheetah Xi terminal strips (including optional CRM4 and SPS modules) accept a single wire from 14 to 18 AWG.

Non-power limited wiring shall be limited to the left side of the enclosure. The following are non-power limited connections:

1. P1 input power connections
2. SPS P21 connections
3. Any Non-power limited wiring connected to the P2, P12 or P13 relays or optional module.
4. DACT connections can not use the same enclosure entry point as non power-limited relay connections.

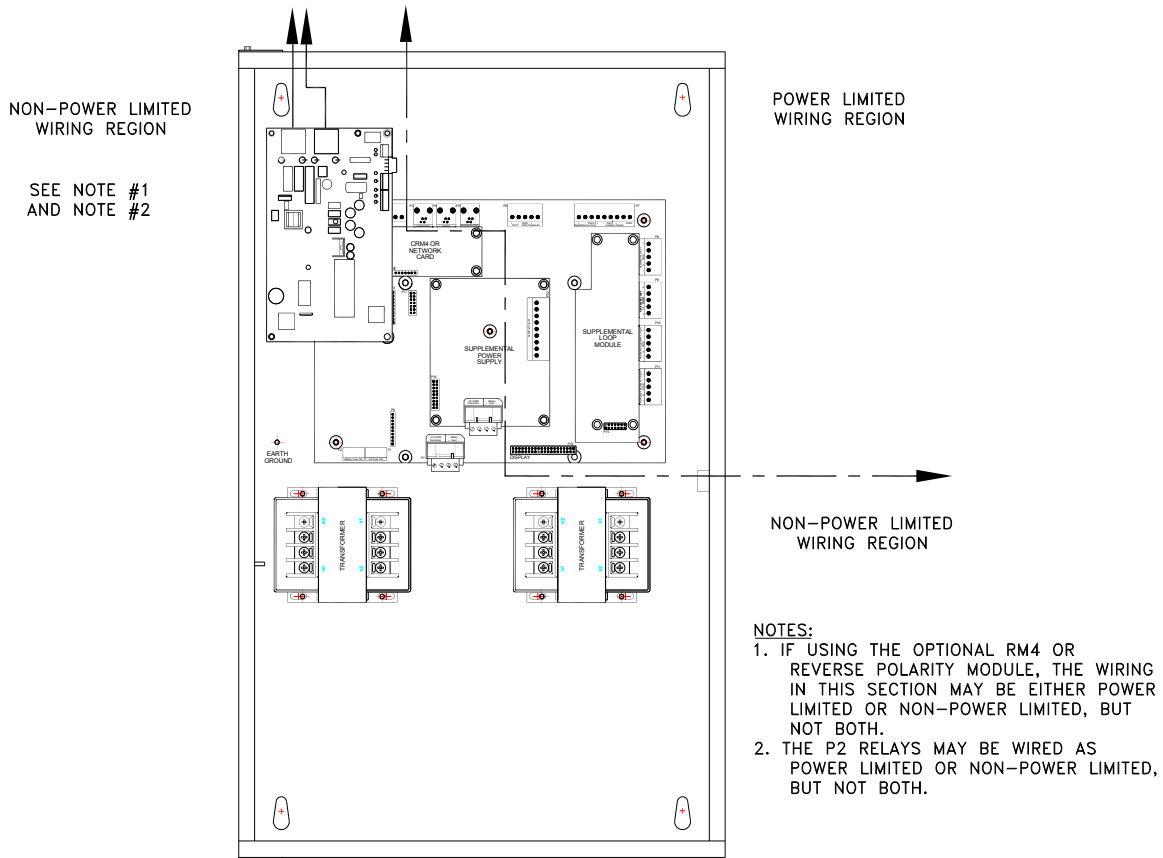


Exhibit 6-4.1 Power Limited /Non Power Limited Wiring Segregation with Relays Connected to Non Power Limited Sources

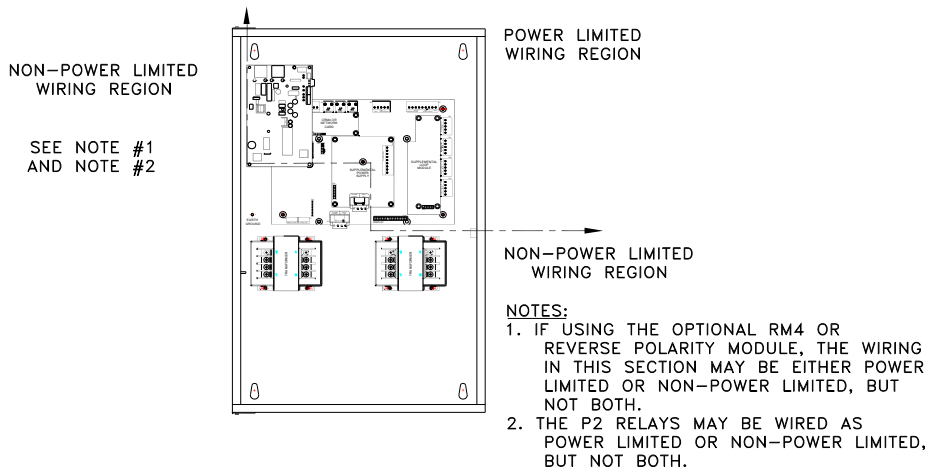


Exhibit 6-4.2 Power Limited /Non Power Limited Wiring Segregation with Relays Connected to Power Limited Sources

6.2.2 Wire Selection

When planning the type of wire to be used, refer to National Electrical Code and NFPA 70. The following guidelines may be used to select the wire size. Stranded wire must be tinned per NFPA 70 and local requirements.

AWG	Strands	Diameter	Uncoated Copper (Ohms per 1000')	Coated Copper (Ohms per 1000')
18	1	0.040"	7.77	8.08
18	7	0.046"	7.95	8.45
16	1	0.051"	4.89	5.08
16	7	0.058"	4.99	5.29
14	1	0.064"	3.07	3.19
14	7	0.073"	3.14	2.26

Exhibit 6-5 General Wire Specifications

Completely review the Specification section for planning the appropriate wiring for the Signaling Line Circuit (SLC).

After pulling the wire into the enclosure:

1. Verify wire for ground-fault absence and acceptable readings according specifications prior to connecting the circuits.
2. Verify no stray voltages exist on any field wiring prior to device installation.

3. Verify each conductor is free from shorts between all other conductors and chassis.
4. Measure wire resistance with a short across the circuit at a point furthest from circuit start. This is typically across EOL for Class B and at the panel for Class A.

Install field devices per individual device wiring diagrams.



CAUTION: The Cheetah Xi field devices contain static sensitive components. Handle the electronics by the edges only and avoid touching the integrated components. Keep the electronics in the protective static bags it was shipped in until time for installation. Always ground yourself with a proper wrist strap before handling the module(s). If the installer is properly grounded at all times, damage due to static discharge will not occur. If the module requires repair or return to Fike, it must be shipped in an anti-static bag.



CAUTION: Field devices shall not be connected if using meggar or any means that applies voltages in excess of device ratings (to prevent damage to the devices).

6.3 INSTALL TRANSFORMER AND WIRE AC TO TRANSFORMER



Complete wiring with AC power off and locked-out

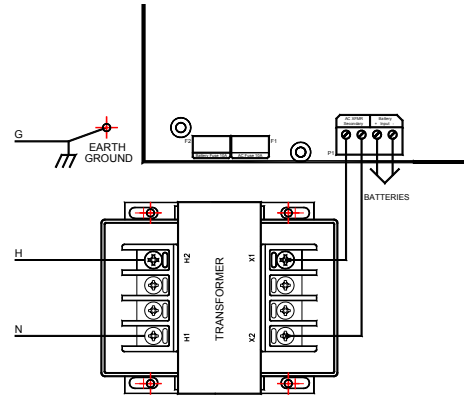
The AC line power must originate from a dedicated circuit at the main building power distribution center. The circuit breaker shall be equipped with a lockout mechanism and be clearly labeled as a "Fire Protection Control Circuit". Route the power to the system through the dedicated grounded metallic conduit.

Ensure the power is compatible with the transformer assembly (120VAC or 240VAC).

Route AC ground (chassis) and connect to the open press stud in the enclosure back-box, securing with a hex-nut and washer. Install the transformer(s) into the back-box, onto the four press-studs. Secure in place with four 6-32 hex nuts and washers. Route the AC hot and neutral and ground (chassis) wires into the enclosure and connect to the transformer Primary as shown.



CAUTION: AC power Neutral and Hot connect to the primary side of the transformer, H1 and H2, respectively. The step-down, or secondary, side of the transformer, X1 and X2, connect to the AC XFMR Secondary terminals of the panel's P1 jack. Damage WILL occur if the H1/H2 and X1/X2 sides are reversed.



OR

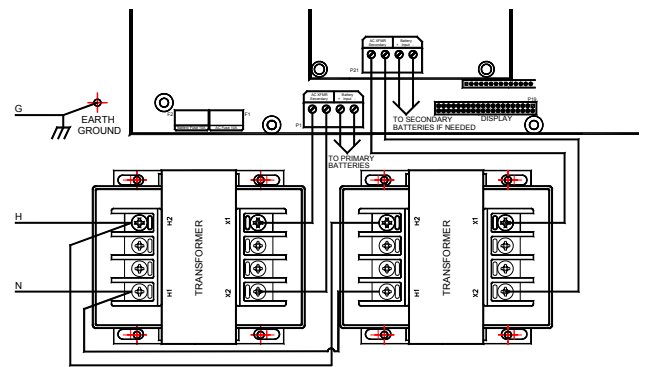


Exhibit 6-6 AC to Transformer Wiring

6.4 INSTALL OPTIONAL ELECTRONICS ONTO MAIN CONTROLLER



CAUTION: Do not install the electronic assemblies into the back-box until the environment is free from construction dust.



CAUTION: The Cheetah Xi contains static sensitive components. Handle the electronics by the edges only and avoid touching the integrated components. Keep the electronics in the protective static bags it was shipped in until time for installation. Always ground yourself with a proper wrist strap before handling the module(s). If the installer is properly grounded at all times, damage due to static discharge will not occur. If the module requires repair or return to Fike, it must be shipped in an anti-static bag.

Attach grounding strap and connect all optional modules to the main Cheetah Xi controller using the hardware supplied with the optional modules.



NOTE: Optional Modules should be installed onto the Cheetah Xi controller prior to installation into the back-box. The optional DACT is the only module that should be installed after the main control panel is mounted in the back-box. It will be necessary to remove the display from the main board if installing the Supplemental Power Supply.

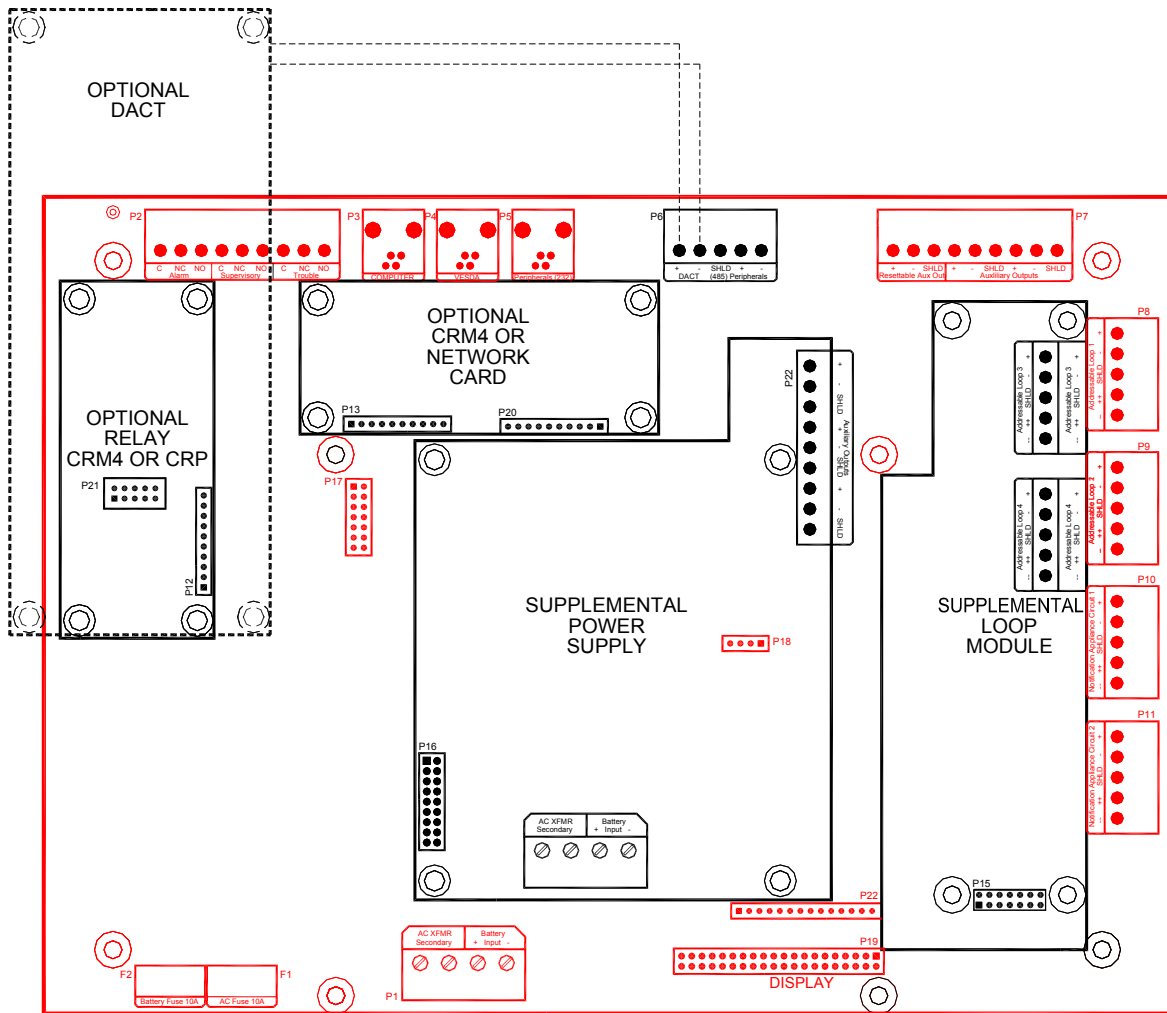


Exhibit 6-7 Optional Modules

6.4.1 Optional Loop Module Installation

Install the 10-2473 Supplemental Loop Module to the main controller using the hardware supplied with the board. Secure the M/F standoffs to the main board by threading the four 6x32 screws through the back of the main board and into the standoff. Insert the Loop Module into P15 Header while also inserting the standoffs through the four mounting holes. Secure the standoffs to the main board by attaching the #6 lock washers and hex nuts.

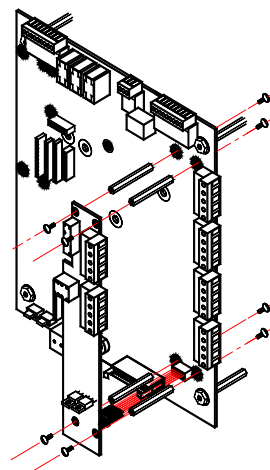


Exhibit 6-8 Optional Loop Module (SLM)

6.4.2 Optional Supplemental Power Supply Module Installation

Install the 10-2474 Supplemental Power Supply Module to the main controller using the hardware supplied with the board. Temporarily remove the Cheetah Xi Display Board from the main controller. Secure the M/F standoffs to the SPS module by threading the four 6x32 screws through the lock washer, main board, then the standoff. Insert the SPS Module into P16 Header while also inserting the standoffs through the four mounting holes. Secure the standoffs to the main board by attaching the #6 lock washers and hex nuts.

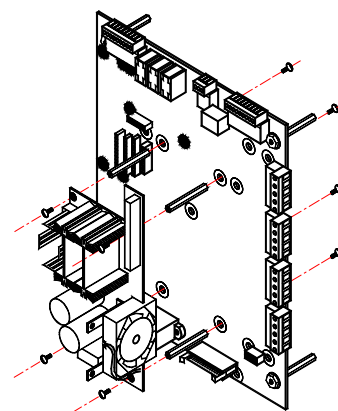


Exhibit 6-9 Optional Power Supply Module (SPS)

6.4.3 Optional Network, CRM4, Reverse Polarity Module Installation

Install the 10-2482 Network Module, 10-2624 Fiber Optic Module, 10-2204 CRM4 and/or the 10-2254 CRPM (P12 may receive CRPM or CRM4 if internal DACT is not used. P13/P20 may receive CRM4 or either Network Module) to the main controller using the hardware supplied with the board. Secure the M/F standoffs to the module by threading the four 6x32 screws through the lock washer, main controller, then the standoff. Insert the module into the respective P12 or P13/P20 Header while also inserting the standoffs through the four mounting holes. Secure the standoffs to the main board by attaching the #6 lock washers and hex nuts.

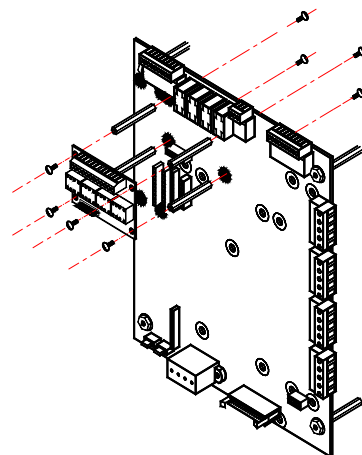


Exhibit 6-10 Optional Network/CRM4/RPM

6.5 INSTALL CONTROLLER (AND DACT IF USED) INTO BACK-BOX

Thread the four 5/8" standoffs into the back box pre-threaded press studs. Install main controller into back box onto the standoffs. Secure only to the four outside corner standoffs using a hex nut at each.

If the 10-2528 DACT is used, install it onto the main controller after the controller is secure in the back-box. Install the four 2" M/F standoffs onto the threaded press studs located at the top left corner of the controller back box. Secure the module to the standoffs by threading the four #6 lock washers. Connect the field wiring as noted in section 6.7.

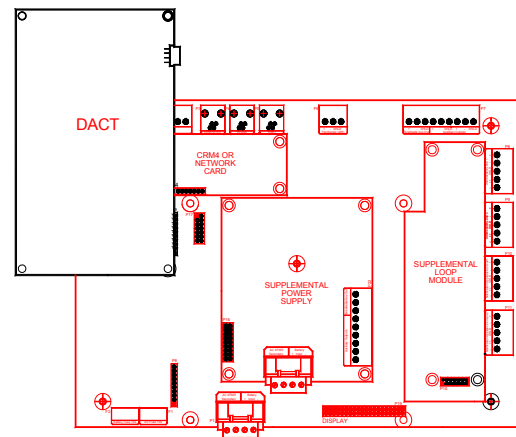
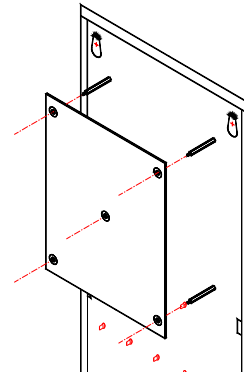


Exhibit 6-11 Main Controller and DACT

6.6 CONNECT AC AND BATTERIES TO CONTROLLER AND POWER UP. VALIDATE WORKING. POWER DOWN

With the breaker locked out, complete the field wiring from the transformer to the main control board as shown. Turn on the breaker and power the control panel with AC power. Connect the battery power as shown. Power up controller without field wiring attached to validate that it powers appropriately and optional modules are installed appropriately. Validate that all display LED's and devices are functioning as normal with no devices connected. Power down; first removing the batteries (DC power) then transferring the breaker (AC).

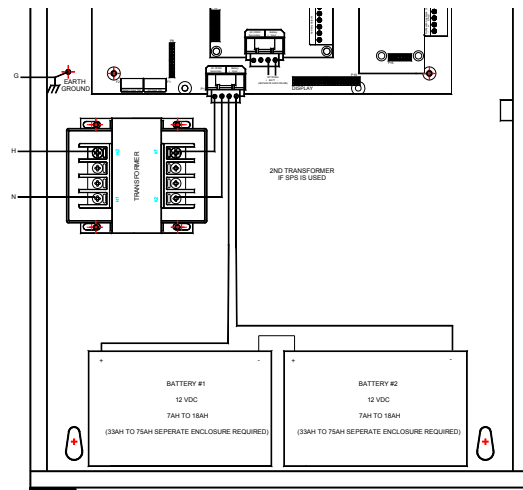


Exhibit 6-12 AC and Battery Wiring

6.7 CONNECT FIELD WIRING

Using each individual field module installation instruction, attach devices to the field wiring. Following will be general wiring diagrams for each module. The actual installation instruction will also contain device specification information that should also be validated. Attach field wiring to the control panel as shown. Refer to the Equipment/Products section for specific wiring limitations and circuit requirement specifications.



CAUTION: Most all wiring connections to the main Cheetah Xi control board are made with REMOVABLE terminal blocks. To install the wiring, you should remove the terminal block from the board prior to inserting the wiring. Once wiring is installed into the terminal block, insert it back into the terminal block header for electrical connection. Attaching the wire while the terminal block is still connected into the board may damage the terminal block if too much force is applied.

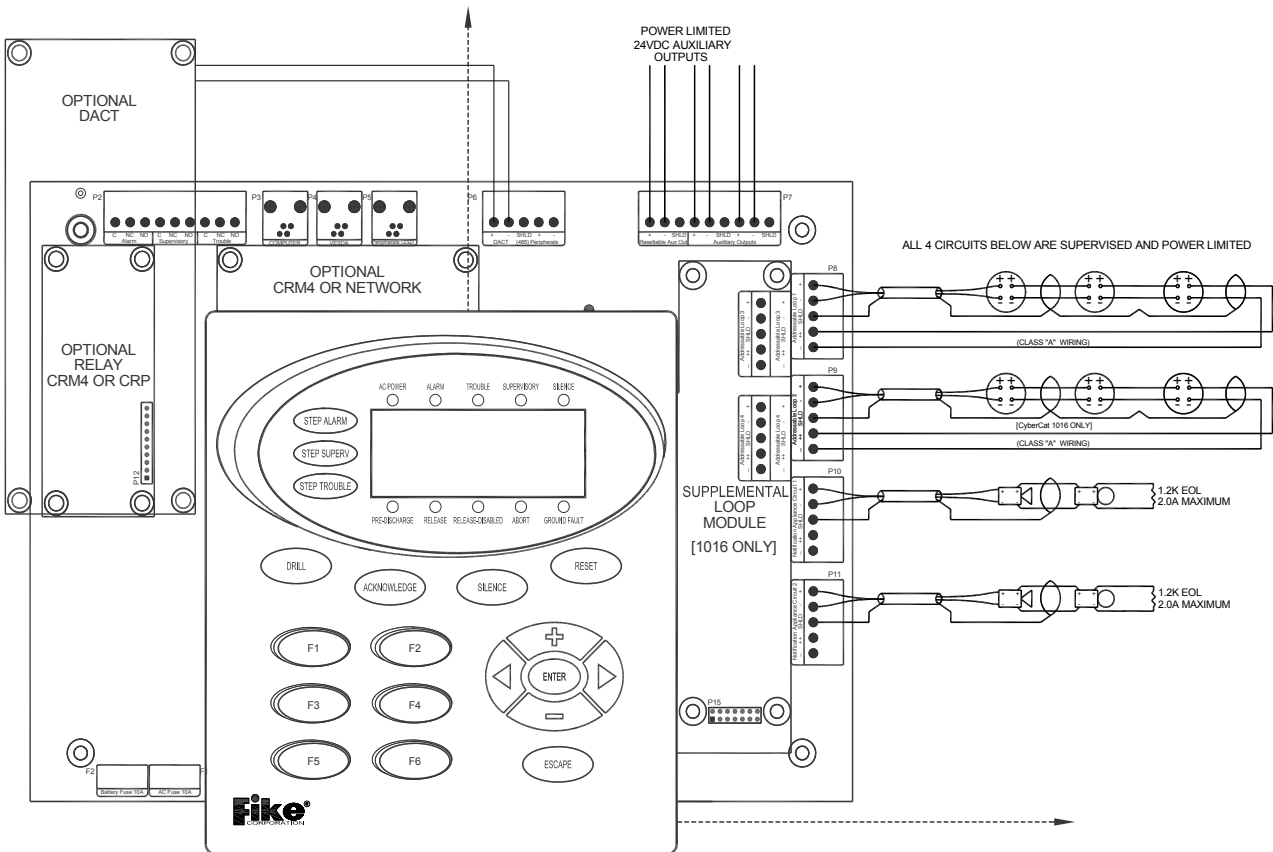


Exhibit 6-13 Cheetah Xi Controller Wiring

6.7.1 General Relay Wiring (P2)

Three individual relays which activate on system status. The Trouble Relay is normally energized with power to allow it to change state when power is missing. Contacts are shown with power applied and no Troubles present. Version 3.0 and higher panels provide full customization of the Alarm and Supervisory relays. The Trouble relay is non-configurable. The circuit board provides labeling for the three form C relays where C=common; NC=normally closed; and NO=normally open. Monitoring connections typically connect to common and then either NC or NO depending on the type of supervision required.

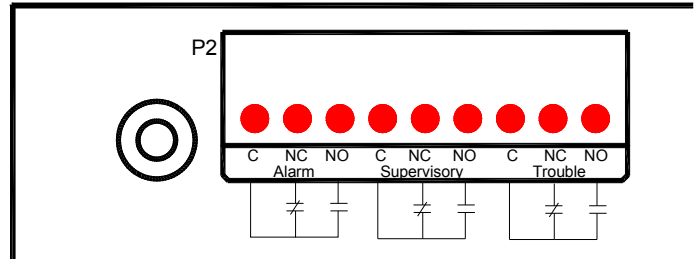


Exhibit 6-14 Wiring P2 Relays

6.7.2 RS232 Wiring (P3-P5)

Three RS232 jacks are available to allow intelligent devices to link into the Cheetah Xi controller. P4 is dedicated for C-Linx using 10-1874A cable. P5 is for VESDA HLI using a provided 14' serial cable. The Fike Guard is considered a permanent connection to the RS232 port (P5) and shall be limited to the same room only. These connections are all power limited.

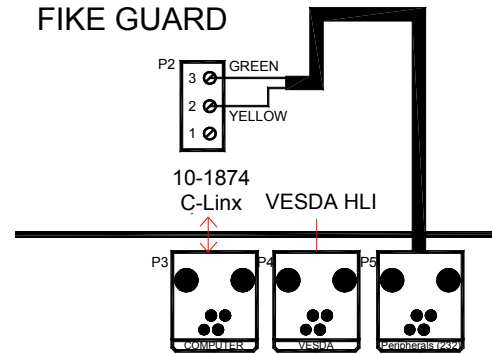


Exhibit 6-15 RS232 Wiring (P3-P5)

6.7.2.1 FIKEGUARD, P5 WIRING

Exhibit 6-15 displays proper connections from the Cheetah Xi P5 terminal to the FikeGuard voice evacuation panel. Note: compatible with zones 1-240; device addresses 1-127.

6.7.3 RS485 Peripheral Bus Wiring (P6)

Note: DACT A terminal wires to Cheetah Xi P6- terminal; DACT B terminal wires to Cheetah Xi P6 + terminal. Peripheral + wires to other device/panel +; Peripheral - wires to other device/panel -. No t-tapping.

Refer to document 45386C, "D9068 Operation and Installation Guide" for more details about the DACT.

All RS485 circuits are supervised and power limited.

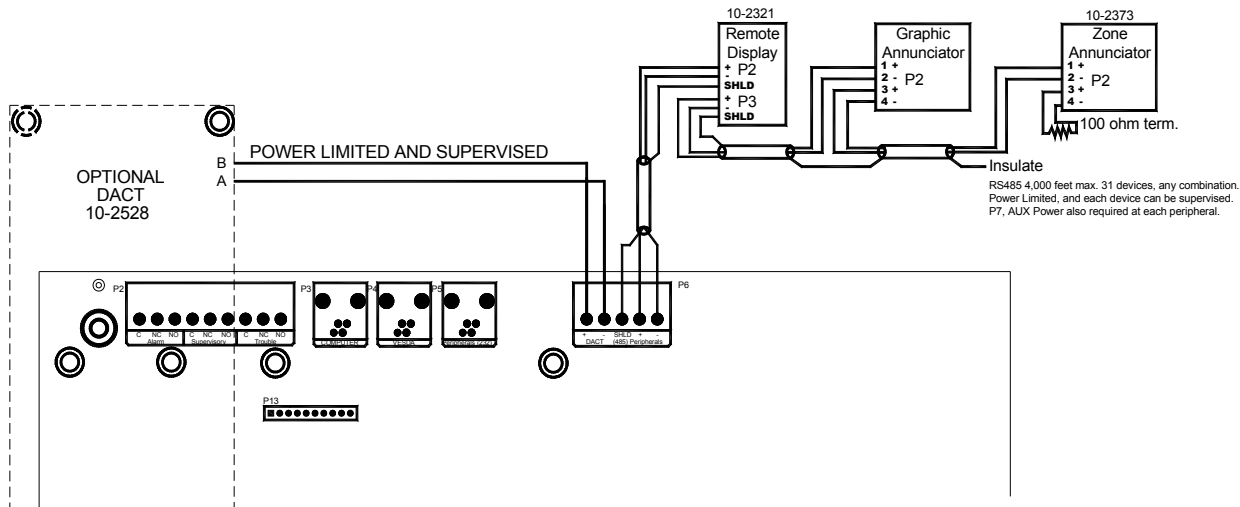


Exhibit 6-16 RS485 Peripheral Bus Wiring (P6)

6.7.4 Auxiliary Power Wiring (P7)

The Cheetah Xi main controller has one power limited 24VDC Resettable power output (two leftmost contacts on P7). This power output is used for devices that latch events and require removal of power to reset such as 4-wire detectors, some Duct detectors, Beam detectors, etc. It is rated at 2 amps maximum (controlled by thermal fuse PS6) and is supervised. The circuit is additionally protected from circuit shorts by a 4A fuse, F3 (p/n 02-11412).

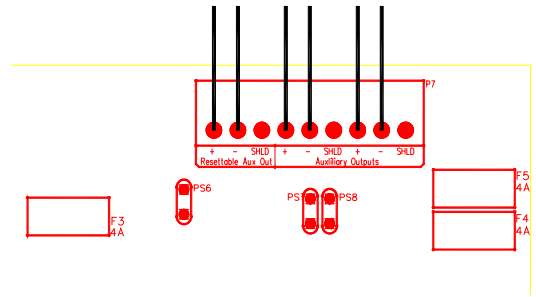


Exhibit 6-17 Auxiliary Power Wiring (P7)

The remaining two sets of power outputs on P7 are for non-resettable 24VDC power limited output. This power output is used for addressable output modules, graphic annunciators, remote displays, etc. Each is rated at 2 amps maximum (controlled by thermal fuses PS7 and PS8) and are supervised. The circuits are additionally protected from circuit shorts by 4A fuses, F4 and F5 respectively (p/n 02-11412).

6.7.5 SPS Auxiliary Power Wiring (P22)

The SPS has three more non-resettable 24VDC power limited output circuits available at P22. Each circuit is also rated at 2 amps maximum (controlled by thermal fuses PS2, PS3, and PS4) and are supervised. The circuits are additionally protected from circuit shorts by 4A fuses, F3, F4, and F5 respectively (p/n 02-11412).

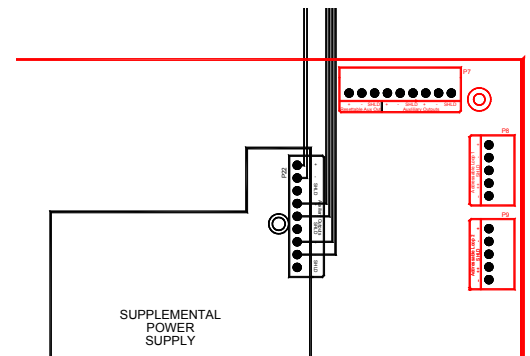


Exhibit 6-18 Auxiliary Power Wiring – SPS (P22 SPS)

6.7.6 SLC Wiring (P8 & P9; SLM P31 & P32)

Reference Equipment specification section for field wiring limitations. Be aware of surrounding environment when installing the addressable loop, looking for possible sources of electrical interference. All SLC wiring should be segregated from such sources for optimum operation. Conduit and shielded cable help prevent electrical interferences from being induced

If shielded cable is used, install the outgoing drain wire at the panel. Connect it through and insulate at each junction box and leave unconnected and insulated at the last device.

This wiring is supervised and power limited.



If using a High voltage device to verify ground isolation of loop wiring, do not expose devices or modules to the high voltage. Damage to the devices will occur.

6.7.6.1 CLASS B STYLE 4

NFPA defines Class B, Style 4 shall provide alarm receipt during a single ground and to signal each trouble. It is a method where a single pair of wires can be used for supervision and will support t-tapping (Sensor #3 is T-Tapped off Sensor #2 as shown in Exhibit 6-19). In the event of a single wire break the communication to devices after the break is lost.

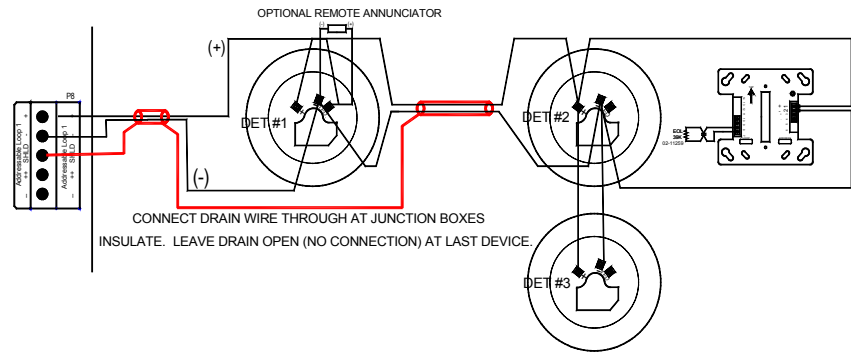
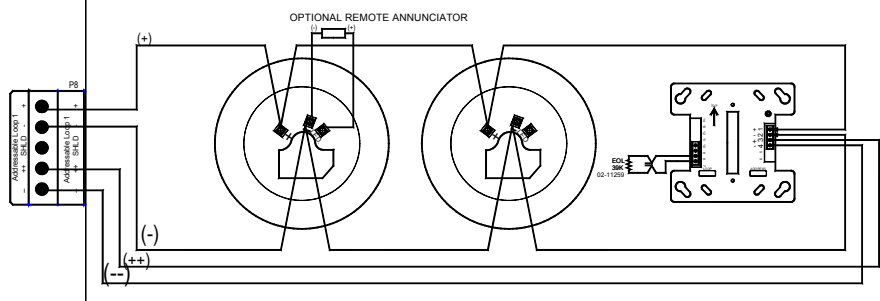


Exhibit 6-19 Class B (Style 4)

6.7.6.2 CLASS A STYLE 6

NFPA defines Class A, Style 6 shall provide alarm receipt during a single open and/or ground and to signal each trouble. It is a method where two pair of wires are used and will NOT support t-tapping. In the event of a single wire break the communication to devices after the break continue.

Exhibit 6-20 Class A (Style 6)



6.7.6.3 CLASS A STYLE 7

Class A, Style 7 is the same as Class A, Style 6 with the addition that an alarm is still received when a short circuit is present on the loop. This method requires an isolator head and base on each addressable point (refer to section 3.2.2). If style 7 is not required, maximum of 50 devices between two isolator type devices.

6.7.6.4 SENSOR BASE WIRING

The base indicates the ability to attach a Remote LED. The maximum current to be pulled from this connection shall be 6.5mA as described in the System Sensor installation instruction for these bases. The addressable loop is limited to a maximum of 100 mA total for addressable devices plus Remote LED devices.

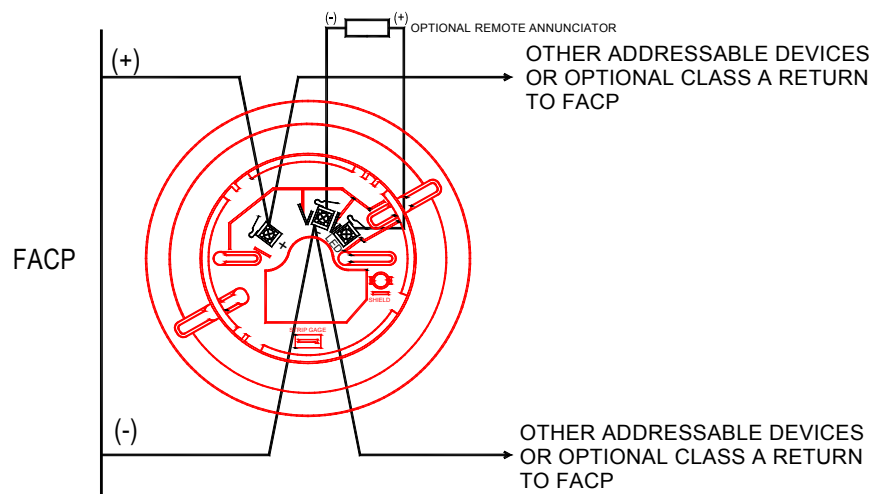


Exhibit 6-21 Sensor Base Wiring

6.7.6.5 SURVIVABILITY FROM ATTACK BY FIRE

In order to comply with the "Survivability From Attack by Fire" requirements in NFPA 72, the following wiring considerations should be addressed:

- 1) If all notification appliances connected to a single addressable loop service only one zone of operation, then no additional wiring requirements apply
- 2) If the fire alarm system is installed in a sprinklered building, then no additional wiring requirements apply
- 3) If items 1 or 2 do not apply to the installation, then the addressable loop section of wiring servicing the control module shall be installed using either 2 hour fire rated cable, or the cable shall be run in a 2 hour fire rated enclosure. Refer to Wiring Options 1 & 2.

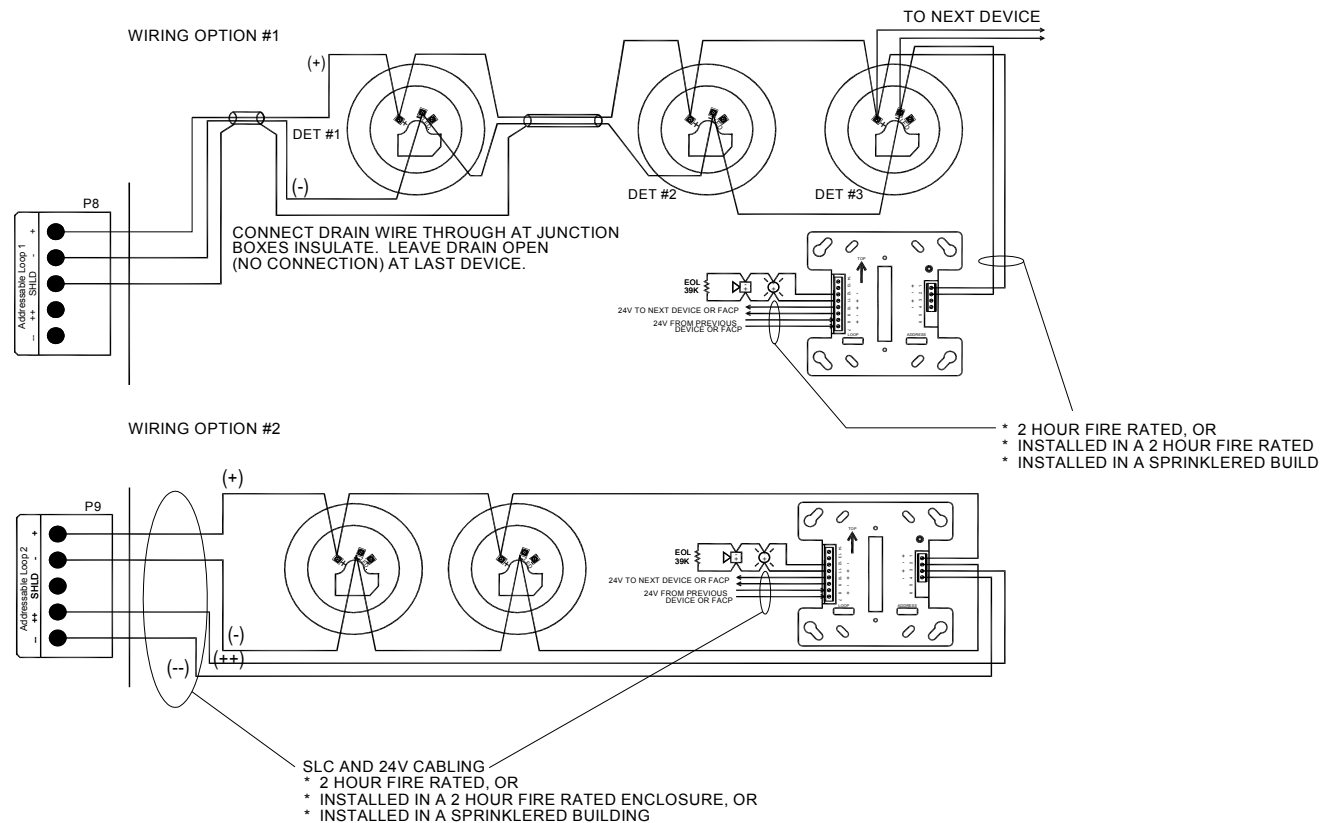


Exhibit 6-22 Survivability From Attack by Fire Wiring Options

6.7.6.6 MINI MONITOR MODULE WIRING (55-045/55-050)

The Mini Monitor Module can monitor dry contacts (wired Class B, Style B initiating) for input to the control system. It can be wired to Normally Open (NO) contact as shown in Exhibit 6-24. To monitor the wiring for a short circuit condition, the installation requires a 14KΩ (10-2530) resistor in series with each NO contact.

If monitoring a NC contact (Process Management only), the contact is wired in series with the 39KΩ EOL (10-2625).

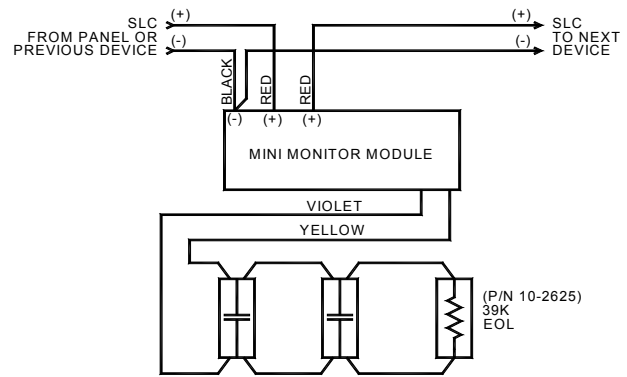


Exhibit 6-24 Mini Monitor Module Wiring

6.7.6.7 MONITOR MODULE (4") WIRING (55-041/55-046)

The Monitor Module can monitor dry contacts (wired Class B, Style B OR Class A, Style D initiating) for input to the control system. It can be wired to Normally Open (NO) contact as shown in Exhibits 6-25 & 26. To monitor the wiring for a short circuit condition, the installation requires a 14KΩ (10-2350) resistor in series with normally open (NO) contact field wiring.

If monitoring a NC (Process Management only) contact(s), the contact is wired in series with the 39KΩ EOL (10-2625).

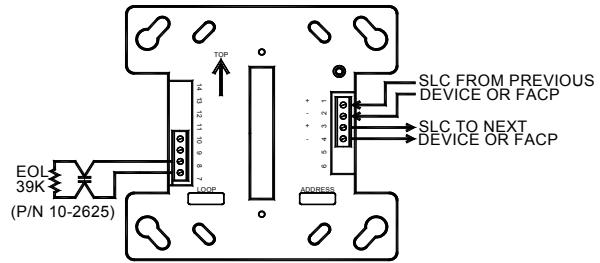


Exhibit 6-25 Monitor Module Wiring-Class B

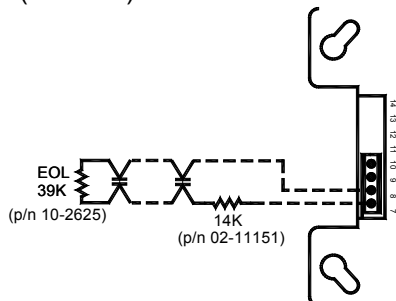


Exhibit 6-23 MM Short Circuit Detection

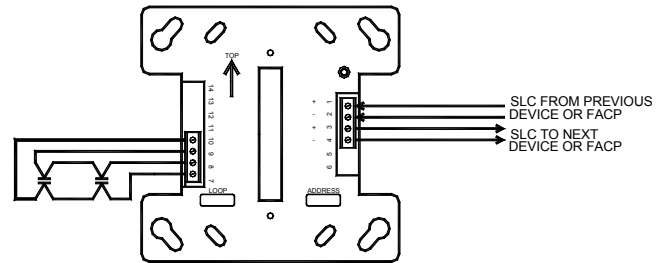


Exhibit 6-26 Monitor Module Wiring-Class A

6.7.6.8 ADDRESSABLE PULL STATION WIRING (20-1063/ 20-1064)

The 20-1063 is an intelligent dual stage pull station. It includes the mini monitor module electronics internally to monitor the status of the mechanical pull station.



NOTE: Wiring terminal polarity is opposite from the rest of the devices. Loop + is terminal 2, Loop - is terminal 1.

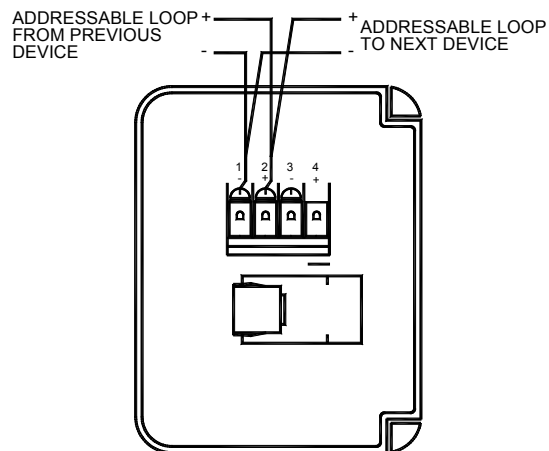


Exhibit 6-27 Addressable Pull Station Wiring

6.7.6.9 SUPERVISED CONTROL MODULE WIRING (55-042/55-047)

The SCM provides the ability to activate Notification Appliances via the SLC. The NAC can be wired Class B, Style Y as shown in Exhibit 6-28 OR Class A, Style Z as shown in Exhibit 6-29. The SCM intelligently monitors the 24V power input. No end-of-line relay is required for supervision of 24V power. Refer to each module installation instructions for a complete description of wiring.

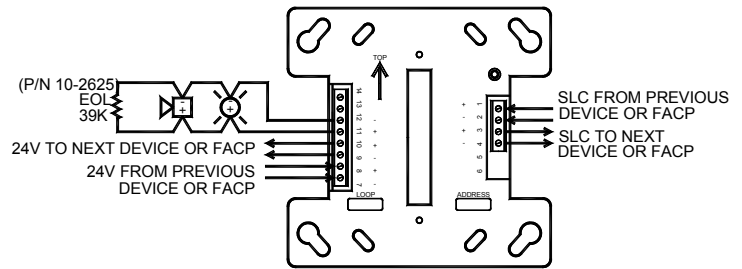


Exhibit 6-28 SCM Class B Wiring

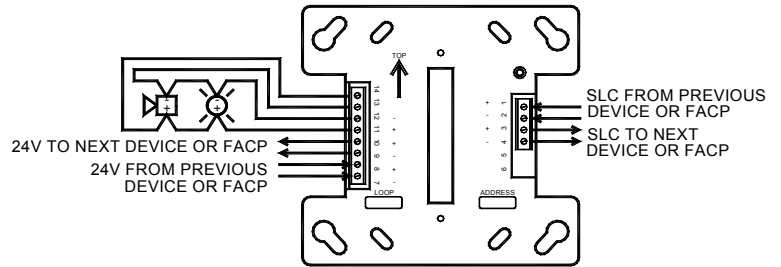


Exhibit 6-29 SCM Class A Wiring

6.7.6.10 PRE-ACTION SOLENOID INTERFACE

The SCM provides the ability to control Sprinkler solenoids via the SLC. The 10-2360 series diode/resistor/TVS is required to be wired in series with the solenoid as shown in exhibit 6-30.

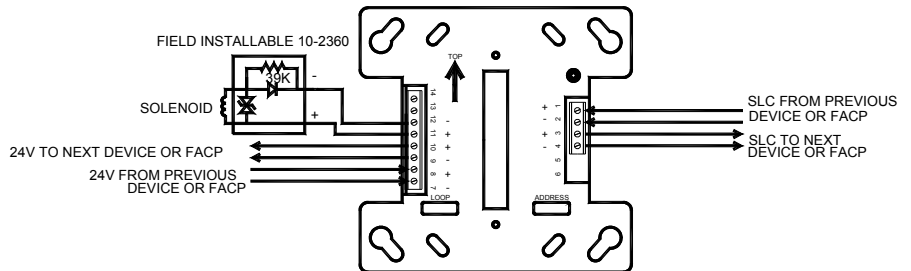


Exhibit 6-30 Pre-Action Solenoid Wiring

6.7.6.11 AUXILIARY MASTERBOX INTERFACE

The SCM provides the ability to control a MasterBox solenoid via the SLC. The 10-2413 is required to interface to this device and wired as shown in exhibit 6-31.

Program the output module for continuous output with any alarm, non-silenceable, no Walktest or drill operation. For proper operation, place SW1 on the 10-2413 to the 10-100 position. Supervised for open, short, and ground fault conditions. Rated for 14.5 ohm coil, 4 ohms total field wiring, power limited.

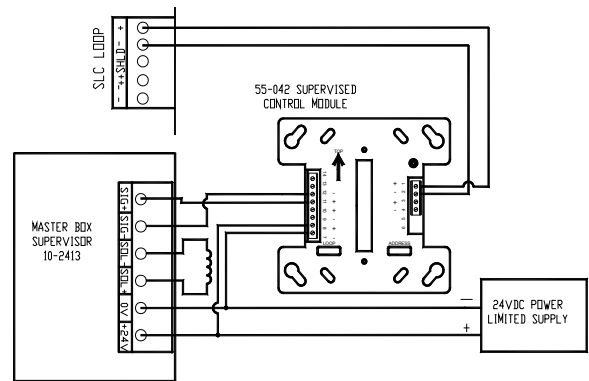


Exhibit 6-31 Auxiliary Masterbox Wiring

6.7.6.12 RELAY MODULE WIRING (55-043/55-048)

The RM provides the ability to send system status to fire system control and monitoring equipment via the SLC. It contains 2 form C dry contact outputs that both activate for the programmed zone/state. Monitoring equipment is typically either tied through the Common (C) and Normally Open (NO) OR C and Normally Closed (NC). It also provides an input contact that can be monitored for feedback to the module.

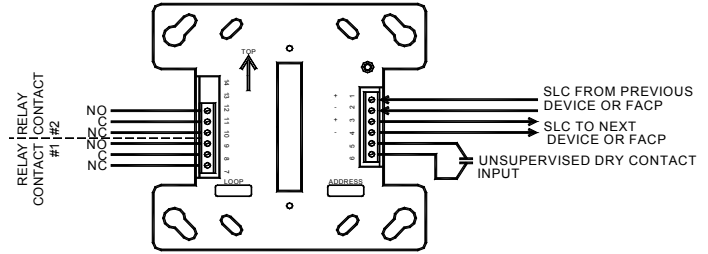


Exhibit 6-32 Relay Module Wiring

6.7.6.13 RELEASE CONTROL MODULE WIRING (55-052/55-053)

The RCM provides the ability to activate the Fike Agent Release Module(s), Impulse Release Module(s) or Solenoids listed for agent release. The RCM requires 24VDC power from Panel Terminal P7 and the SLC wiring for proper operation.

Exhibit 6-33 shows the proper wiring to the Fike ARM (IRM similar). The RCM can activate up to 6 ARMs or IRMs maximum (any combination). This method of wiring requires a 2.7K ohm end-of-line resistor (10-2316). Exhibit 6-34 shows the proper wiring for a single 24V solenoid. If two solenoid valves are required for suppression operation (dual master CO2 or Micromist), Exhibit 6-35 shows proper wiring for 2 each 12VDC valves.

Refer to the installation sheet supplied with the Releasing Control Module and the following documents for further information:

Fike document 06-106, "Agent Release Module (ARM) Manual" and Fike document 06-552, "Impulse Release Module (IRM) Manual" for proper connections to the ARM(s) and IRM(s).

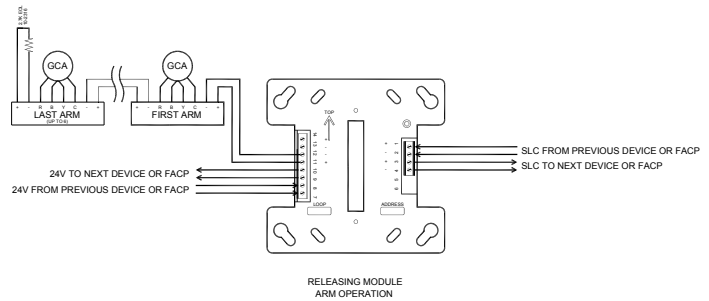


Exhibit 6-33 RCM Module with ARM Wiring

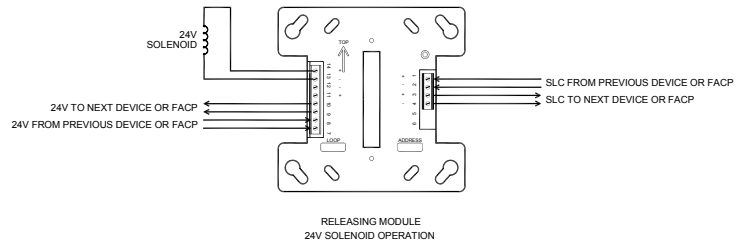


Exhibit 6-34 RCM Module with 24V Solenoid Wiring

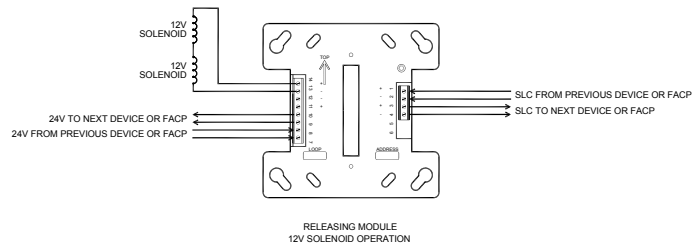


Exhibit 6-35 RCM Module with two 12V Solenoid Wiring

6.7.6.14 NOTIFICATION APPLIANCE CIRCUIT WIRING (P10, P11)

P10 and P11 are two separate NAC's that provide the ability to control building Notification Appliances wired either Class B, Style Y OR Class A, Style Z as shown in Exhibit 6-36. The circuit can be configured to use the Gentex Commander Series or System Sensor Spectralert Series. Both circuits must use the same manufacturer sync pulse if this is used. It provides the sync command to blink/sound devices simultaneously without requiring purchase and installation of a separate sync module. Wiring is supervised and power limited.

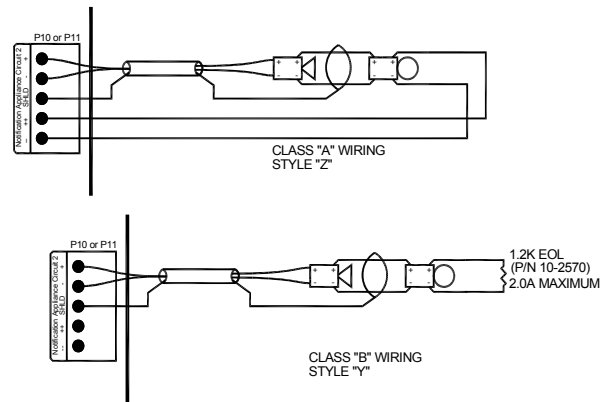


Exhibit 6-36 NAC Circuit Wiring (P10-P11)

NOTE: The built-in synchronization protocol is only compatible with the System Sensor Spectralert or Gentex Commander Series.

NOTE: If the Sync is programmed on the circuit and also programmed as Silencable, the horns will silence but the strobes will remain flashing until reset.

NOTE: The circuits are either ON or OFF. No modulation pattern can be configured for these circuits.

6.7.6.15 P12-OPTIONAL RELAY MODULE/REVERSE POLARITY MODULE WIRING

Note – The internal DACT uses the space at P12. If the DACT is used, P12 is not available for these modules. P12 can utilize either CRM4 or CRPM if the DACT is not used.

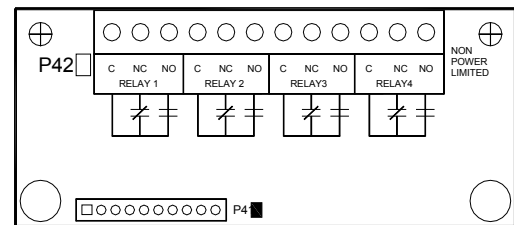
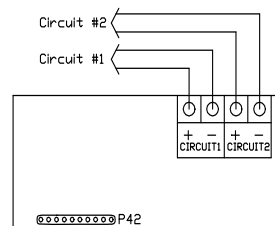


Exhibit 6-37 CRM4 Wiring



- Reverse Polarity Service:
- Supervised for ground fault only
 - 27.6VDC @30mA maximum output capability.
 - Power limited circuits

Exhibit 6-38 CRPM Wiring

6.7.7 P20 Optional Network Module Wiring, 10-2482

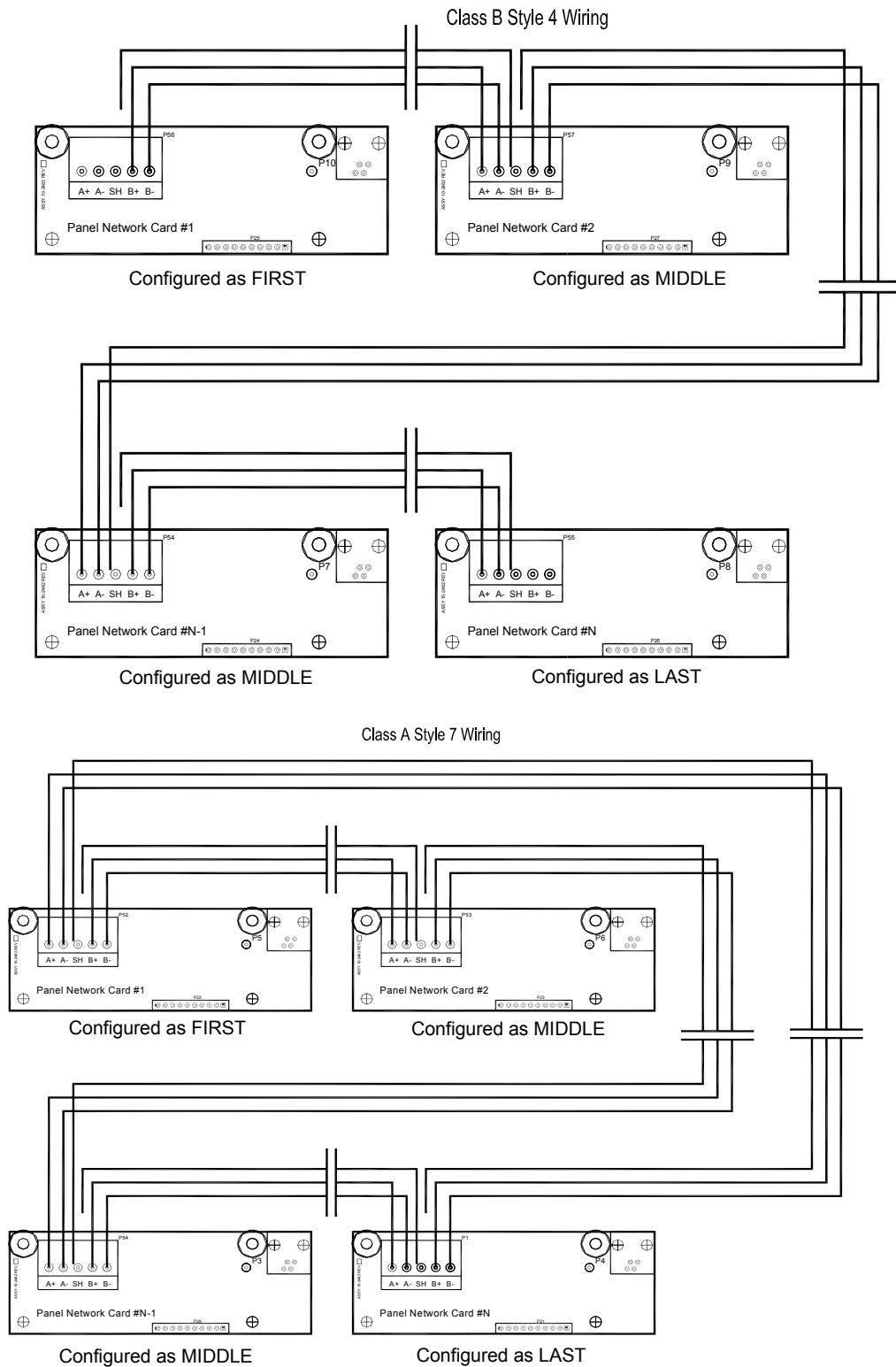


Exhibit 6-39 Network Wiring

6.7.8 P20 Optional fiber network wiring, 10-2624

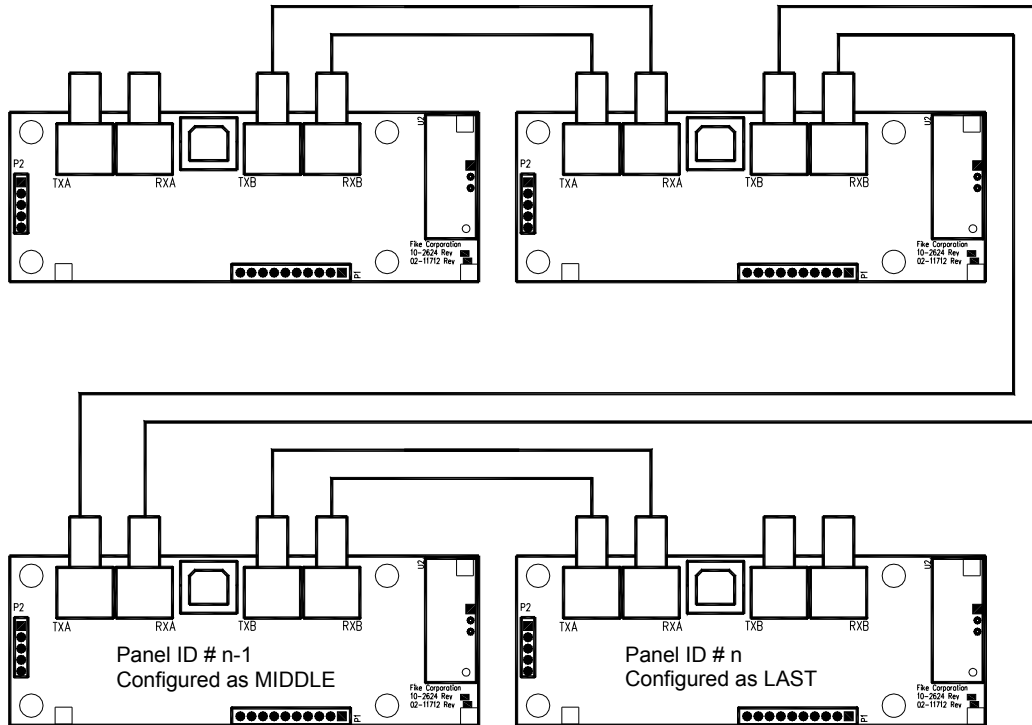


Exhibit 6-40 Fiber Network Wiring, Class B

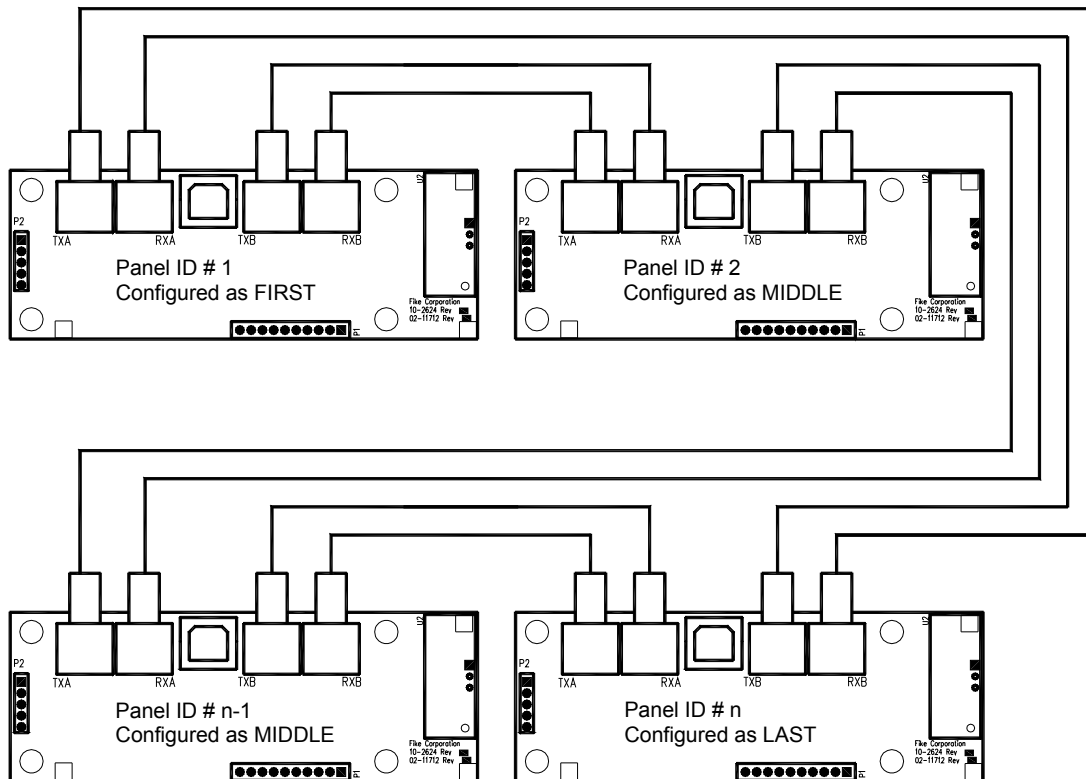


Exhibit 6-41 Fiber Network Wiring, Class A

6.8 POWER UP WITH DEVICES CONNECTED

Apply power to the system with field wiring connected (Apply AC followed by DC). Validate that all devices begin to function appropriately and wiring is connected properly.



CAUTION: Immediately power down the system (DC followed by AC) if the display shows improper characters, you smell smoke, or if you see sparks. Each of these conditions indicates improper connections or malfunction of components. After power is removed, investigate for source of malfunction by investigating connections in the area of the malfunction.

6.9 CONFIGURE SYSTEM

There are many different methods that can be chosen to complete the installation. The two most common choices would be to AUTO PROGRAM or ENGINEERED CONFIGURE. Any combination of these two methods may also successfully accomplish matching the field devices to the installation configuration requirements. Section 7 is devoted to configuration and provides more of the specific details of the configuration.

6.9.1 Auto Program

This method is most useful when the installation is simple with very few different hazards. Once the panel is powered with the field devices connected, allow it to recognize each address (procedure to perform is located in the Configuration section). Note: since each device holds its own program the operation will be as it was previously configured or programmed to the default programming as shipped. Defaults and other configuration options are noted in the Configuration section of this manual.

Use the Cheetah Xi configuration menus or C-Linx to modify the configuration as needed.



CAUTION: This method of configuration requires all devices to be connected and properly wired upon power-up of the SLC. Validate that ALL devices were recognized by checking the design drawings while performing the testing of the system. If any device was missed, add it into the configuration.

6.9.2 Engineered Configure

This method is most useful if the installation has many hazards and defined customer message information. In this arrangement, the Engineer has designed the configuration for the system using C-Linx software along with the design drawings for the installation. Once the panel is powered, the installer shall go to each device and change the address to match the design prints using the IR Tool. The installer shall then connect C-Linx and send the Engineered Configuration to the panel.



Tip – Each SLC device can be addressed prior to the installation by using any of the following methods...

- 24VDC power supply attached to the SLC wiring terminals (observing proper polarity) and the IR Tool
- Cheetah Xi Auto Address Feature
- C-Linx Assign Device Address Feature
- Handheld Programmer

6.9.2.1 ADDRESSING DEVICES USING THE IR TOOL (55-051)

Non listed, see pg 89

By default the IR communication is disabled on the Cheetah Xi loops. The user must first enable the IR communication to allow the tool the ability to communicate with the devices. Enabling the IR communication requires a password level 3/Distributor Level. Enter the password as described in the Configuration Section of the manual. Press F6 from the Function Switch Menu to view the IR communication display (as described in the Operation section):

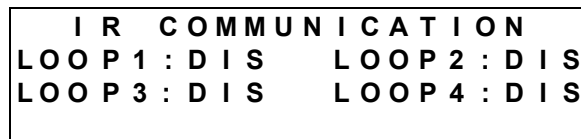


Exhibit 6-42 IR Communication Display

Line 2-3 IR Communication status by loop. Enable only one loop at a time. Use the <> buttons to move the cursor and the +/- buttons to toggle the ENable/DISable status. Disable the IR when complete or **Reset the control panel (turns IR back OFF)**.

The IR Tool has many uses with the Cheetah Xi addressable devices. Consult the individual Installation and Maintenance Instructions for a complete description of its operation.

Note: The IR Tool can also assign device addresses for other devices on the same addressable loop by pointing at any one device. In order to do this, the user must know the original loop and address of the specific device.

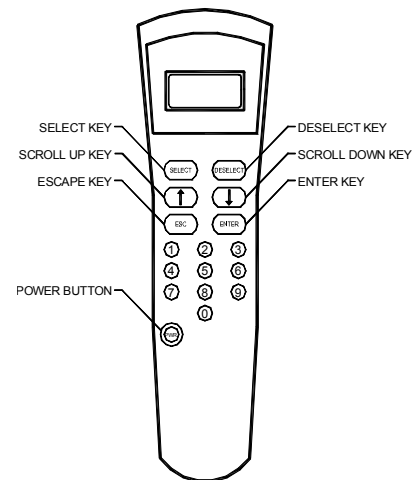


Exhibit 6-43 55-051 IR Tool

1. Press the *PWR* (Power) Button on the IR Tool to apply power to the display.
2. Aim the IR beam at the device being addressed and press the *SELECT* button. The LED on the device should change to blinking green.
3. The display will then indicate '1. WRITE LOOP/ADR'. Press the *ENTER* button.
4. Use the number buttons to type in the desired Loop and Address number for the device. (Loops = 001-004; Addresses = 001-254)
5. Point the IR beam at the device being addressed and press the *ENTER* button.
6. If addressing devices sequentially, press the ↑ button to increment to the next address number. Press the *DESELECT* button to move from the previous device, then press *SELECT* to move to the next device. Press *ENTER* to save it to the next address displayed.

6.9.2.2 ADDRESSING DEVICES USING THE 10-2648 HAND HELD PROGRAMMER

Non-listed, see page 89

The Hand Held Programmer powers up into the CheetahXi Maintenance – Device Address Menu after a brief start-up:

```

SELECT ADDRESS
LOOP : 1 ADDRESS : 0 0 1
WAIT FOR LOOP START :
>>>>>>>>>>>>>>>>>>>>>>>>

```

Exhibit 6-44 HH Programmer StartUp

Wait for the screen to display the Device Address Menu:

```

SELECT ADDRESS
LOOP : 1 ADDRESS : 0 0 1
PRESS ENTER TO START

```

Exhibit 6-45 HH Device Address, Step 1

1. Press +/- buttons to the desired Loop number (1-4). Use the <> buttons to move the cursor under the Address range and the press +/- buttons to the desired device address number (1-254).
2. Press the ENTER button after you have the desired Loop and Address set. A new screen will display stepping you through the device address process.

```

CONNECT DEVICE TO
ADDRESSABLE LOOP
PRESS ENTER WHEN
COMPLETE

```

Exhibit 6-46 HH Device Address, Step 2

3. Install a single device by either attaching the sensor to the base or attaching the BNC leads to the device (attach Red wire to Loop + connection; Black wire to Loop – connection on device). Once the NEW DEVICE record is received, the next menu is displayed:



NOTE: The Hand Held Programmer requires the NEW DEVICE record from the device before it will recognize it. If the device was already installed when accessing this menu, you must REMOVE and RE-INSTALL the device for the Hand Held Programmer to receive the NEW DEVICE record. If several devices were removed and attached the first one to respond with the NEW DEVICE record will be the one to get the address.

```

CONNECT DEVICE TO
ADDRESSABLE LOOP
* NEW DEVICE *
* DETECTED *

```

Exhibit 6-47 HH Device Address, Step 3

```

CONNECT DEVICE TO
ADDRESSABLE LOOP
PRESS ENTER WHEN
COMPLETE

```

Exhibit 6-48 HH Device Address, Step 4

3. The Hand Held Programmer has detected that a NEW DEVICE message was recorded and is ready for the user to press ENTER to assign the new loop-address. Press ENTER and you should see the following screen in completed:

```

LOOP : 1 ADDRESS : NNN
DEVICE ADDR CHANGE
COMPLETED
ENTER FOR NEXT DEVIC

```

Exhibit 6-49 HH Device Address, Complete

OR if the address did NOT successfully change you will see the following screen

```

LOOP : 1 ADDRESS : NNN
DEVICE ADDR CHANGE
FAILED
ENTER FOR NEXT DEVIC

```

Exhibit 6-50 HH Device Address, Fail

If the device address failed, return to step # 3 above. If it passed, and ready to program the next sequential loop-address (the panel will auto-increment the address number after each successful address write), press ENTER (returning to step # 2 above). If programming a different loop-address than sequential, press ESCAPE to return to step # 1. If complete, power down the Hand Held Programmer

6.9.2.3 ADDRESSING DEVICES USING THE DEVICE ADDRESSING WIZARD

Use this software diagnostic in C-Linx when the configuration is available. If you have already built a configuration:

1. Open C-Linx software.
2. Open your existing configuration or create the configuration for the panel.
3. Click on 'Diagnostics'.
4. Select/click on 'Device Addressing Wizard'. A window will appear, titled 'Device Addressing Wizard'.
5. Click the pull-down menu where it displays 'No Panel' and select the configuration of the panel that you wish use for addressing the devices (that configuration needs to be already loaded in C-Linx Project Explorer).
6. It will display each device loop and address information in the panel area.
7. Click 'Start Addressing'.
8. Connect the programming cable from the communication port on the computer to the panel or the Hand Held Programmer when it instructs to connect the Serial Cable.
9. C-Linx will then request a password. Type in the 4 digit password.
10. The Status Message will display connection status. Connect the device to be addressed.
11. Once the Hand Held Programmer and/or C-Linx receive the NEW DEVICE record from the device, it will highlight that TYPE of device in step 1. It will display the type, serial number, and address in the Step 2 area. You need to click on the appropriate box in Step 3 area of C-Linx. Either select 'Overwrite current address in this device' OR 'Do not address this device'. If there is no longer a device type in the list that matches the device type connected, it will display Device not needed for this configuration, 'Skip Device'. Click 'Skip Device' to continue to the next device.
12. If you selected 'Overwrite current address in this device' it will display 'Storing New Device Address' and then it will remove that device loop-address from the list of available devices.
13. Click on 'Stop Addressing' and it will ask if you wish to save the session for you to come back at a later time and pick up addressing where you left off.

6.9.2.4 ADDRESSING DEVICES USING THE ASSIGN DEVICE ADDRESS FEATURE

Use this software diagnostic for simple loop-address change when configuration is not available.

1. Open C-Linx software.
2. Select a new panel
3. Click on 'Diagnostics'.
4. Select/click on 'Assign Device Address'. A window will appear, titled 'Assign Device Address'.
5. Click 'Diagnostics' AGAIN.
6. Click 'Connect to Panel'.
7. Connect the communication cable on the computer to the computer jack on the panel or Hand Held Programmer when it instructs to connect the Serial Cable.
8. C-Linx will then request a password. Type in the 4 digit password.
9. The Status Message will display connection status, then it will command the panel or Hand Held Programmer to search for the devices attached. Once it resets the loop of device(s) it will report each type of device with its loop number, address number and serial number information.
10. Select a specific row to modify, then change the loop number and/or address number in the bottom box. Click 'Change Address' to send the device the new loop and address number.
11. Mark or label the device with the loop-address information.
12. Repeat for each device needed, then exit the Assign Device Address screen, unless you wish to do a LEARN ALL DEVICES at this time. If you do, while ASSIGN DEVICE ADDRESS screen is open and all devices still show on screen, click on Diagnostics again, and the click/select Reset Panel with Learn All. If you do not wish to do a LEARN ALL DEVICES, skip step # 12 and proceed to step # 13
13. Close Assign Device address screen. If properly completed, all devices should now have valid addresses.



Note: This diagnostic is intended for full loop of devices that are already wired in the field.

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7.0 CONFIGURATION

NOTICE TO USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHER INVOLVED PARTIES			
This product incorporates field-programmable software, in order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.			
Program feature or option	Permitted in UL 864?(Y/N)	Possible settings	Settings permitted in UL
55-051 IR Tool, pg. 9, 36	Yes, but not listed	Use or Don't use	Don't use
Summing, pg. 51, 62	Not tested or listed	Summing or Not Summing	Don't use
Flame Enhance, pg. 57	Not tested or listed	Use or Don't use	Don't use
Abort Types 5 & 6, pg. 145	No	Types 1-6	Use types 1-4
10-2648 Hand Held Programmer, pg. 9, 37, 86	Not tested or listed	Use or Don't use	Don't use
Supervise Battery, pg. 99	No	Yes or No	Yes
Supervise Auxiliary Power, pg. 99	No	Yes or No	Yes

90.23 (UL 864)

The CHEETAH XI Control Panel may be configured from the front panel keypad or by using C-Linx. However, not ALL features are available from the panel keypad.

7.1 C-LINX SOFTWARE

All configuration variables can be assigned by using C-Linx software. This software provides the designer the capability to provide a Pre-Engineered design. The user can review the construction plans to assign the zones. The configuration can also be set to identify the exact device circuit operation desired along with the custom message information.

7.2 CONTROL PANEL AUTO-CONFIGURE

With a successful level 3, Distributor password entered, the distributor can perform Auto-Address and Auto-Learn (more detail in 7.5) of new or all devices on the system.

ENTER PASSWORD

1. Press ESCAPE until you see TOP LEVEL MENU
2. Press F4-PASSWRD
3. Enter the Distributor Password.
4. Press ESCAPE.

AUTO ADDRESS

5. Press F1-CONFIG. Press F6 until you reach CONFIGURATION MENU 5.
6. Press F2-AUTO A for Auto Address
7. Press + or – to Enable Auto Address next to loop 1 and then use the arrows and +/- buttons to select the start and stop address.

AUTO LEARN – SUPERVISION

8. Press ESCAPE until you return to CONFIGURATION MENU 1.
9. Press F4-LEARN
10. Press + to display LEARN ALL DEVICES
11. Press ENTER.
12. Allow the Reset with Learn All to complete at the conclusion of the Reset.

7.3 DEVICE CONFIGURATIONS

The following are the configuration options available for the Cheetah Xi addressable devices. Default items are noted in **Bold** face font. Refer to the Operations section for details on operation or definitions of terms.

7.3.1 Photo Sensor

Common

Custom Message: **L-ADR PHOTO DETECT**

Where L = Loop # of device (1-4)

ADR = Address of device (1-254)

20 character custom message

Zone: **1** (4 zones are available, 1-254)

Pre-Discharge Type: Alarm Only, 1st Cross Zone, 2nd Cross Zone, Count Zone, Single Device Release, or Non Abortable Release

Alarm Verification: **not Enabled/Enabled**
(0-60 seconds in 1 second increments)

Sensitivity

Pre-Alarm1 & 2: **not Enabled/Enabled** (0.5%/ft – 4.0 %/ft in 0.1 %/ft increments, forces Pre-Alarm 2 to be set equal or higher than Pre-Alarm 1)

Alarm: High **2.0%**, Low **2.5%**, (1.3%/ft – 3.6%/ft available window, forces High to be equal or lower obscuration number than Low)

Acclimate or Day/Night

Alarm or Supervisory

Drift Compensation: **Warning 80%, Trouble 100%**
(Available at 50-100% in 1% increments, trouble forced to be higher % than warning)

Walktest with Smoke / Walktest with IR

Device Summing, non-listed see page 89

Broadcast: Enabled/**Disabled** (8 levels available to be broadcast 0.5 – 4.0 in 0.1%/ft increments)

Summing: **Disabled**
(Available to sum 8 total addresses with a sum of 1.0-10.0%/ft in 0.5% increments)

Remote LED

Remote LED: **follow head/** independent; **Red**, Green, Amber LED; if independent operation select single activation state, blink pattern, and single address or up to 3 zone response.



Note – Custom messages and loop/addresses are stored in the Cheetah Xi control panel all other configuration options are downloaded to the device and held by the device (both maintain the loop/address information).

7.3.2 Photo/Heat Sensor

Common

Custom Message: **L-ADR PHO/HT DETECT**

Where L = Loop # of device (1-4)

ADR = Address of device (1-254)

20 character custom message

Zone: **1** (4 zones are available, 1-254)

Pre-Discharge Type: Alarm Only, 1st Cross Zone, 2nd Cross Zone, Count Zone, Single Device Release, or Non Abortable Release

Alarm Verification: **not Enabled/Enabled**
(0-60 seconds in 1 second increments)

Sensitivity

Pre-Alarm1 & 2: **not Enabled/Enabled** (0.5%/ft – 4.0 %/ft in 0.1 %/ft increments, forces Pre-Alarm 2 to be set equal or higher than Pre-Alarm 1)

Alarm: High **2.0%**, Low **2.5%**, (1.3%/ft – 3.6%/ft available window, forces High to be equal or lower obscuration number than Low)

Acclimate or Day/Night

Alarm or Supervisory

Flame Enhance, **non-listed page 89: ON/OFF**

Drift Compensation: **Warning 80%, Trouble 100%**
(Available at 50-100% in 1% increments, trouble forced to be higher % than warning)

Walktest with Smoke / Walktest with IR

Device Summing, non-listed see page 89

Broadcast: Enabled/**Disabled** (8 levels available to be broadcast 0.5 – 4.0 in 0.1%/ft increments)

Summing: **Disabled**
(Available to sum 8 total addresses with a sum of 1.0-10.0%/ft in 0.5% increments)

Remote LED

Remote LED: **follow head/** independent; **Red**, Green, Amber LED; if independent operation select single activation state, blink pattern, and single address or up to 3 zone response.

7.3.3 Ion Sensor

Common

Custom Message: L-ADR ION DETECT
 Where L = Loop # of device (1-4)
 ADR = Address of device (1-254)
 20 character custom message
 Zone: **1** (4 zones are available, 1-254)
 Pre-Discharge Type: Alarm Only, 1st Cross Zone,
 2nd Cross Zone, Count Zone, Single Device
 Release, or Non Abortable Release
 Alarm Verification: **not Enabled/Enabled** (0-60
 seconds in 1 second increments)

Sensitivity

Pre-Alarm1 & 2: **not Enabled/Enabled** (100 – 40
 M in 5M increments, forces Pre-Alarm 2 to be
 set equal or higher than Pre-Alarm 1)

Alarm: **65M**, 100-40M in 5M increments, Day/Night

Acclimate or Day/Night

Alarm or Supervisory

Smolder Enhance ON/OFF

Drift Compensation: **Warning 80%, Trouble 100%**
 (Available at 50-100% in 1% increments,
 trouble forced to be higher % than warning)

Walktest with Smoke / Walktest with IR

Device Summing, non-listed see page 89

Broadcast: Enabled/**Disabled** (8 levels available to
 be broadcast 0.5 – 3.0 in 0.1%/ft increments)

Summing: **Disabled**

(Available to sum 8 total addresses with a sum
 of 0.5-5.0%/ft in 0.5% increments)

Remote LED

Remote LED: **follow head/** independent; **Red**,
 Green, Amber LED; if independent operation
 select single activation state, blink pattern, and
 single address or up to 3 zone response.

7.3.4 Heat Sensor

Common

Custom Message: L-ADR HEAT DETECT
 Where L = Loop # of device (1-4)
 ADR = Address of device (1-254)
 20 character custom message
 Zone: **1** (4 zones are available, 1-254)
 Pre-Discharge Type: Alarm Only, 1st Cross Zone,
 2nd Cross Zone, Count Zone, Single Device
 Release, or Non Abortable Release
 Alarm Verification: **not Enabled/Enabled** (0-60
 seconds in 1 second increments)

Sensitivity

PreAlarm1 & 2: **not Enabled/Enabled** (135°F –
 190°F in 5°F increments, forces Pre-Alarm 2 to
 be set equal or higher than Pre-Alarm 1)

Alarm: **135°F – 190°F** in 5°F increments, Day/Night
Fixed Temperature or Rate of Rise

Alarm only

Walktest with Heat / Walktest with IR

Remote LED

Remote LED: **follow head/** independent; **Red**,
 Green, Amber LED; if independent operation
 select single activation state, blink pattern, and
 single address or up to 3 zone response.

7.3.5 Duct Sensor

Common

Custom Message: L-ADR DUCT DETECT
 Where L = Loop # of device (1-4)
 ADR = Address of device (1-254)
 20 character custom message
 Zone: **1** (4 zones are available, 1-254)

Pre-Discharge Type: Alarm Only, 1st Cross Zone,
 2nd Cross Zone, Count Zone, Single Device
 Release, or Non Abortable Release

Alarm Verification: **not Enabled/Enabled** (0-60
 seconds in 1 second increments)

Sensitivity

Pre-Alarm1 & 2: **not Enabled/Enabled** (0.6%/ft –
 4.0 %/ft in 0.1 %/ft increments, forces Pre-
 Alarm 2 to be set equal or higher than Pre-
 Alarm 1)

Alarm: High **2.0%**, Low **2.5%**, (0.8%/ft – 3.4%/ft
 available window, forces High to be equal or
 lower obscuration number than Low)

Acclimate or Day/Night

Alarm or Supervisory- Refer to NFPA 90A and the
 applicable code.

Drift Compensation: **Warning 80%, Trouble 100%**
 (Available at 50-100% in 1% increments, trouble
 forced to be higher % than warning)

Walktest with Smoke / Walktest with IR

Device Summing, non-listed see page 89

Broadcast: Enabled/**Disabled** (8 levels available to
 be broadcast 0.5 – 4.0 in 0.1%/ft increments)

Summing: **Disabled**

(Available to sum 8 addresses with a sum of 1.0-
 10.0%/ft in 0.5% increments)

Remote LED

Remote LED: **follow head/** independent; **Red**,
 Green, Amber LED; if independent operation
 select single activation state, blink pattern, and
 single address or up to 3 zone response.

7.3.6 Monitor/Mini-Monitor Module

Custom Message: **L-ADR INPUT MANALARM**
 Or **L-ADR MINI MANALARM**
 Where L = Loop # of device (1-4)
 ADR = Address of device (1-254)
 20 character custom message

Zone: **1** (4 zones are available, 1-254)

Pre-Discharge Type: Alarm Only, 1st Cross Zone, 2nd Cross Zone, Count Zone, Single Device Release, or Non Abortable Release

Input Function: **Manual Alarm**, see other selections below

Operation: **Latching** or Non-Latching

<u>Either</u>	<u>Non-Latch Only</u>	<u>Latch</u>
Pre-Alarm1	Reset	ManAlarm
Pre-Alarm2	Silence	Detection
Supervisory	Acknowledge	Predisch
Trouble	Watermist	Man Rel
Process	Zone Disable	Waterflow
	Abort	Drill
PAS Inhibit	Watermist	
	Fan Restart	

Contact: **Normally Open (NO)**/Normally Closed (NC)

<u>NO Only</u>	<u>NO/NC</u>
Detection	Process
Manual Alarm	Waterflow
Reset	Pre-Alarm1
Supervisory	Pre-Alarm2
Man Release	Trouble
Pre-Discharge	Drill
Abort	Silence
Watermist	Acknowledge
	Zone Disable
	PAS Inhibit
	Fan Restart

No Short detection / Short Detection

Class A Latching, Class A Auto-Restore, **Class B**
 (Note: Class A Auto-Restore requires Latching and No Short Detection. Wiring is class B only for Mini Monitor Module)

7.3.7 Addressable Pull Station

Custom Message **L-ADR PULL STATION**
 Where L = Loop # of device (1-4)
 ADR = Address of device (1-254)
 20 character custom message

Zone: **1** (4 zones are available, 1-254)

Pre-Discharge Type: Alarm Only, 1st Cross Zone, 2nd Cross Zone, Count Zone, Single Device Release, or Non Abortable Release

Input Function: **Manual Alarm**

7.3.8 Supervised Control Module

Custom Message: **L-ADR OUTPUT MODULE**
 Where L = Loop # of device (1-4)
 ADR = Address of device (1-254)
 20 character custom message

Zone: **1** (zone where trouble will be present, 4 zones available, 1-254)

Activation State: **Alarm**, Summing Alarm, Test Alarm, Alarm Verification ON, Pre-Alarm1, Pre-Alarm2, Supervisory, Trouble, Open Circuit Trouble, Short Circuit Trouble, Low Power Trouble, Maintenance Trouble, Process

Action Type: **Any of 3 zones** 1-255 (255 is ANY zone), All of 3 zones, Specific Device, Multiple conditions

State Counter: 1-16

Output Pattern: **ON Continuous**, Slow, Fast, Temporal, OFF, **Walktest**

Walktest: **Zone 1, ON Continuous**

Drill Output Pattern: Drill Disabled, **ON Continuous**, Slow, Fast, Temporal

Output Silenceable / Output Non-Silenceable

Positive Alarm Sequencing (PAS): **Disabled/Enabled**

7.3.9 Relay Module

Custom Message: **L-ADR RELAY MODULE**
 Where L = Loop # of device (1-4)
 ADR = Address of device (1-254)
 20 character custom message

Zone: **1** (zone where trouble will be present, 4 zones available, 1-254)

Relay: **Not Monitored**, Monitored by dry contact, Independent dry contact

PAS: **Disabled/Enabled**

Activation State: **Alarm**, Summing Alarm, Test Alarm, Alarm Verification ON, Pre-Alarm1, Pre-Alarm2, Supervisory, Trouble, Open Circuit Trouble, Short Circuit Trouble, Low Power Trouble, Maintenance Trouble, Process

Action Type: Zone 1-255 (255 is ANY zone), **Any of 3 zones**, All of 3 zones, Specific device, Multiple conditions

State counter: 1-16

Relay State: **ON** / OFF / Timed

Drill: **Disabled**

7.4 MAIN BOARD CONFIGURATIONS

The Main controller has configurable options for zones with custom messages, time-base functions, optional modules, two Notification Appliance Circuits (NAC), and other miscellaneous options.



NOTE: This section also holds information for the addressable loop devices such as the address numbers to supervise, custom message, and zone numbers for each address.

7.4.1 Zones

Zones: **1-254**

Zone Type: **Alarm** or Suppression

Status: **Enabled/Disabled**

Custom Message: 20 Character user defined

CUSTOM MESS ZONE ZZZ

(where ZZZ = zone number)

Pre-Discharge Countdown

Automatic: 0 – 60 seconds, **default = 30**

Manual: 0 – 30 seconds, **default = 15**

7.4.2 Outputs

P12: **No Module**, CRM4, CRPM-Opt 1, CRPM-Opt2, DACT

P13: **No Module**, CRM4, Network Interface Module

P12/P13 CRM4 States:

Alarm, Pre-Alarm 1, Pre-Alarm 2, Supervisory, Trouble, Process, Zone-Disable, Release, Pre-Discharge, Abort

NAC1 & 2:

Sync Protocol: **No Sync Protocol**, Gentex, System Sensor, Wheelock

State: **Alarm**, Pre-Alarm 2, Pre-Alarm 2, Supervisory, Trouble, Process, Release, Pre-Discharge

Walktest: Enabled / **Disabled**

All 4 outputs have the same programming options:

Enabled / Disabled

Silence / **Non-silence**

Zone 1-**255** (255 is ANY zone)

Drill Enabled / **Drill disabled**

7.4.3 Miscellaneous

Network Address: **1-128**

AC Trouble Delay: **0-12** hours

Abort Type: 1-6, types 5&6 are non-listed, pg

Auxiliary Loop Module: used / **not used**

Loop Wiring Style: **4, 6, or 7**

Auxiliary Power Supply: used / **not used**

Transformer: **120VAC/240VAC**

Main Battery: **Supervised/Not Supervised**

Aux. Battery: **Supervised/Not Supervised**

Unsilence Time: 0-31 Hours (**24Hour default**)

Silence Reminder: Enabled / **Disabled**

Silence Inhibit : Enabled / **Disabled**

Positive Alarm Sequence: Enabled / **Disabled**

Walktest: **Enabled** / Disabled

Fan Restart: **Automatic** / Manual

7.4.4 Time Functions

Daytime sensitivities start/stop time

Days of the week that use daytime sensitivity

Use Daylight savings option

Holidays (20) where it stays with night-time sensitivity

7.4.5 Peripherals

Option to supervise or not up to 31 peripherals

Select peripheral address: 2-32

Peripheral type: DACT, 14-Key Remote Display, 10-Key Remote Display, 2-Key Remote Display, Zone Annunciator, LED graphic, Ethernet, Multi-Interface and 20 Zone Remote Annunciator

7.4.6 Defaults

Option to change the default device configurations for placing a new device in C-Linx.

Custom Messages – Addressable Devices, Peripheral Devices, and Air Sampling Devices

Level 2 Passwords – ability to add up to 8 (1-H) different level 2 Passwords (0-9999)

7.5 PANEL CONFIGURATION MENU'S

As noted in the previous sections, the Cheetah Xi control panel and devices have many configuration options that need to be setup for desired operation of the system. The C-Linx Software will allow you to configure all of these options. The control panel provides a menu structure to allow a certified technician the ability to modify some of the main configuration options. The Operations section describes the menu's/navigation and Appendix 3 documents the menu structure. This section will detail each Configuration menu with the configurable fields of each display shaded for emphasis. To start, press ESCAPE until the Top Level Menu is displayed...

```

TOP LEVEL MENU
F 1 - CONFIG  F 4 - PASSWRD
F 2 - HISTRY  F 5 - MAINT
F 3 - DIAG    F 6 - IR COMM
    
```

Exhibit 7-1 Top Level Menu

7.5.1 F4-PASSWRD

All users have access to view the configuration menu 1 options, but they can be changed only by a certified technician with a proper password. Press F4 from the Top Level Menu to access the password:

```

ENTER PASSWORD
      < - - - X X X X
ACCESS : DENIED
CODE : CCCC
    
```

Exhibit 7-2 Password Menu

Line 2 4 digit password. Use the <> buttons to move the cursor and the +/- buttons (cycles through 0-9) to enter a password.



NOTE: Successful Level 3/Distributor password provides the ability to change the default password (by changing the right-handed 4 digit number, XXXX). If this is changed and then unknown, call Fike with the 4-digit CODE represented by CCCC.

Line 3 Displays the access level (Denied, Level 2(A-H), Sys Admin, Factory) allowed with the password that has been entered.

Line 4 Random 4 digit code that changes periodically.

7.5.2 F2-HISTRY

To access the History Menu. Press F2 from the Top Level Menu and you will be able to view history on the panel separated by type of history.

```

HISTORY MENU
F 1 - ALARM    F 4 - EVENTS
F 2 - SUPERV  F 5 - ZONE
F 3 - TROUBL  F 6 - ERASE
    
```

Exhibit 7-3 History Menu

- F1 Alarm History. Will only show alarm events.
- F2 Supervisory History. Will only show supervisory events.
- F3 Trouble History. Will only show trouble history.
- F4 Events History. Will show all events on panel, like hitting the Step All Button
- F5 Zone History. Will only show history of when zone states change.
- F6 Erase History. Will erase all history in panel, except for an event that shows that history was deleted. All other events will show up as Erased Event.

7.5.3 CONFIGURATION MENU 1

To access the Configuration menus, press F1 from the Top Level Menu...

```

CONFIGURATION MENU 1
F 1 - DEVICE      F 4 - LEARN
F 2 - NAC         F 5 -
F 3 - SLC         F 6 - MENU 2
    
```

Exhibit 7-4 Configuration Menu 1

7.5.3.1 F1-DEVICE

To access the Device configuration menus, press F1, from the Device Configuration Menu 1:

```

F 1 - ALARM FEATURES
F 2 - RELEASE FEATURES
F 3 - CONFIGURATION CHK
    
```

Exhibit 7-5 Device Config Menu

From the Device Configuration sub-menu, press F1 to access the device Alarm Features sub-menu, F2 to access the device suppression Release Features, or F3 to perform device configuration checks.

7.5.3.1.1 F1-ALARM FEATURES

```

L - ADR : DEV TYPE
FUNC : * FUNCTION - - - NO
CUSTOM MESSAGE
ZONE : NNN NNN NNN NNN
    
```

Exhibit 7-6 Alarm Features Menu, Input

```

STAT : NNN NNN NNN P : Y
    
```

Exhibit 7-7 Alarm Features Menu, Output

- Line 1 Loop – Address: Position the cursor under any of these fields and use the +/- buttons to change to a different loop number or address number. Device type for the address shown is then displayed (if connected). The device type field is not editable, but will change for each device type found on the loop.
- Line 2 Function of the device type shown and contact type (NO/NC). i.e. the input module can have several different function assignments (see section 7.3.6 to determine the possible function assignments). The output can be programmed for All of 3 zones, Any of 3 zones, Rows Anded, and Select Device (Loop/Address on 4th line). If this field is changed, you MUST press the ENTER button to successfully change the

configuration at the device. The asterisk will blink and then go away. Wait for the asterisk to go away.

Line 3 Displays the custom message configured for this address. These fields can be edited with the +/- buttons since they cycle through all available ASCII characters.

Line 4 **Input Devices** (Exhibit 7-6)

Zone settings for this loop-address selected. Position the cursor under the zone number field and use the +/- buttons to change the zone number to a different zone if desired. Add multiple zones by moving the cursor to the 2nd thru 4th zone number field; use the +/- button to change or add the zone number.

Relay and Control Modules (Exhibit 7-7)

Provides access to the **first** priority row of the modules priority table. STAT cycles through the possible states of activation...

- AVON = Alarm Verification On
- LTRB = Low Power Trouble
- STRB = Short Circuit Trouble
- OTRB = Open Circuit Trouble
- MTRB = Maintenance Trouble
- TSTA = Test Alarm
- TRBL = Trouble
- PROC = Process
- PRED = Pre-Discharge
- PRA2 = Pre-Alarm 2
- PRA1 = Pre-Alarm 1
- ABRT = Abort
- RELE = Release
- SUPV = Supervisory
- SUMA = Summing Alarm
- ALRM = Alarm

Zone settings (NNN) same as described under Input Devices.

P:Y represents the pattern defined to the modules first priority row, where Y equals...

- 0 = OFF
- 1 = ON
- S = SLOW
- F = FAST
- T = TEMPORAL
- W = WALKTEST

If this field is changed, you MUST press the ENTER button to successfully change the configuration at the device. The asterisk will blink and then go away. Wait for the asterisk to go away.

7.5.3.1.2 F1-DELETE DEVICE

While viewing a device's Alarm Feature configuration, press F1 for a prompt to remove the respective device from the list of devices to supervise.

```
L - ADR : DEV TYPE
      PRESS ENTER TO
      DELETE DEVICE
```

Exhibit 7-8 Delete Device Menu

- Line 1 Loop – Address: Device Type.
- Line 2 Press Enter to remove the device address from the list of devices to supervise.

Press ESCAPE twice to return to the Device Configuration menu.

7.5.3.1.3 F2-READ / WRITE / DISABLE / ENABLE DEVICE

While viewing a device's Alarm Feature configuration, press F2 to access the device's Read/Write/Disable/Enable menu.

```
L - ADR : DEV TYPE
      PRESS ENTER TO
      READ DEVICE CONFIG
```

Exhibit 7-9 Read/Write/Enable/Disable Menu

- Line 1 Loop – Address: Device Type.
- Line 3 Press +/- to change from READ, WRITE, ENABLE or DISABLE for the address. Press Enter to perform the desired function. Once Enter is pressed, line 4 will display status of process. **Wait until process is completed prior to exiting this screen.**

NOTE: The *Write* function from this menu will take the copy of the configuration that the panel holds for the device and send it to the device. **It will also replace the S/N of the device that it needs to supervise** with the current one present at the time of the Write function.

Press ESCAPE twice to return to the Device Configuration menu.

7.5.3.1.4 F2-RELEASE FEATURES

To access a device's Release Features, press F2 from the Device Configuration menu.

```
L - ADR : DEV TYPE
PRE - DISCH TYPE : A *
COUNTDOWN: AUTOMATIC
```

Exhibit 7-10 Release Features Menu

- Line 1 Loop – Address: Device Type. Position the cursor under any of these 3 fields and use the +/- buttons to change to a different loop number, address number, or device type for the address shown.
- Line 2 There are six (6) different Pre-Discharge types available for each addressable input device. This selection will tell the panel how the input should participate with the Suppression zone. Appendix 4 defines each of these Pre-Discharge types, A-F). The asterisk will blink and then go away. Wait for the asterisk to go away.
- Line 3 Countdown time for the system to operate when this device is activated, automatic or manual. These countdown times are set up in the zone configuration.

7.5.3.1.5 F3-CONFIGURATION CHK

To access the Configuration Check menu, press F3, from the Device Configuration Menu:

```
L - ADR : DEV TYPE
PANEL : XXX DEVICE : ZZZ
PRESS ENTER TO START
COMPARISON 0 - 000
```

Exhibit 7-11 Configuration Check Menu

If the XXX and ZZZ of line 2 do not match for the device specified in line 1, a CHECKSUM ERROR will occur. To calculate checksums for all devices on all loops, press ENTER. The status of the checksum process is illustrated on line 4 (0-000).

7.5.3.2 F2-NAC

To access the NAC configuration menus, press F2 from Configuration Menu 1.

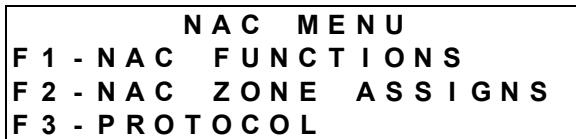


Exhibit 7-12 NAC Configuration Menu

7.5.3.2.1 F1-NAC FUNCTIONS

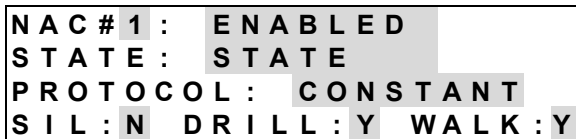


Exhibit 7-13 NAC Functions Menu

- Line 1 Notification Circuits 1&2 (P10 & P11) enable/disable status. Move cursor to NAC circuit number and use +/- button to change from NAC 1 to 2. Move cursor to Enable/Disable field and use the +/- buttons to toggle the Enable/Disable status of the circuit.
- Line 2 Operating State for the NAC circuit displayed in Line 1. Move the cursor to line 2 and use the +/- button to change the State to the desired operation (see section 7.4.2 for the possible states).
- Line 3 Output protocol selection for the NAC circuit displayed in Line 1. Mover the cursor to line 3 and use the +/- buttons to change to the desired protocol (see section 7.4.2 for the possible protocols).
- Line 4 Silenceable, Drill, and Walktest Enabled (Y)/Disabled (N). Position cursor under Y or N and toggle with the +/- button.

7.5.3.2.2 F2-NAC ZONE ASSIGNS

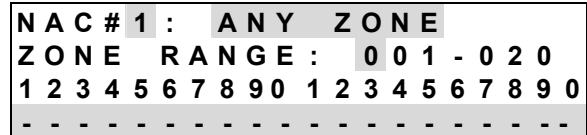


Exhibit 7-14 NAC Zone Assigns Menu

- Line 1 Notification Circuits 1&2 (P10 & P11) zone assignment. Move cursor to NAC circuit number and use +/- button to change from NAC 1 to 2. Move cursor to Zone function field and use the +/- buttons to toggle the functional status of the circuit (Any zone or multi zone).
- Line 2 20 zone range displayed in line 3&4. Position cursor under the first number in this line; use the +/- buttons to increment/decrement the group of 20 forward or backwards (zones 001-254).
- Line 3 Number designators to assist in displaying the group of addresses selected in line 2 for the individual zones displayed in line 4.
- Line 4 Zone assignment programming for the circuit displayed in Line 1 if MULTIZONE is selected. '-' = not programmed for this zone; 'Y' = programmed for this zone. Position the cursor under the specific zone position; use the -/- button to toggle the status.

7.5.3.2.3 F3-PROTOCOL

To access the NAC protocol menu, press F3 from the NAC Menu.

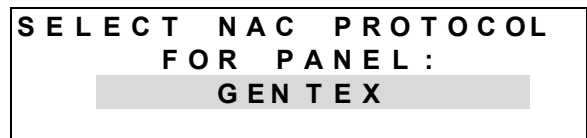


Exhibit 7-15 NAC Protocol Menu

- Line 3 Notification Circuits 1&2 (P10 & P11) SYNC protocol assignment for BOTH circuits. Use +/- button to change from allowable Sync protocols.

7.5.3.3 F3-SLC

```
AUXILIARY LOOPS
MODULE PRESENT : NO
POSITIVE AL SEQ : NO
LOOP WIRING STYLE : 4
```

Exhibit 7-16 SLC Menu

- Line 2 Is SLM installed? Yes/No. Edit with the +/- button to change
- Line 3 Is Positive Alarm Sequencing used on the detection? Yes/No. Edit with the +/- button to change
- Line 4 Loop Wiring Style for all 4 addressable loops. Style 4, 6, or 7 available. Use the +/- buttons to change the field.

7.5.3.4 F4-LEARN

```
SELECT RESET MODE:
NONE SELECTED
PRESS ENTER TO START
PANEL WILL RESET
```

Exhibit 7-17 Learn Menu

- Line 2 Allows the controller to Learn the loops connected (same as shown in the Reset process in section 7.2, but requires Enter button to be pressed. Press +/- to change from None Selected to Learn New Devices, or Learn All Devices. Press Enter for the panel to Reset and perform the desired Learn.

7.5.3.4.1 NEW DEVICES ONLY

```
SELECT RESET MODE:
LEARN NEW DEVICES
PRESS ENTER TO START
PANEL WILL RESET
```

Exhibit 7-18 Learn New Screen

If the ENTER button is pressed it will learn new devices. The loops will be reset and any new devices that are found on the loop but not in the panel supervision list, will be added to the panel supervision list. All new devices added will operate with the configuration held by the device. If it is a device that has never been in a configuration it will contain the default configuration. See section 7.3 for Configuration options and default configurations.

7.5.3.4.2 ALL DEVICES

```
SELECT RESET MODE:
LEARN ALL DEVICES
PRESS ENTER TO START
PANEL WILL RESET
```

Exhibit 7-19 Learn All Screen

When the Learn All function is invoked, the loop will be reset and all addresses stored in the control panel will be deleted. The panel will search the loops for all devices and auto-supervise for only the devices connected to the loops. All device addresses, serial numbers, and device type information will be learned and the configurations held by the devices will NOT be altered (nor will the custom messages).



Caution – The Learn ALL method will delete and/or add supervision to devices. Testing or review of the configuration should be performed to ensure that all required devices are supervised.

7.5.4 CONFIGURATION MENU 2

```

CONFIGURATION MENU 2
F 1 - TIME      F 4 - DAY SEN
F 2 - SILENC   F 5 - ZONE
F 3 - POWER    F 6 - MENU 3
    
```

Exhibit 7-20 Configuration Menu 2

7.5.4.1 F1-TIME

```

TIME :  HH : MM : SS AM
DATE :  MM / DD / YYYY
DAY :   DAY OF WEEK
DAYLIGHT SAVINGS : YES
    
```

Exhibit 7-21 Time Menu

- Line 1 Hour (HH), Minute (MM), Second (SS), and AM/PM fields. Position the cursor under the field; use the +/- buttons to increment/decrement the field to a different number.
- Line 2 Month (MM), Day (DD), and Year (YYYY) fields. Position the cursor under the field; use the +/- buttons to increment/decrement the field to a different number.
- Line 3 Day of the week. Position the cursor under the field; use the +/- buttons to increment/decrement the field to a different day.
- Line 4 Daylight savings (Yes/No). Position the cursor under the field; use the +/- buttons to toggle the status.

7.5.4.2 F2-SILENCE

```

SILENCE INHIBIT : OFF
SILENCE REMINDER : OFF
AUTO UNSILENCE IN
                24 HOURS
    
```

Exhibit 7-22 Silence Menu

- Line 1 Silence Inhibit (On/Off). Position the cursor under the field; use the +/- buttons to toggle the status.
- Line 2 Silence Reminder (On/Off). Position the cursor under the field; use the +/- buttons to toggle status.
- Line 4 Auto Unsilence time. NFPA 72 documents that a silenced panel shall be unsilenced within 24 hours. Position the cursor under the field; use the +/- buttons to increment/decrement the time.

7.5.4.3 F3-POWER

```

AUX POWER MODULE : NO
XFORMER SIZE : 120VAC
BATTERY MAIN : Y AUX : N
SUPERV AUX POWER : YES
    
```

Exhibit 7-23 Power Menu

- Line 1 Auxiliary Power Module (SPS) installed(YES/NO). Position the cursor under the field; use the +/- buttons to toggle the status.
- Line 2 Main power input voltage (120VAC/240VAC). Position the cursor under the field; use the +/- buttons to toggle the status.
- Line 3 BATTERY MAIN: Supervise Main controller Battery Input (YES/NO). Position the cursor under the field; use the +/- buttons to toggle the status.

AUX: Supervise SPS Battery Input (YES/NO). Position the cursor under the field; use the +/- buttons to toggle the status. [Selection of YES for AUX Power Module Battery Supervision requires AUX Power Module to be set to YES]
- Line 4 Supervise Auxiliary Power Circuits (YES/NO). Position the cursor under the field; use the +/- buttons to toggle the status. Requires Level 4 Password.



NOTE: Configuring battery supervision of either the MAIN or AUX circuits to NO is not allowed by UL.



NOTE: Configuring Auxiliary Power Circuit Supervision to NO is not allowed by UL.

7.5.4.4 F4-DAY SEN

```
F 1 - DAYTIME SEN RANGE
F 2 - SELECT HOLIDAYS
```

Exhibit 7-24 Daytime Sensitivity Menu

7.5.4.4.1 F1-DAYTIME SEN RANGE

```
DAYTIME SENSITIVITY
START : HH : MM AM
STOP : HH : MM PM
DAY OF WEEK : SMTWRFS
```

Exhibit 7-25 Daytime Sens. Range Menu

- Line 2 Daytime sensitivity start time. Hour (HH),Minute (MM), AM/PM. Position cursor under the field; press the +/- buttons to increment/decrement the value at the field.
- Line 3 Daytime sensitivity stoptime. Hour (HH),Minute (MM), AM/PM. Position cursor under the field; press the +/- buttons to increment/decrement the value at the field.
- Line 4 Days of the week using Daytime sensitivity. Use +/- button to turn ON letter to participate on day. Toggle letter OFF if it stays with night sensitivity all day.

7.5.4.4.2 F2-SELECT HOLIDAYS

```
HOLIDAYS ( 1 ) 0 1 - 0 1
0 1 - 0 1 0 1 - 0 1 0 1 - 0 1
0 1 - 0 1 0 1 - 0 1 0 1 - 0 1
0 1 - 0 1 0 1 - 0 1 0 1 - 0 1
```

Exhibit 7-26 Holidays Menu

- Line 1 There are 2 holiday screens available to provide 20 holidays. Move cursor to the 4th line last field on the right will move to Holidays (2) or similar with the first field on line 1.
- Line 2-4 Lines 1-4 provide 10 editable fields for entering the Month (MM)-Day (DD) of holiday. Position the cursor under the field; use the +/- buttons to increment/decrement the value at the cursor.

7.5.4.5 F5-ZONE

```
ZONE 0 0 1 : ENABLED
CUSTOM MESS ZONE 0 0 1
AUTO COUNTDOWN : 0 3 0 s
MANU COUNTDOWN : 0 1 5 s
```

Exhibit 7-27 Zone Menu

- Line 1 Zone Enable/Disable status. Position the cursor under the zone number field. Use the +/- buttons to change zone number. Move cursor under the enable status field. Use the +/- buttons to toggle the status.
- Line 2 Zone Custom Message for the zone displayed in line 1. Move the cursor to the field; use the +/- button to cycle through all ASCII characters and display the desired character.
- Line 3 Automatic Pre-Discharge countdown duration for zone specified. Activated by automatic detection schemes.
- Line 4 Manual Pre-Discharge countdown duration for zone specified. Activated by manual input stations.

7.5.5 CONFIGURATION MENU 3

```

CONFIGURATION MENU 3
F 1 - PERIPH F 4 - ABORT
F 2 - WALK F 5 - SEN CHG
F 3 - GROUND F 6 - MENU 4
    
```

Exhibit 7-28 Configuration Menu 3

7.5.5.1 F1-PERIPH

```

PERIPHERAL MENU
F 1 - DEVICE F 4 - CMD SET
F 2 - SOURCE
    
```

Exhibit 7-29 Peripheral Menu

7.5.5.1.1 F1-DEVICE

```

PERIPHERAL ADDR : 0 2
TYPE : REM DISP 1 4 KEY
SUPERVISE : YES Z : 0 0 0
PERIPHERAL MSG 0 2
    
```

Exhibit 7-30 Peripheral Configuration Menu

- Line 1 RS485 Peripheral address (2-32). Position cursor under address field; use the +/- buttons to increment/decrement the value at the cursor.
- Line 2 Type of RS485 Peripheral device programmed at the address displayed in line 1. Position the cursor under the device type menu; use the +/- buttons to change to the desired device type.
- Line 3 SUPERVISE the RS485 peripheral device/address shown in lines 1 & 2 (Yes/No). Position the cursor under the field; use the +/- button to toggle the status of the field.

Zone defines which zone's pre-discharge countdown will be displayed on respective display (applies to RDUs only)
- Line 4 Peripheral device custom message for the device displayed in line 1. Move the cursor to the field; use the +/- button to cycle through all ASCII characters and display the desired character.

7.5.5.1.2 F2-SOURCE


This menu is used when configuring a system with C-Linx software and the USB cable. The panel and device configurations are sent with this menu set in the PANEL mode (default). If desiring to send the peripheral configurations, the software will prompt the user to move the cable. With the USB version panels, the user must keep the cable in the USB port and then enter the level 3 password at the panel and go to this menu to re-direct the configuration information out the peripheral buss (USB Connector selection).

```

PERIPHERAL BUSS
COMMAND SOURCE :
PANEL
    
```

Exhibit 7-31 Peripheral Source Menu

- Line 3 Use the +/- buttons to change from Panel to USB Connector.
 1. **PANEL** allows you to connect to C-Linx to configure the panel. If you are in this setting you can not configure the peripherals
 2. **USB CONNECTOR** allows you to connect to Peripheral devices and configure them through C-Linx. If you are in this setting you can not configure the panel or devices

 **NOTE:** The panel defaults to the **PANEL** setting when reset.

7.5.5.1.3 COMMAND SET

```

EVAX : ON STATUS : EXP
HISTORY XMIT : COMPACT
HISTORY PACKING : ON
HISTORY MESSAGE : EXP
    
```

Exhibit 7-32 Command Set Menu

- Line 1 EVAX ON/OFF. Set to ON if a voice evacuation system is connected intelligently to the Cheetah Xi.

STATUS EXP/STD. STD should be chosen if any one peripheral is loaded with a firmware version prior to v3.0.

For both of these settings position cursor under the field; press the +/- buttons to increment/decrement the value at the field.

Line 2 History transmit **COMPACT/VERBOSE** position cursor under the field; press the +/- buttons to increment/decrement the value at the field. COMPACT provides increase speed over VERBOSE because the types of messages sent to the peripherals are limited to status information only.

Line 3 History Packing **ON/OFF** position cursor under the field; press the +/- buttons to increment/decrement the value at the field. OFF should be chosen if any one peripheral is loaded with a firmware version prior to v3.0.

Line 4 History Message **EXP/STD** position cursor under the field; press the +/- buttons to increment/decrement the value at the field. STD should be chosen if any one peripheral is loaded with a firmware version prior to v3.0.

7.5.5.2 F2-WALK

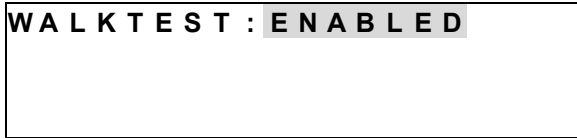


Exhibit 7-33 Walktest Menu

Line 1 Walktest Enable/Disable status for entering Walktest through the Maintenance menu. Position the cursor under the enable/disable field; use the +/- buttons to toggle the status.

7.5.5.3 F3-GROUND

Password Level 4 Required

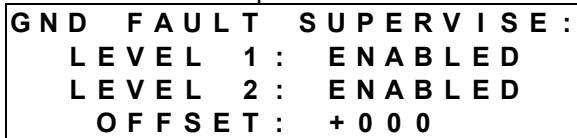


Exhibit 7-34 Ground Fault Menu

Line 2 **ENABLED/DISABLED** status of Ground Fault, 1st Level alarm devices.

Line 3 **ENABLED/DISABLED** status of Ground Fault, 2nd level suppression devices.

Line 4 Provides an offset adjustment of +/- 25 to Ground Fault measurements.

7.5.5.4 F4-ABORT

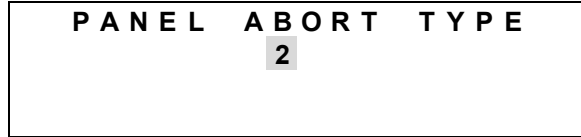


Exhibit 7-35 Abort Menu

Line 2 System Abort Type, 1-6, for providing the ability to prevent an unwanted suppression agent release. Abort types are noted in Appendix 4.

7.5.5.5 F5-SEN CHG

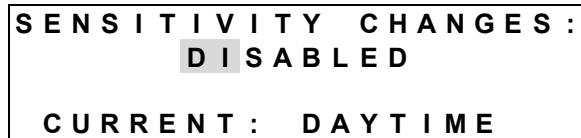


Exhibit 7-36 Sensitivity Change Menu

Line 2 **ENABLED/DISABLED** status of Day/Night Sensitivities.

Line 4 Displays the current Sensitivity being used due to the time of day and day/night changeover times.

7.5.6 CONFIGURATION MENU 4

```

CONFIGURATION MENU 4
F 1 - AC DEL F 4 -
F 2 - VESDA F 5 - RELAYS
F 3 - F 6 - MENU 5
    
```

Exhibit 7-37 Configuration Menu 4

7.5.6.1 F1-AC DEL

The AC Delay menu allows the user to set the length of time that must elapse, with AC power below normal, before the P2-Trouble Relay and Contact ID DACT are activated.

```

SELECT DELAY FOR AC
POWER LOSS TROUBLE :
      00 HOURS
    
```

Exhibit 7-38 AC Delay Menu

Line 3 Select 0 for no delay or provide a delay for the trouble to be transmitted to the DACT by changing using the +/- buttons to 01-30 hours.



NOTE: Immediately upon detection of the AC Power abnormality, the panel will announce the trouble locally and across the network. In addition, any system output module or addressable output device configured for trouble in zones 254 or 255 will activate.

7.5.6.2 F2-VESDA

```

VESDA CONFIGURATION
F 1 - ALARM FEATURES
F 2 - SECTOR ZONES
F 3 - EVAX F 4 - RELEASE
    
```

Exhibit 7-39 VESDA Configuration Menu

7.5.6.2.1 F1-ALARM FEATURES

```

VESDA ZONE NUM : 001
TYPE : ALM ENA
CUSTOM MESSAGE-VZ 001
ZONE: 000 000 000 000
    
```

Exhibit 7-40 VESDA Alarm Features Menu

Line 1 VESDA Detector Zone number. Position the cursor under any of the 3 fields and use the +/- buttons to change to a different zone number (VESDA zone, not Cheetah Xi zone).

Line 2 Detector type. Select the type by positioning the cursor under that area and using the +/- buttons until the type detector installed is shown. Then arrow over to the right using the right arrow button until under the STATE field and use +/- to select the state of operation for that detector. Then use the right arrow button again to move over under the ENA field. Use the +/- buttons to enable or disable that detector

Line 3 Custom Message field for detector. Move the cursor to the field; use the +/- button to cycle through all ASCII characters and display the desired character. Arrow to next character and repeat until custom message is completed.

Line 4 Cheetah Xi zone assignment. This allows you to select up to 4 Cheetah Xi zones that this detector will participate in. Arrow until you get to each field, then use the +/- button to change zones to that desired. Repeat for each of 4 zones required. Remember, Zone 255 is ANY Zone.

7.5.6.2.2 F2-SECTOR ZONES

```

VESDA ZONE NUM 001
S 1 : 000ALM S 2 : 000ALM
S 3 : 000ALM S 4 : 000ALM
    
```

Exhibit 7-41 VESDA Sector Zones Menu

Line 1 VESDA detector Zone Number. Arrow under the field, and use the +/- button to change to VESDA detector zone number.

Line 2 Sector 1 & 2 Cheetah Xi Zone number for the sector event and state. Arrow to the zone field and use the +/- button to change to desired zone. Then arrow over under the state and use the +/- button to toggle through events of ALM, SUP or TRB.

Line 3 Sector 3 & 4 Cheetah Xi Zone number for the sector event and state. Arrow to the zone field and use the +/- button to change to desired zone. Then arrow over under the state and use the +/- button to toggle through events of ALM, SUP or TRB.

7.5.6.2.3 F3-EVAX

```
VESDA ZONE NUM 001
EVAX LOOP: 0
EVAX ADDR: 000
```

Exhibit 7-42 VESDA EVAX Loop/Adr Menu

- Line 1 VESDA detector Zone Number. Arrow under the field, and use the +/- button to change to VESDA detector zone number.
- Line 2 If using this VESDA to notify with Voice Evacuation or LED Graphic, you will need to tie this VESDA to an empty/available loop and address. Select the desired loop number with the +/- button.
- Line 3 If using this VESDA to notify with Voice Evacuation or LED Graphic, you will need to tie this VESDA to an empty/available loop and address. Select the desired address number with the +/- button.

7.5.6.2.4 F4-RELEASE FEATURES

```
VESDA ZONE NUM 001
PRE - DISCH TYPE: A - AL
PRE - DISCH LEV: FIRE 2
COUNTDOWN: AUTOMATIC
```

Exhibit 7-43 VESDA Release Features Menu

- Line 1 VESDA detector Zone Number. Arrow under the field, and use the +/- button to change to VESDA detector zone number.
- Line 2 There are six (6) different Pre-Discharge types available for each addressable input device. This selection will tell the panel how this VESDA should participate with the Suppression zone. Appendix 4 defines each of these Pre-Discharge types, A-F).
- Line 3 The VESDA Fire level to participate in Pre-Discharge events, Fire1 or Fire2.
- Line 4 Countdown time for the system to operate when this device is activated, automatic or manual. These countdown times are set up in the zone configuration.

7.5.6.3 F5-RELAYS

```
F1 - SELECT MODULE
F2 - RELAY FUNCTIONS
F3 - RELAY ZONE ASSIGN
F4 - FAN RESTART MODE
```

Exhibit 7-44 Relay Configuration Menu

7.5.6.3.1 F1-SELECT MODULE

```
MODULE AT
P12: BOSCH DACT
P13: CRM 4
```

Exhibit 7-45 Select Module Menu

- Line 2 Device programmed to be present at location P12. Editable for the different devices as shown compatible in the Equipment section. Position cursor in this field and change with the +/- button.
- Line 3 Device programmed to be present at location P13. Editable for the different devices as shown compatible in the Equipment section. Position cursor in this field and change with the +/- button.

7.5.6.3.2 F2-RELAY FUNCTIONS

```
RELAY P12A: DISABLED
STATE: STATE PROG
SILENCE: NO DRLL: NO
RESTART DELAY: 000 SEC
```

Exhibit 7-46 Relay Functions Menu

- Line 1 Enable/Disable status of the optional CRM4 relays and main board relays (P2). Position the cursor under the relay designation, use the +/- buttons to cycle through P12A-D, P13A-D, and NUM1-2. Move the cursor to the Enable/Disable field; toggle the status with the +/- button.
- Line 2 Position the cursor under the state programmed field and use the +/- button to toggle to the desired state.
- Line 3 Silenceable and Drill status for the relay selected in line 1. Position the cursor under the yes/no field and use the +/- button to toggle the status.
- Line 4 Fan Restart Delay. When greater than 0 seconds, relay becomes normally energized. When fan restart sequence begins, this field sets how many seconds must elapse before relay transfers. Configurable range is 40 – 250 seconds.

7.5.6.3.3 F3-RELAY ZONE ASSIGN

```
RELAY P 1 2 A : M U L T I Z O
ZONE RANGE : 0 0 1 - 0 2 0
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
- - - - -
```

Exhibit 7-47 Relay Zone Assign Menu

- Line 1 Zone functional status of the optional CRM4 relays. Position the cursor under the relay designation, use the +/- buttons to cycle through P12A-D, P13A-D, and NUM1-2. Move the cursor to the functional status field; toggle the status with the +/- button
- Line 2 20 zone range displayed in line 3&4. Position cursor under the first number in this line; use the +/- buttons to increment/decrement the group of 20 forward or backwards (001-255).
- Line 3 Number designators to assist in displaying the group of addresses selected in line 2 for the individual zones displayed in line 4.
- Line 4 Zone assignment programming for the circuit displayed in Line 1. '-' = not programmed for this zone; 'Y' = programmed for this zone. Position the cursor under the specific zone position; use the +/- button to toggle the status.

7.5.6.3.4 F4-FAN RESTART MODE

```
SELECT FAN RESTART
MODE : A U T O M A T I C
```

Exhibit 7-48 Fan Restart Configuration Menu

- Line 2 Select whether relays configured for Fan Restart automatically transfer after set time or if the set time begins upon a manual input.

AUTOMATIC – Use this setting if the Fan Restart counters should begin immediately upon panel reset.

MANUAL – Use this setting if the Fan Restart sequence should be started manually thru user interaction. Manual activation can be accomplished by pressing ENTER on the main board keypad, a monitor module configured for Fan Restart, or a RDU with a button configured for Fan Restart.

7.5.7 CONFIGURATION MENU 5

```
CONFIGURATION MENU 5
F 1 - LOGO F 4 - D I A L E R
F 2 - AUTO A F 5 - NETWORK
F 3 - F 6 - MENU 6
```

Exhibit 7-49 Configuration Menu 5

7.5.7.1 F1-LOGO

```
PANEL LOGO
ON LINE 2 :
FIKE CORPORATION
```

Exhibit 7-50 Panel Logo Menu

- Line 3 The second line of the System Status Display is defaulted to Fike Corporation. This entire row is editable using the arrow buttons in conjunction with the +/- buttons to advance/decrement the character at the cursor.

7.5.7.2 F2-AUTO A

```
AUTO ADDRESSING : O F F
SELECT LOOPS : 1 2 3 4
SELECT ADDRS : 0 0 1 - 2 5 4
PRESS ENTER TO STORE
```

Exhibit 7-51 Auto Address Screen

- Line 1 Toggle Auto Addressing ON/OFF
- Line 2 Toggle the display to indicate which loops auto addressing will affect. If loop number is displayed, Auto Addressing will be performed on that loop. Any Loop 0 or Address 0 device that reports a NEW DEVICE record to the panel, will be automatically assigned the first available address and corresponding loop number.
- Line 3 At this location you will set the address range that you would like to Auto Address. This range applies to all loops selected on line 2.
- Line 4 Instructs you to press ENTER to store your Auto Addressing preferences.

7.5.7.3 F4-DIALER

```
DIALER AUTO TEST
REPEAT CYCLE : DISABLE
STARTING HOUR : 02AM
```

Exhibit 7-52 Dialer Configuration Menu

- Line 2 The dialer can be configured to perform an operation test of the dialer on a periodic basis. This test will send contact id code 50 (Auto Test). Default is 'DISABLING' for no test. Other options available are '06Hours', '12Hours', and '24Hours'. Use the +/- buttons to change the value at the cursor.
- Line 3 Starting hour to begin the daily dialer test. Use the +/- buttons to increment/decrement the time.

7.5.7.4 F5-NETWORK

```
CONFIGURE NETWORK
F1 - ID'S F4 - ENABLED
F2 - MODULE F5 - SWITCH
F3 - ZONES
```

Exhibit 7-53 Configure Network Menu

- Line 2 Pressing F1 will take you to the screen shown in 7.5.31 to configure Network ID. Pressing F4 will toggle the Network Enable status: **ENABLED/DISABLED**.
- Line 3 Pressing F2 will take you to the screen shown in 7.5.32 to configure Network module installed on Cheetah Xi
- Line 4 Pressing F3 will take you to the screen shown in 7.5.27 to configure Network zones.

7.5.7.4.1 F1-ID'S

```
NETWORK PANEL ID : 001
ALL - NET ID'S : 001 - 020
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
```

Exhibit 7-54 Network ID and Supervision Menu

- Line 1 This allows you to assign the unique network ID to the respective panel. Arrow to ID field and use +/- buttons to change Network ID.
- Line 2 20 ID range displayed in lines 3 & 4 below. Position the cursor under the first number in this line and use the +/- button to increment/decrement the range in groups of 20 to display at one time.
- Line 3 Place holder for panel numbers with range specified by line 2.
- Line 4 Network supervision by this panel. This shows the panel IDs on the network in groups of 20. Move the cursor with the arrow buttons to position under desired ID number shown on Line 3 and then using the +/- buttons, toggle to a Y under each ID you wish to supervise by this panel. Y means to supervise, - means no supervision of that network ID by this panel. Only a 'FIRST' panel should perform supervision. Do not place a 'Y' under the ID that matches line 1.

7.5.7.4.2 F2-MODULE

```
MODULE TYPE : NONE
NETW WIRING : STYLE - 4
SW FUNCTION : LOCAL
CUSTOM MSG PANEL 001
```

Exhibit 7-55 Network Module Config Menu

- Line 1 Position cursor under the network type field and using the +/- button to toggle between NONE, FIRST, MIDDLE, or LAST device on the network wiring.
- Line 2 By positioning cursor under the network wiring style field, using the +/- button allows you to toggle between the Network Wiring Styles of STYLE-4 or STYLE-7.

Line 3 This field allows you to control the switch functionality of each panel. Position the cursor under the LOCAL/GLOBAL field and use the +/- buttons to toggle between the two values.

LOCAL - instructs the panel to only respond to switch commands from panel ID's specified in the F5-SWITCH menu.

GLOBAL - the panel will respond to any switch command from any panel on the network.

Line 4 Custom Message field that identifies this panel across the network and on RDUs. Move the cursor to the field; use the +/- buttons to cycle through all ASCII characters and display the desired character. Arrow to next character and repeat until custom message is completed.

7.5.7.4.3 F3-ZONES

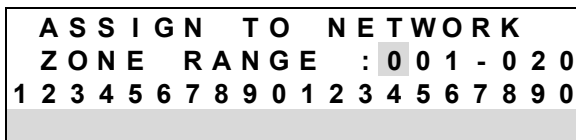


Exhibit 7-56 Network Zones Menu

Line 2 20 zone range that will be displayed in lines 3 & 4 below. Position the cursor under the first number in this line and use the +/- buttons to increment/decrement the range in groups of 20 to display at one time. This will cycle through the 254 zones available on the Cheetah Xi.

Line 3 These numbers act as placeholders and zone number indicators for the range of zones signified on line 1.

Line 4 Position the cursor on the fourth line beneath the zone desired and use the +/- buttons to toggle the state. Toggle to a 'Y' to participate and a '-' to not participate. (If a zone is not selected to participate, it will still show up in History but the local panel does not act on the state indicated in that zone.

7.5.7.4.4 F5-SWITCH

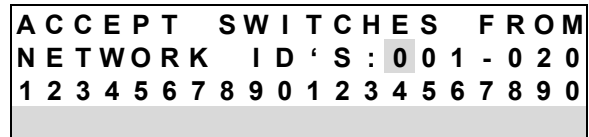


Exhibit 7-57 Network Zones Menu

Line 2 20 ID range that will be displayed in lines 3 & 4 below. Position the cursor under the first number in this line and use the +/- buttons to increment/decrement the range in groups of 20. This will cycle through the 128 IDs available on a Cheetah Xi network

Line 3 These numbers act as placeholders and panel ID indicators for the range of IDs signified on line 1.

Line 4 Position the cursor on the fourth line beneath the ID desired and use the +/- buttons to toggle the state. Toggle to a 'Y' to accept switch commands from the respective ID or a '-' to ignore switch commands from the respective ID.

7.5.8 CONIGURATION MENU 6

```

CONF I G U R A T I O N   M E N U   6
F 1 - I P   A D R   F 4 - S W   O P E R
F 2 - I P   S U P   F 5 - L E D   O P R
F 3 - I P   T I M   F 6 - M E N U   1
    
```

Exhibit 7-58 Configuration Menu 6

7.5.8.1 F1-IP ADR

```

      I P   A D D R E S S E S
S R C : 0 0 0 . 0 0 0 . 0 0 0 . 0 0 0
H I S T : 0 0 0 . 0 0 0 . 0 0 0 . 0 0 0
S U P V : 0 0 0 . 0 0 0 . 0 0 0 . 0 0 0
    
```

Exhibit 7-59 IP Address Configuration Menu

- Line 2 Defines the Source IP for the panel under configuration. This parameter is required before Ethernet remote monitoring can be accomplished. All panels on the same network must have a unique Source IP. In addition, the Source IP must be unique across the entire Ethernet network. (Consult local Network Administrator to obtain available IP addresses.)
- Line 3 Defines the destination IP address for panel history messages. This IP address should match the Source IP address of the monitoring panel.
- Line 4 Defines the destination IP address for panel supervision requests. This IP address should match the Source IP address of the panel that is supervising for the presence of this panel.

7.5.8.2 F2-IP SUP

This menu allows the user to define which networked panel(s) will be supervised by the panel under configuration.

```

S U P E R V I S E   N E T W O R K   I D
      0 0 1
A T   I P   A D D R E S S
0 0 0 . 0 0 0 . 0 0 0 . 0 0 0
    
```

Exhibit 7-60 IP Supervision Menu

- Line 2 Defines a panel's network ID to supervise. (1 – 128)
- Line 4 Defines the Source IP Address for the network ID specified on line 2.

Repeat the following steps for each network ID that the panel under configuration should supervise.

1. Configure Line 2 to match the Network ID of the panel that should be supervised by the panel under configuration.
2. Enter the Source IP address of the networked panel specified in step 1.

NOTE: To stop supervising a given Network ID, follow the steps outlined above, but in step 2, enter an IP address on line 4 of 000.000.000.000.

7.5.8.3 F3-IP TIM

```

      I P   S U P E R V I S I O N
T I M E O U T : 0 4   M I N U T E S
H I S T O R Y   T R A N S M I T S : 0 2
    
```

Exhibit 7-61 IP Supervision Timeout Menu

- Line 2 Use the +/- buttons to increment/decrement the timeout period. The IP Supervision timeout determines how long the supervising panel will wait to annunciate a "missing" trouble should the supervising panel lose communications with a supervised panel (see section 7.5.8.2 F2-IP SUP). The parameter increments in the following fashion...

- 1 – 55 seconds, 5 second increments
- 1 – 59 minutes, 1 minute increments
- 1 – 18 hours, 1 hour increments

- Line 4 Use the +/- buttons to increment/decrement the number of history commands transmitted for the same event. The parameter can be configured from 1 to 10, with 1 being the fastest and 10 being the most reliable. Fike recommends this be set to 2.

7.5.8.4 F4-SW OPER

Alternate displays can be made available for particular local authorities and/or applications that require no Drill, Acknowledge, or Silence capabilities. The following menu allows the user to specify whether these functions are available.

```

S W I T C H   O P E R A T I O N
F O R   D R I L L / A C K / S I L :
      N O R M A L

```

Exhibit 7-62 Panel Switch Operations Menu

Line 3 Use the +/- buttons to toggle the functionality of the Drill, Acknowledge, and Silence buttons between **NORMAL/DISABLED**

7.5.8.5 F5-LED OPR

Alternate displays can be made available for particular local authorities and/or applications that require the panel's LEDs to function for either fire alarm or fire suppression. The following menu allows the user to specify how the panel will operate.

```

L E D   O P E R A T I O N :
P R E - D / R E L E / R - D I S / A B T

```

Exhibit 7-63 Panel LED Operations Menu

Line 3 Use the +/- buttons to toggle the functionality of the panel's LEDs between Fire Alarm (Pre-Alarm 1, Pre-Alarm 2, Disabled, Walk Test) and Fire Suppression (Pre-Discharge, Release, Release-Disable, Abort).

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8.0 SERVICE

Qualified individuals shall perform Inspection, Testing, and Maintenance. Fike provides a training class on the Cheetah Xi for Factory Authorized Distributors. The training class provides Certification for Installation, Service and Maintenance of the Cheetah Xi. The certified individual performing the service must have also read this entire manual and understand the basics of Fire Alarm Systems, codes, and standards. Before proceeding with any testing, notify all building occupants and any parties monitoring the Fire Control System. Notification must also be performed at the conclusion of the testing.

8.1 CHECKOUT

After system installation per previous chapters, verify system operation to the satisfaction of the authority having jurisdiction. As required, the **Record of Completion** referenced in NFPA 72 must be completed.

8.2 MAINTENANCE

Periodic maintenance shall be, as a minimum, performed per NFPA 72. Maintenance shall be performed by a trained or authorized Fike representative. Certain components of the Cheetah Xi require replacement, even though no obvious sign of failure is present.

- Batteries (Lead Acid)
Replace every 3 years according to date of manufacture
- Battery (Lithium Coin cell)
Replace every 5 years

Replace battery with Fike battery 02-4040 only. Use of another battery may present a risk of fire or explosion.

Replace the lithium battery by using thumb and forefinger to slide the coin cell from the battery holder on the system controller. Insert new battery making sure to observe polarity markings on the battery holder. Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.

8.3 TROUBLESHOOTING

System events with suggested resolution are displayed in section 8.5 of this manual. If a module or control board is not operating properly, remove all field wiring and replace end-of-line resistors directly on the control board or module. Determine if the control equipment operates properly without field wiring. It may also be necessary to isolate the control board from the environment. Vibration, temperature, airflow, electromagnetic interference, and radio frequency interference are all conditions that may adversely effect the operation of the electronics.

8.3.1 DIAGNOSTIC MENU 1

The Cheetah Xi has 7 diagnostic screens available as tools for troubleshooting the installation. As described in the Operation section, the Diagnostic Menu can be accessed through the Top Level Menu display by pressing the F3 button...

```

D I A G N O S T I C   M E N U   1
F 1 - D E V I C E   F 4 - B R D   C O M
F 2 - V A L U   1   F 5 - C R C
F 3 - V A L U   2   F 6 - M E N U   2

```

Exhibit 8-1 Diagnostic Menu 1

8.3.1.1 F1-DEVICE

Pressing F1 from Diagnostics Menu 1 will display the Device Diagnostics menu...

```

D E V I C E   D I A G N O S T I C S
F 1 - T Y P E   L O C   &   L E D
F 2 - S E R I A L   N U M B E R S

```

Exhibit 8-2 Device Diagnostics Menu

8.3.1.1.1 F1-TYPE LOC & LED

Pressing F1 from the Device Diagnostics menu will display the device Type Location & LED menu...

```

L O O P : N   A D R : 0 0 1 - 0 2 0   D
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
C O N F I G U R E D   D E V   T Y P E
P R E S E N T   D E V I C E   T Y P E

```

Exhibit 8-3 Device Diagnostic Menu

- Line 1 Loop number represented by 'N', position cursor under the value and press +/- to change to desired loop (1-4)
 Displays devices in groups of 20; Position cursor under the first digit (001 in this case), press +/- to increment/decrement the group selection
 The very last position in this line is D or L.. D is intended for displaying the device types in the 3rd and 4th line. L is intended for lighting the LED of the device (red/green flash). To light the device LED set this location to L using the +/- buttons then move the cursor to the desired address on the 4th line. Toggle the LED status by pressing the +/- buttons at the specific address location.
- Line 2 Displays the place holders for the 3rd and 4th lines.
- Line 3 Displays the type of device programmed in the configuration for the specific address displayed:
- | | | |
|----------------|------------------|-------------|
| P = Photo | D = DUCT | Y = Relay |
| U = Photo/Heat | M = Monitor, 4" | C = Control |
| I = Ion | m = Mini Monitor | R = Release |
| H = Heat | T = Pull Station | - = Unknown |
- Line 4 Displays the type of device present/found connected on the addressable loop at the specific address displayed. Same device types as shown in line 3 description above.

8.3.1.1.2 F2-SERIAL NUMBERS

Pressing F2 from the Device Diagnostics menu will display the device Serial Number menu...

```
LOOP : N ADDRESS : 001
TYPE : TYPE OF DEVICE
SERIAL # STORED PANEL
SERIAL # DEVICE LOOP
```

Exhibit 8-4 Device S/N Diagnostics Menu

- Line 1 Loop number represented by 'N', position cursor under the value and press +/- to change to desired loop
Address number of device to display; Position cursor under the first digits (001 in this case), press +/- to increment/decrement the value shown at the cursor.
- Line 2 Displays the type of device connected to the panel for the loop and address in line 1.
- Line 3 Displays the serial number of the device held by the panel for supervision of the loop and address displayed in line 1.
- Line 4 Displays the serial number of the device physically connected to the loop and address displayed in line 1.

(GOAL IS THAT LINE 3 AND 4 SHOULD MATCH OR A MULTIPLE DEVICE TROUBLE WILL BE REPORTED).

8.3.1.2 F2-VALU 1

The Cheetah Xi has several monitoring points that it supervises continuously. Pressing F2 from the Diagnostic Menu will display some of the main panel critical monitoring points (displayed in an analog-to-digital reference level)...

G F : 1 1 1	< A 1 : 2 3 4	L 1 : 0 4 0
2 4 : 2 3 1	A 2 : 2 3 5	L 2 : 0 4 0
B 1 : 2 4 7	A 3 : 2 3 4	N 1 : 0 8 9
B 2 : 2 5 5	A 4 : 2 3 4	N 2 : 0 8 8

Exhibit 8-5 Value 1 Diagnostics Screen

Line 1 **GF** = Ground Fault

'<' = Level 1 Ground Fault Measurement is Active

'=' = Ground Fault Measurement is Transitioning

'>' = Level 2 Ground Fault Measurement is Active

Low = < 60K Ω between Power GND and Chassis GND*

High = < 1M Ω between Main Power (27.6V) and Chassis*

Level 1 (<)

0 – 84 = Ground Fault Low Trouble

85 – 120 = Normal Condition

121 – 255 = Ground Fault High Trouble

Level 2 (>)

0 – 189 = Ground Fault Low Trouble

190 – 255 = Normal Condition

A1 = Voltage Regulator for Main Board AC Power

For 120VAC, 200 – 255 = Normal

For 240VAC, 206 – 255 = Normal

L1 = Loop 1 Short Circuit Detect

10 – 255 = Normal

Line 2 **24** = Main Board 24 VDC Power

140 – 255 = Normal

A2 = Voltage Regulator for Main Board AC Power

For 120VAC, 200 – 255 = Normal

For 240VAC, 206 – 255 = Normal

L2 = Loop 2 Short Circuit Detect

10 – 255 = Normal

Line 3 **B1** = Main Board Battery Circuit Supervision

80 – 255 = Normal

A3 = Voltage Regulator for SPS AC Power

For 120VAC, 200 – 255 = Normal

For 240VAC, 206 – 255 = Normal

N1 = Notification Appliance Circuit #1

0 – 49 = NAC # 1 is Shorted

50 – 170 = Normal Condition

171 – 255 = NAC # 1 is Open

Line 4 **B2** = SPS Battery Circuit Supervision

80 – 255 = Normal

A4 = Voltage Regulator for SPS AC Power

For 120VAC, 200 – 255 = Normal

For 240VAC, 206 – 255 = Normal

N2 = Notification Appliance Circuit #1

0 – 49 = NAC # 1 is Shorted

50 – 170 = Normal Condition

171 – 255 = NAC # 1 is Open



NOTE: Firmware versions 3.0 and higher provide the option to “lock” the ground fault supervision onto either Level 1 or 2. Find the Level that is causing the ground fault, when its respective symbol (< or >) is displayed, press the ENTER button. This will cause the Level symbol (< or >) to begin flashing. To continue monitoring of both levels, press the ENTER button again to release the lock. Reset also restores ground fault detection on both levels.



***NOTE:** Low/High resistance measurements do **not** apply to the RS-485 Peripheral circuit. Ground fault conditions on the RS-485 Peripheral circuit are detected at a level of 0 Ω .

8.3.1.3 F3-VALU 2

Press F3 from the Diagnostic Menu to display the loop monitoring data (also displayed in an analog-to-digital reference data)...

C 1 + 2 1 4	C 1 - 0 0 3	L 3 : 0 4 1
C 2 + 2 1 6	C 2 - 0 0 1	L 4 : 0 4 1
C 3 + 1 9 9	C 3 - 0 0 0	
C 4 + 1 9 9	C 4 - 0 0 0	

Exhibit 8-6 Value 2 Diagnostic Screen

- Line 1 **C1+** = Loop 1 ++ Supervision
 0 – 99 = CLASS A TROUBLE LOOP 1
 C1– = Loop 1 -- Supervision
 100 - 255 = CLASS A TROUBLE LOOP 1
 L3 = Loop 3 Short Circuit Detect
 10 – 255 = Normal Condition
- Line 2 **C2+** = Loop 2 ++ Supervision
 0 – 99 = CLASS A TROUBLE LOOP 2
 C2– = Loop 2 -- Supervision
 100 - 255 = CLASS A TROUBLE LOOP 2
 L4 = Loop 4 Short Circuit Detect
 10 – 255 = Normal Condition
- Line 3 **C3+** = Loop 3 ++ Supervision
 0 – 99 = CLASS A TROUBLE LOOP 3
 C3– = Loop 3 -- Supervision
 100 - 255 = CLASS A TROUBLE LOOP 3
- Line 4 **C4+** = Loop 4 ++ Supervision
 0 – 99 = CLASS A TROUBLE LOOP 4
 C4– = Loop 4 -- Supervision
 100 - 255 = CLASS A TROUBLE LOOP 4

8.3.1.4 F4-BRD COM

Press F4 from Diagnostic Menu 1 to view the microprocessor status...

MAIN PIC	AUX PIC
RXD : 15	RXD : 00
ERR : 00	ERR : 00
MIS : 00	MIS : 00

Exhibit 8-7 Board Comm Diagnostic Menu

**Left Half = MAIN PIC
(Microprocessor that
Controls loops 1 & 2)**

**Right Half = AUX PIC
(Microprocessor that
Controls loops 3 & 4)**

Line 2	RXD = total data packets received by the Main PIC	RXD = total data packets received by the Aux PIC
Line 3	ERR = # of checksum errors noted for the Main PIC	ERR = # of checksum errors noted for the Aux PIC
Line 4	MIS = # of communication messages missed completely at the Main PIC	MIS = # of communication messages missed completely at the Aux PIC



Press the ENTER button while this menu is displayed to clear the counters and restart at 0. This provides a starting point to monitor the communications. The purpose of this window is to detect for electrical noise or interference (EMI, Radio, etc.) that could be interfering with the on-board communications.

8.3.1.5 F1-CRC

Press F5 from Diagnostic Menu 1 to display the Cyclic Redundancy Calculation (CRC) screen...

PROGRAM CRC : NNNN
MAIN PIC VER : - . - -
AUXL PIC VER : - . - -
PRESS ENTER TO CALC

Exhibit 8-8 CRC Diagnostic Menu

Line 1	NNNN represents CRC of the program code. Varies by firmware version.
Line 2	After CRC calculation is performed, this line will indicate the current firmware version of the main board loop processor.
Line 3	After CRC calculation is performed, this line will indicate the current firmware version of the supplemental loop processor.
Line 4	Instruction to press ENTER to perform CRC calculation.



NOTE: If installed, the SLM firmware version must match the MAIN PIC firmware version.

8.3.2 DIAGNOSTIC MENU 2

```

DIAGNOSTIC MENU 2
F 1 - KEYPAD      F 4 - PERIPH
F 2 - VESDA 1    F 5 -
F 3 - VESDA 2    F 6 -
    
```

Exhibit 8-9 Diagnostic Menu 2

8.3.2.1 F1-KEYPAD

Press F1 from Diagnostic Menu 2 to view the Keypad Diagnostic Screen


```

KEYPAD DIAGNOSTIC
KEY PRESSED :
COUNT :
    
```

Exhibit 8-10 Keypad Diagnostics Menu

Line 3 Press any key on the keypad to display key-press status. This diagnostic is helpful to test the switch operation. Also displays the number of times the button was pressed.

 **NOTE:** Pressing ESCAPE 3 times will exit this menu.

 **NOTE:** Pressing the right arrow key will cycle the 10 status LEDs on and off in sequential order.

8.3.2.2 F2-VESDA 1

```

VESDA ZONE NUM : 001 >
CURRENT : 0.0000% / FT
AL : - . - - - - AC : - . - - - -
F 1 : - . - - - - F 2 : - . - - - -
    
```

Exhibit 8-11 VESDA Diagnostics Menu 1

Line 1 VESDA zone number for diagnosis. Position cursor in ones, tens, or hundreds field for zone number. Press + or – to change value at cursor. Arrow/carrot moves back and forth to display communication.

Line 2 Displays current obscuration being seen at the detector (for zone number in top line). This updates upon each press of ENTER button (noted in %/ft value)

Line 3 ALert setting for Detector located in the zone displayed in line 1.
ACtion setting for Detector located in the zone displayed in line 1.

Line 4 F1, Fire 1 setting for Detector located in the zone displayed in line 1.
F2, Fire 2 setting for Detector located in the zone displayed in line 1.

8.3.2.3 F3-VESDA 2

```

VESDA ZONE NUM : 001 >
ENTER FOR FAULT LIST
- - - - -
- - - - -
- - - - -
    
```

Exhibit 8-12 VESDA Diagnostics Menu 2

Line 1 VESDA zone number for diagnosis. Position cursor in ones, tens, or hundreds field for zone number. Press + or – to change value at cursor. Arrow/carrot moves back and forth to display communication.

Line 2 Press ENTER to list the current VESDA faults for the VESDA zone number displayed in line 1. Fault codes are listed on lines 3 and 4.

8.3.2.4 F3-PERIPH

Press F3 from Diagnostic Menu 2 to view the Peripheral Diagnostic Screen...

```

ADR : 0 2  SUP : 0 0  MAX : 0 0
TYPE :  REM  DISP  1 4  KEY
COMMANDS SENT :  0 0 0 0
COMMANDS RCVD :  0 0 0 0

```

Exhibit 8-13 Peripheral Diagnostics Menu

- | | |
|--------|---|
| Line 1 | Use the +/- button to select the Peripheral ID to diagnose. SUP displays the number of times the panel sent a supervision message without a response. As soon as it responds, it sets the counter back to 0. If SUP reaches 12, a PERIPHERAL MISSING trouble will occur. MAX indicates the maximum number of supervision requests sent by the panel since the last response was received (up to a max of 99). |
| Line 2 | Displays the TYPE of peripheral configured at the selected peripheral address on line 1. |
| Line 3 | Number of supervision commands Sent to the peripheral selected. |
| Line 4 | Number of supervision comments Received from the peripheral selected. |

8.3.3 WALKTEST

Section 5.19 described the Walktest State functionality, and entry into Walktest. Walktest entry can be accomplished by pressing F5 from the Top Level Menu to get to the Maintenance Menu, then F4 from the Maintenance Menu allows you to enter the Walktest mode desired. Entry to this menu requires a Level 3 Password or higher.

8.3.4 BUZZER

Some technicians prefer to keep the buzzer disabled while performing testing or diagnostics. To access the Buzzer menu, press F5, from the Maintenance Menu (access to this menu requires prior successful entry of password level 3 or higher):

```

BUZZER OPERATION :
  NORMAL

```

Exhibit 8-14 Buzzer Diagnostic Menu

- | | |
|--------|---|
| Line 3 | Press the + or – button on the keypad to select the desired Buzzer operation <ol style="list-style-type: none"> 1. Normal 2. Disabled |
|--------|---|



On Reset, the status is automatically returned to "NORMAL".

8.4 VOLTAGES

The main control board has two primary test points located in the lower left corner of the board:

TP1 = COM

This test point should be used when making DC voltage measurements on the control board. Connect the voltmeter ground lead to this terminal, then touch the positive lead to the point under test.

TP2 = 24V

This test point is the + side for the main controller 24VDC power buss (connect the voltmeter ground to TP1). Check this point if AC power is applied, but the system does not seem to operate properly.

LOOP VOLTAGE

Nominally 24VDC with a data communication pulse that drops down to a 0-5VDC level. During normal operation, a meter should measure anywhere from 0-24VDC. It should not measure a constant 0VDC.

GROUND FAULT, TP1 to Chassis

With a normal panel and no ground fault, this voltage is 2.17 VDC nominal for level 1, 5V for level 2. If a ground fault is present, this voltage will sway in either direction. Use the Diagnostic screen to troubleshoot the ground fault. Ground fault detection impedances are 60K Ω between power ground and chassis ground or 1M Ω between main power and chassis ground.

8.5 EVENT DESCRIPTION/HISTORY

When an event occurs on the Cheetah Xi, it appears on the top line of the display. The same information is recorded in the 3,200 event history buffer.

The following are the possible events in the Cheetah Xi, followed by the event description, and the recommended steps to restore the system to normal:

EVENT DISPLAY	DESCRIPTION	RESOLUTION
ABORT INPUT	The input device programmed for ABORT is active (and an alarm is active).	Press F1 to determine the loop-address of the input module activated. Locate the device. Determine who pressed the switch at the time of activation.
ABORT INPUT CLEAR	The abort input has restored to normal.	This is an expected event if the abort is returned to normal.
ACKNOWLEDGE FUNCTION	The user pressed the Acknowledge button or a remote Acknowledge input.	Determine who pressed the Acknowledge button.
AC POWER LOW	AC Power is low or missing on the main controller or SPS as shown on line 2 of the display.	Meter the transformer incoming AC primary for 120 or 240VAC as required. Measure the transformer Secondary for 27VAC. Use Diagnostic Screen #1, reading A3/A4 to determine if within normal status range. Locate cause if any one of these is not normal. Check the status of AC fuse, F1.
AC POWER TROUBLE CLR	AC Power Low trouble has been restored.	Determine cause for power loss or dip.
ACTION CLEAR: VZ nnn	The VESDA detector, Zone nnn, which previously reported ACTION LEVEL has restored obscuration levels below ACTION.	This is an expected event if the smoke or obscuration has cleared in the hazard. Note events if desired.
ACTION LEVEL: VZ nnn	The VESDA detector programmed as Zone nnn has reached the ACTION level of obscuration.	Locate VESDA Zone nnn and determine cause for elevated obscuration.
ADDR LOOP ON LINE (Broadcast current state)	The control panel is requesting the devices to send their current state to the Cyber-loop. This message is used to confirm that this specific loop is now functioning correctly. (soft reset the loop)	Expected command shown upon each panel reset for each loop.
AIRFLOW FAULT: VZ nnn	The VESDA detector programmed as Zone nnn has an airflow fault.	Locate VESDA Zone nnn. Determine if detector piping is changed or if the environment where the detector is sampling has been modified.
AIRFLOW F CLR: VZ nnn	The VESDA Zone nnn that was reporting an Airflow Fault has cleared to normal.	This event is expected if the fault is cleared. Note the event, if desired.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
ALARM TYPE #1	The addressable sensor has reached its alarm set-point or the addressable input is active for the alarm state.	Press F1 to determine the loop/address of the device. Locate the device and examine the cause for the activation.
ALARM TYPE #2	The addressable sensor is active for a summing alarm condition.	Press F1 to determine the loop/address of the device. Locate the device and examine the cause for the activation.
ALARM VERIFY ON	The intelligent sensor programmed for alarm verification or a waterflow input, has reached its alarm threshold and started the alarm verification timer.	Locate the sensor or waterflow input that sent the message and determine the cause for the alarm. *Alarm verification on a waterflow input is intended to prevent false activations from water pressure surges (2 sec. verification).
ALERT CLEAR: VZ nnn	The VESDA detector, Zone nnn, which previously reported ALERT LEVEL has restored obscuration levels below ALERT.	This is an expected event if the smoke or obscuration has cleared in the hazard. Note events if desired.
ALERT LEVEL: VZ nnn	The VESDA detector programmed as Zone nnn has reached the ALERT level of obscuration.	Locate VESDA Zone nnn and determine cause for elevated obscuration.
AUX OUTPUT TROUBLE	The supervised auxiliary output circuits at P7 or from SPS are not reporting appropriately.	Measure the output voltage at each P7 or SPS output circuit. Check each 4 A fuse. Determine wiring fault.
AUX OUTPUT TRB CLR	The supervised auxiliary output circuits at P7 have restored to normal.	Expected result if the normal supervision is restored to the Aux output circuits.
BATTERY TROUBLE	Battery Power is low or missing on the main controller or SPS as shown on line 2 of the display.	Meter the Battery terminals for 27.6VDC. Remove the battery terminals and temporarily install a 1.2K ohm ¼ watt resistor (02-11457) to measure the charging voltage. Remove the shorting jumper between the batteries. Measure the voltage of each battery (12VDC). Use Diagnostic Screen #1, reading B1/B2 to determine if within normal status range when connected to panel. Replace batteries if low. Check the status of Battery fuse, F2. Note: Batteries are NOT supervised during an ALARM.
BATTERY TROUBLE CLR	Battery trouble has been restored.	Note cause for battery trouble.
CHECKSUM ERROR	The addressable device has a checksum error.	Press F1 to determine the Panel, loop and address for the device with the error. Go to the F3 Checksum Menu for the device to view Checksum. Recalculate by pressing enter. Reconfigure the device or replace if necessary.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
CHECKSUM ERROR CLEAR	The Checksum Error for the device has cleared.	No action required.
CLASS A TROUBLE	The Cyber-Loop Circuit contains an open circuit condition (or wiring break). The specific loop that has the fault is displayed on line 2 of the display. This fault is latching and requires Reset to restore/clear.	Remove the redundant wiring from the ++ and – terminals and insulate them so that they do not touch other conductors or surfaces. Devices after the break will be displayed as DEVICE MISSING. Go out to look for devices that are NOT blinking (or meter for loop voltage) and locate the wire break. Fix the break, return the ++ and – wiring to the proper terminal blocks and RESET the panel. RESET IS REQUIRED.
CLASS A TROUBLE CLR	The CLASS A TROUBLE fault has been cleared and Reset.	Note where the open wire or trouble was located.
CONFG CHANGE TIMEOUT	A one minute timer is started any time you write a configuration to the devices from the device configuration menu. Any switch press resets the timer. If a device configuration is changed, this message is recorded just before the automatic reset is performed. This is just a safety factor to make sure that the panel gets reset and the new device configuration can take effect.	Determine who was logged into the panel at the noted date and time to determine why the configuration was changed.
CONFIG MIS-MATCH	Previously identified at Checksum Error. Configuration stored in panel for device does not match what is stored in the device.	Press F1 to determine the Panel, loop and address for the device with the mis-match. Go to the F3 Device Config-Configuration Check menu to view the Checksum. Recalculate by pressing enter. Reconfigure the device or replace if necessary.
DACT GENERAL TROUBLE	The DACT wired to terminal P3 has a trouble.	Refer to the DACT installation and operating instructions.
DACT TROUBLE CLEAR	The DACT that was previously reporting trouble is now normal.	Note what function was performed to clear the trouble.
DAYTIME SENSITIVITY	The control panel has sent the loop the command to use the daytime sensitivities for the alarm thresholds. (Mode 1)	None.
DETECTOR IN ALARM	The addressable input device programmed for DETECTION is active.	Press F1 to determine the loop/address of the device that is active. Locate the device and determine the cause for activation.
DEVICE CONFIG TR CLR	The device has been added to the config and the DEVICE NOT IN CONFIG trouble is cleared.	Note why it was omitted or where the new device is located.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
DEVICE DISABLE	The addressable device has been automatically disabled by the panel.	This trouble occurs when a Multiple Device Trouble is present for the address in question. Press F1 to determine the Panel, Loop, and Address of the device. Line 2 will indicate the type of device that has been disabled. Correct the Multiple Device Trouble and reset the panel. The device will be enabled upon panel reset. See page 131 for information on MULTIPLE DEVICE TROUBLE.
DEVICE ERR BITS:Nxxx or DEVICE ERR: Nxxx	The device has an internal processing error. Nxxx is a number that will define the actual problem experienced: 8000 = Memory Access Error 4000 = Password Error 1000/2000 = Checksum Error 3000 = Non-Recoverable Error	Error 4000 is a communication problem. Performing a panel Reset should clear the error. All others are typically device issues. If a panel Reset does not clear the fault, try resending the configuration from C-Linx. Validate the wiring is not the issue by temporarily t-tapping the device into the loop at the panel to see if the trouble clears. Replace the device if the problem persists.
DEVICE ERROR: 0080	The Control module external 24VDC input power has dropped below 9VDC.	Verify 24VDC field wiring is connected to module. Use a DC voltmeter to measure the voltage at the panel. Measure the voltage at the device. Remove the wiring and locate the fault.
DEVICE MISSING	A device programmed in the configuration is not responding on the Cyber-loop.	Press F1 to determine the loop/address of the device that is missing. Use installation drawings or custom message to assist in locating the device. Meter the device for 24V power and/or loop power. Press F6 to turn ON the IR communication and use the IR tool to light the LED of the device address. Press F6 to turn the IR Communication back OFF.
DEVICE NOT IN CONFIG	A New device was reported, but not in the configuration.	Locate the device and add it to the configuration, change the address to the appropriate address, or remove the device if it is not in the design.
DEVICE ON WRONG LOOP	A device is found on a loop while it is programmed in the configuration to be on different loop. Or device wired to the loop is addressed to be on a different loop number.	Press F1 to locate the loop/address. Press F6 to turn ON IR communication. Use the IR Tool to turn on the Device LED and locate the device. Fix the loop number in the device using the IR Tool or move it to the appropriate loop. Make sure the loop number programmed in the device matches the loop number where it is physically wired. Press F6 to disable the IR communication again.
DEVICE REPLACE FAIL	The device replace menu was accessed and an error was encountered during the process.	Determine who was doing the device replacement and why. Locate the device and replace it using other menus and/or with C-Linx software.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
DEVICE REPLACE OK	The device Replace menu was accessed and it successfully replaced the device.	Determine from the password who replaced the device and why.
DEVICE RETURN	A Device Missing trouble has been restored.	Note the cause for the device to be missing and then restore.
DEVICE TYPE TROUBLE	An addressable device is found at the loop/address that is configured, but it is a different KIND/TYPE of device than what is configured for that address.	Press F1 to locate the loop/address. Press F6 to turn ON IR communication. Use the IR Tool to turn on the Device LED and locate the device. Replace the device or change the configuration. Press F6 to disable the IR communication again.
DEVICE TYPE TRB CLR	An addressable device that was previously reporting DEVICE TYPE TROUBLE has been corrected.	Note the new type of device or what was done to fix this issue.
DISABLED DEVICE TRBL	Indicates that the addressable device has been disabled manually.	Press F1 to determine the Panel, Loop, and Address of the device. Enable the device thru F1-CONFIG, F1-DEVICE, F1-ALARM FEATURES, Enter Loop and Address of disabled device, Press F2, use +/- buttons to cycle line to ENABLE DEVICE, press ENTER.
DRILL FUNCTION	The user pressed the Drill button or a remote Drill input.	Determine who pressed the Drill button.
ENABLED DEVICE	The addressable device has been enabled.	No action required.
ENTER CONFIGURE MODE	The PC (C-Linx Software) has taken control of the loops. Communication is now suspended until the PC allows access.	Determine who was configuring the system with the PC.
ENTER WALKTEST MODE	The user has pressed the appropriate control panel buttons for entering the Walktest State	Determine who pressed the Walktest button.
ERASED EVENT	NO EVENT. History has been erased.	No action required.
EXIT CONFIGURE MODE	The PC (C-Linx Software) has returned control of the loops to the control panel. The system is now operational.	Determine who was configuring the system with the PC.
EXIT WALKTEST MODE	The control panel either timed out from the Walktest mode or it was reset to exit the Walktest State.	Determine who activated the Walktest. If it was exited prior to desired, examine the history time to determine if it was over 30 minutes from the last event to the Exit Walktest Mode record.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
FACTORY DEFAULT LOAD	A Factory initialization has been performed on the system. Fike use only.	This should be a normal event noted in the complete history of a new panel received from Fike. This event should not be seen on an installed panel unless Fike has been called for assistance.
FAN TROUBLE	The SPS Fan is not operating properly.	Check to see that the SPS fan is running. Power down the controller and check for obstructions. Power back up to see if it works.
FAN TROUBLE CLEAR	The SPS Fan has restored its operation to normal.	Note how the condition was cleared.
FEEDBACK CNTRL ALARM	The RM is configured to provide a feedback feature. Its feedback input was not activated in the time required after relay activation.	Press F1 to determine the loop/address of the device. Locate the device and determine why the input did not activate after the relay was activated. Change the programming to not provide feedback if the feedback input is not desired.
FILTER FAULT: VZ nnn	The VESDA detector programmed as Zone nnn has a filter fault.	Locate VESDA Zone nnn and replace filter.
FILTER F CLR: VZ nnn	The VESDA detector, Zone nnn, which previously reported FILTER FAULT has cleared.	This is an expected event if the filter is changed/fault cleared. Note events if desired.
FIRE-1 CLEAR: VZ nnn	The VESDA detector, Zone nnn, which previously reported FIRE-1 LEVEL has restored obscuration levels below FIRE-1.	This is an expected event if the smoke or obscuration has cleared in the hazard. Note events if desired.
FIRE-1 LEVEL: VZ nnn	The VESDA detector programmed as Zone nnn has reached the FIRE-1 level of obscuration.	Locate VESDA Zone nnn and determine cause for elevated obscuration.
FIRE-2 CLEAR: VZ nnn	The VESDA detector, Zone nnn, which previously reported FIRE-2 LEVEL has restored obscuration levels below ALERT.	This is an expected event if the smoke or obscuration has cleared in the hazard. Note events if desired.
FIRE-1 LEVEL: VZ nnn	The VESDA detector programmed as Zone nnn has reached the FIRE-1 level of obscuration.	Locate VESDA Zone nnn and determine cause for elevated obscuration.
GATE ACTION ACT Znnn	Gateway action/pre-alarm 2 from the Cheetah.	Go to the Cheetah to determine location of the PreAlarm2 event.
GATE ACTION CLR Znnn	Gateway action/pre-alarm 2 event is restored.	No action required.
GATE ALARM Znnn	Gateway alarm from the Cheetah.	Go to the Cheetah to determine location of the Alarm event.
GATE PRE-AL ACT Znnn	Gateway PreAlarm1 from the Cheetah.	Go to the Cheetah to determine location of the PreAlarm 1 event.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
GATE PRE-AL CLR Znnn	Gateway PreAlarm1 event is restored.	No action required.
GATE PROCES ACT Znnn	Gateway Process from the Cheetah.	Go to the Cheetah to determine location of the Process event.
GATE PROCES CLR Znnn	Gateway Process event is restored.	No action required.
GATE SUPERV ACT Znnn	Gateway Supervisory from the Cheetah.	Go to the Cheetah to determine location of the Supervisory event.
GATE SUPERV CLR Znnn	Gateway Supervisory event is restored.	No action required.
GATE TROUBL ACT Znnn	Gateway Trouble from the Cheetah.	Go to the Cheetah to determine location of the Trouble event.
GATE TROUBL CLR Znnn	Gateway Trouble event is restored.	No action required.
GATEWAY ACKNOWLEDGE	Gateway Acknowledge event.	Go to the Cheetah to determine who pressed the Acknowledge.
GATEWAY DRILL	Gateway Drill button is pressed.	Go to the Cheetah to determine who pressed the Drill.
GATEWAY RESET	Gateway Reset activated.	Go to the Cheetah to determine who pressed the Reset.
GATEWAY SILENCE	Gateway Silence activated.	Go to the Cheetah to determine who pressed the Silence button.
GATEWAY UNSILENCE	Gateway Unsilence occurred.	Go to the Cheetah to determine what occurred to unsilence the panel.
GCA OPEN TROUBLE (firmware older than V5.0) RELEASE CKT OPEN (firmware V5.0 and newer)	The releasing device (GCA / IVO) attached to the releasing module (ARM / IRM) wired to a Release Control module is open.	Press F1 to locate the Control Module that has the fault and locate the module. Examine the wiring and determine if the releasing device has activated or if there is a wiring fault. The ARM needs to see a good GCA or wire short/flash bulb across the RED and BLUE terminals. The IRM needs to see an IVO attached.
GCA OPEN TRB CLEAR (firmware older than V5.0) RELEASE CKT CLEAR (firmware V5.0 and newer)	The release circuit open trouble has cleared.	This is an expected event if the problem with the releasing circuit wiring is resolved.
GENERAL TROUBLE	The addressable device contains an abnormal condition with its monitoring circuit or it has detected an internal fault.	Press F1 to determine the loop/address of the device. Locate the device and examine the monitoring circuit for a fault in the wiring or replace the device.
GENERAL TROUBLE CLR	The addressable device that previously reported a trouble has cleared.	Note the action taken to restore the trouble.
GROUND FAULT CLEAR	Ground Fault trouble has been cleared.	Note what was changed to correct the ground fault trouble.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
GROUND FAULT HIGH	A conductor on the Cheetah Xi installation is shorted to building ground/chassis ground/conduit ground.	Use Diagnostic Screen #1, F2-VALU 1 to view constant GF status. GF threshold needs to be 85 - 120. Remove terminal blocks one at a time while watching this diagnostic. When the counter begins to count back down to 85-120, the GF should be located on the circuit that has just been removed. Now break down the circuit watching the same screen, until the GF is located. Aux power circuits '+', NAC circuits '+' when not active, Loop circuits '+' and '-', and RS485 circuits can cause HIGH GF.
GROUND FAULT LOW	A conductor on the Cheetah Xi installation is shorted to building ground/chassis ground/conduit ground.	Use Diagnostic Screen #1, F2-VALU 1 to view constant GF status. GF threshold needs to be 85 – 120 for level 1 (<) and 190 – 255 for level 2 (>). Remove terminal blocks one at a time while watching this diagnostic. When the counter begins to count back towards acceptable level, the GF should be located on the circuit that has just been removed. Now break down the circuit watching the same screen, until the GF is located. Aux power circuit '-', NAC circuits '-' when not active, loop circuit '+' and '-' cause LOW GF.
HISTORY ERASED	History was erased.	No action required.
INPUT ACTIVE:ACKNOWL	The input device programmed for ACKNOWLEDGE is active.	Verify panel piezo silenced and applicable loops were acknowledged. If device not intentionally activated, verify cause of device activation. Check for wiring faults and proper EOL values.
INPUT ACTIVE:DRILL	The input device programmed for DRILL is active.	Verify Drill operation at panel. Verify that all devices configured for Drill function are operating. If device not intentionally activated, verify cause of device activation. Check for wiring faults and proper EOL values.
INPUT ACTIVE:FAN STR	The input device programmed for FAN RESTART is active.	Verify Fan Restart sequence has begun and that relays configured for Fan Restart are tripping properly. If device not intentionally activated, verify cause of device activation. Check for wiring faults and proper EOL values.
INPUT ACTIVE:RESET	The input device programmed for RESET is active.	Verify panel reset. If device not intentionally activated, verify cause of device activation. Check for wiring faults and proper EOL values.
INPUT ACTIVE:SILENCE	The input device programmed for SILENCE is active.	Verify panel piezo and all output devices configured as silenceable did silence. If device not intentionally activated, verify cause of device activation. Check for wiring faults and proper EOL values.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
INPUT ACTIVE:ZONE DIS	The input device programmed for ZONE DISABLE is active.	Verify zone(s) device is configured for is disabled. If device not intentionally activated, verify cause of device activation. Check for wiring faults and proper EOL values.
INPUT CLEAR: ACKNOWL	The activated input device programmed for ACKNOWLEDGE is now clear.	No action required.
INPUT CLEAR: DRILL	The activated input device programmed for DRILL is now clear.	No action required.
INPUT CLEAR: FAN STR	The activated input device programmed for FAN RESTART is now clear.	No action required.
INPUT CLEAR: RESET	The activated input device programmed for RESET is now clear.	No action required.
INPUT CLEAR: SILENCE	The activated input device programmed for SILENCE is now clear.	No action required.
INPUT CLEAR: ZONE DIS	The input device programmed for zone disable and activated, is now clear. The zone is now enabled once again.	Note who cleared the zone disable input to normal.
INTERNAL COM FAILURE	The Cheetah Xi controller contains 3 microprocessors. This trouble indicates that the Main micro has lost communication to any one of the other micro's.	Press SW1 reset switch (hard reset to the micro). Reset, power down/up. Find possible cause for event (electrical noise, ESD, etc.)
INVALID ABORT ACTIVE	The ABORT input is active, but there are no alarms, therefore no agent release to abort. (Note: some abort types require the abort to be active prior to Pre-Discharge. It will not be active until the 1 st alarm occurs).	Press F1 to determine the loop/address of the input module that contains the abort input. Locate the input module. Determine who pressed the abort input switch.
INVALID ADDRESS	If Loop 0 or Address 0 is found connected to the system, the panel will record this event.	Press F1 to display the panel loop and address that caused this event. Use the C-Linx Assign Device Address or Auto-Address or Device Address menu to change the address of the device
IR STATUS ENABLED	The Addressable devices communication with IR Tool is enabled. A person has pressed the F6 button and enabled the IR communication.	Expected response if the IR was intended to be enabled. If not intended, press Reset or enter password and press F6 for IR Communication. Move the cursor to the field where the IR communication is enabled and toggle to disable with the +/- button.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
IR STATUS DISABLED	The Loop IR communication has restored to disabled.	This is an expected event when the IR status has changed from Enabled back to disabled.
ISOLATE FAULT: VZ nnn	The VESDA detector programmed as Zone nnn is isolated/disabled.	Locate VESDA Zone nnn and de-isolate or determine reason it is currently isolated.
ISOLATE F CLR: VZ nnn	The VESDA detector, Zone nnn, which previously reported ISOLATE FAULT has cleared.	This is an expected event if the detector is de-isolated. Note events if desired.
LEARN ALL STARTED	The distributor invoked a 'LEARN ALL' on the system to add all devices to the configuration for supervision.	No action required if it is known why the Learn was performed. If not known, determine who performed the Learn. ANY TIME A LEARN ALL IS PERFORMED, THE CONFIGURATIONS SHOULD BE SENT TO THE DEVICES USING C-LINX AFTER THE LEARN ALL IS PERFORMED.
LEARN MODE COMPLETED	The distributor invoked a Learn to the system and the Learn mode is complete.	No action required if it is known why the Learn was performed. If not known, determine who performed the Learn.
LEARN NEW STARTED	The distributor invoked a 'LEARN NEW devices' on the system to add them to the configuration for supervision.	No action required if it is known why the Learn was performed. If not known, determine who performed the Learn.
LINE OPEN	The NAC contains an open circuit condition (or wiring break). The specific NAC that has the fault is displayed on line 2 of the display.	Meter the voltage at the specific NAC terminals which have the fault. Go to devices in the field and meter for the same voltage. Continue to follow the circuit until a device is located with no voltage. The break exists just prior to this device. Correct the wiring break. Note: NAC circuits are not supervised if EITHER one is active OR if Walktest is active.
LINE OPEN CLEAR	The NAC Line Open Trouble has been located and fixed.	Note where the open wire or trouble was located.
LINE OPEN TROUBLE	Addressable device monitoring circuit contains an open circuit fault.	Press F1 to determine the loop/address of the device. Locate the device and examine the monitoring circuit for the open fault.
LINE SHORT (<i>Loop Ckt</i>)	The Cyber-Loop Circuit is shorted or excessive current is being pulled from the loop # displayed on line 2. Latching trouble.	Remove short condition from loop AND reset. RESET IS REQUIRED. If short is not located with a meter on the wire, remove sections of the loop gradually until the section/device that brings down the loop is found.
LINE SHORT CLEAR	The short circuit or over-current has been removed from the loop and the loop was reset.	Note which section of the loop or device that caused the fault to clear.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
LINE SHORT (NAC Ckt)	The Notification Circuit is shorted or excessive current is being pulled from the NAC # displayed on line 2 of the display.	Remove the NAC circuit and meter the wires for a short condition. Break down the loop in section to locate the short. If the meter does not detect a short condition, one of the devices is pulling excessive current. Break down the NAC circuit in sections to determine which device is pulling the excessive current.
LINE SHORT TROUBLE	Addressable device monitoring circuit has a short circuit present. This could be from an input module programmed/wired to detect short circuit fault trouble or from a control module output circuit wiring.	Press F1 to determine the loop/address of the device. Locate the device and examine the monitoring circuit for the short fault.
LINE SHORT CLEAR	The short circuit or overcurrent has been removed from the NAC.	Note which section of the circuit or device that caused the fault to clear.
LINE TROUBLE CLEAR	The addressable device short or open trouble has been restored.	Note the cause for the open or trouble fault and the method used to clear the error.
LOW POWER TROUBLE	The Control module external 24VDC input power has dropped below 9VDC. Eclipse data frames are too long.	Use a DC voltmeter to measure the voltage at the panel. Measure the voltage at the device. Remove the wiring and locate the fault.
LOW POWER TRB CLEAR	The addressable device that was previously reporting LOW POWER TROUBLE has cleared.	Determine what was causing the power to drop at the device.
MACHINE SHOT #1: Znnn	The Machine application of watermist, shot #1 is active in zone nnn.	Expected result when Watermist release begins. Determine the cause of the alarms shown prior to this event that started the Machine shots.
MACHINE SHOT #2 : Znnn	The Machine application of watermist, shot #2 is active in zone nnn.	Expected result when Watermist release begins. Determine the cause of the alarms shown prior to this event that started the Machine shots.
MAINTENANCE TROUBLE	Dirty sensor. The addressable sensor is sensing that it is near its operating limits. This is the Drift Warning level that is programmed in the sensor. This trouble is non-latching.	Press F1 to determine the loop/address of the device. Locate the device and clean or replace it. Allow 30 seconds for averaging and recalculating the new drift level. Restart the loop. Note: The sensor can still alarm while in this trouble.
MAINTENANCE TRB CLR	The addressable device has restored from a maintenance trouble.	Note the cause for the maintenance trouble and method used to clear the error.
MAJOR FAULT: VZ nnn	The VESDA detector programmed as Zone nnn has a major fault.	Locate VESDA Zone nnn and connect with software or programmer to diagnose fault.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
MAJOR FLT CLR: VZ nnn	The VESDA detector, Zone nnn, which previously reported MAJOR FAULT has cleared.	This is an expected event if the VESDA fault is cleared. Note events if desired.
MANUAL PULL ALARM	The addressable input device programmed for MANUAL PULL is active.	Press F1 to determine the loop/address of the device. Locate the device and determine the cause for the activation.
MANUAL RELEASE	The input device programmed for Manual Release is active.	Press F1 to determine the loop/address of the device. Locate the device and determine the cause for the activation.
MINOR FAULT: VZ nnn	The VESDA detector programmed as Zone nnn has a MINOR FAULT.	Locate VESDA Zone nnn and connect with software or programmer to diagnose fault.
MINOR FLT CLR: VZnnn	The VESDA detector, Zone nnn, which previously reported MINOR FAULT has cleared.	This is an expected event if the VESDA fault is cleared. Note events if desired.
MIS-MATCH ERROR CLR	The Config Mis-Match Error for the device has cleared.	No action required.
MULTIPLE DEVICE TRB	The panel found multiple devices with the same address on the same loop.	<p>Press F1 to locate the Panel, Loop, and Address which is causing the Multiple Device Trouble. Multiple Device Troubles will occur if...</p> <ul style="list-style-type: none"> - an addressable device is replaced but the configuration is not written from the panel to the device (F1-CONFIG, F1-DEVICE, F1-ALARM FEATURES, F2-WRITE DEVICE CONFIG). - an addressable sensor is not replaced with the DEVICE REPLACE feature found in the Maintenance menu (v3.0 and up). - multiple devices on the same loop received the same address during initial configuration. <p>Multiple Device Troubles can be resolved by...</p> <ul style="list-style-type: none"> - manually updating the addresses of the devices in question with the IR tool. Note: IR Communications must first be enabled from the panel. - utilizing the Assign Device Address feature of C-Linx. <p>NOTE: When a Multiple Device Trouble occurs in firmware versions 3.0 and higher, all devices reporting with the same address as a device that has already reported, will be disabled. See DEVICE DISABLE on page 123.</p>

EVENT DISPLAY	DESCRIPTION	RESOLUTION
NAC DISABLED	Notification Appliance Circuit is disabled.	Go further up in the history to determine when and the level of the password last entered. This person disabled the NAC circuit. Enter password and go to the NAC menu to Enable the NAC or CRM4 relay.
NAC ENABLED	Notification Appliance Circuit has been enabled.	No action required.
NEW DEVICE	A new Eclipse device is responding on the addressable loop. Each device will send this message to the panel when first powered up or restarted.	This is an expected response from each configured device on system power up. If this message is shown at other times, look for possible causes of how the device could be losing power.
NIGHTTIME SENSITIVITY	The control panel has sent the loop the command to use the nighttime sensitivities for the alarm thresholds. (Mode 2)	None, unless you do not want to be using the night time sensitivities. Change the configuration if this is the case.
NETWORK CLASS A CLR		Expected result when the network Class A wiring restores to normal.
NETWORK CLASS A TRBL	The wiring for the class A wires on the network are incorrect or open.	Go to the network Class A wiring and check terminals and wiring for proper connections.
NETWORK FAULT: VZ nnn	The VESDAnet has reported a fault on the VESDA detector programmed for Zone nnn.	Locate VESDA programmed for Zone nnn. Use Vision System software or Programmer to diagnose VESDAnet fault.
NETWORK F CLR: VZ nnn	The previously reported NETWORK FAULT on the VESDA detector programmed for Zone nnn has cleared.	This is an expected response when the trouble clears. Make note of the event, if necessary or problem persists.
NETWORK NO RESPONSE	A wiring fault on the network that has caused the microprocessor on the network card to stop communicating with the main board. Could also be caused by the network card microprocessor general failure.	Locate the network wiring and trace to make sure all connections are appropriate. Perform a visual inspection of the network card and make sure that it is plugged into the header appropriately.
NETWORK RETURN	The previously reported NETWORK NO RESPONSE trouble has restored to normal.	This is an expected response when the trouble clears. Make note of the event, if necessary or problem persists.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
NETWORK WIRE TROUBLE	The network has a field wiring trouble.	Press F1 to obtain the location of the wire fault. Line 1 will indicate the REPORTING (revised) network connection (Isolated, First Dev, Middle, Last Dev); Line 2 will indicate the CONFIGURD network connection. Go to each networked panel and determine location for wiring trouble. i.e. where a middle changed to a first or last is a place to look for a wire fault. Similarly where an Isolated is reported.
NETWORK WIRE TR CLR	The controller that previously reported NETWORK WIRE TROUBLE has cleared to normal.	This is an expected event if the network wiring is restored to normal. Note the events if desired.
OUTPUT VALUE 0 LOOP N	Loop message broadcast commanding all output devices to turn off, where N equals loop number.	No action required.
PANEL MISSING ID:nnn	The networked system is programmed to supervise ID:nnn and it is not being seen.	Locate Panel nnn and determine if the panel is normal and if the network wiring is connected. Check the wiring between network nodes.
PANEL RETURN ID:nnn	The networked panel that previously reported PANEL MISSING is now seeing panel ID nnn.	This is an expected event when the Network supervision is restored. Note events if desired.
PASSWORD ACCEPTED	The panel has recorded a valid password entry on the configuration menu.	Determine who was present at the time and date of the event and who entered the password. The password level is identified on line 2.
PERIPH #aa ACKNOWL	RS485 Peripheral Device #aa sent an Acknowledge command. Someone pressed the Acknowledge button on Peripheral #aa.	Locate Peripheral #aa and determine who pressed the Acknowledge button.
PERIPH #aa CLEAR 1nn	RS485 Peripheral Device #aa's Error has been fixed/cleared.	Determine what was changed to fix the fault.
PERIPH #aa DRILL ON	RS485 Peripheral Device #aa sent an Acknowledge command. Someone pressed the Drill button on Peripheral #aa.	Locate Peripheral #aa and determine who pressed the Drill button. Press Reset to clear the Drill operation.
PERIPH #aa ERROR 1nn	RS485 Peripheral Device #aa reported a specific error as defined in their respective instruction manual.	Locate Peripheral Device #aa and its associated instruction manual. Determine definition of Error number and proceed with the individual manual recommendations for restoration.
PERIPH #aa IR DIS Lx	RS485 Peripheral Device #aa sent an command to disable the IR communication for Loop x.	Locate Peripheral #aa and determine who keyed the device and pressed the IR Disable button.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
PERIPH #aa IR EN Lx	RS485 Peripheral Device #aa sent an command to enable the IR communication for Loop x.	Locate Peripheral #aa and determine who keyed the device and pressed the IR Enable button.
PERIPH #aa MISSING	RS485 Peripheral Device #aa is not communicating with the main Cheetah Xi.	Locate Peripheral Device #aa and determine if appropriate power is present and if the RS485 wire is connected appropriately. Make sure that the address is set as required by the installation instructions for the peripheral. Make sure the 100Ω termination resistor is inserted only on the last device for the peripheral loop. Validate wiring is within the specifications.
PER #aa PROCESS Znnn	RS485 Peripheral Device #aa sent a PROCESS state in Zone nnn. Someone keyed the Remote Device #aa to Access and pressed the Process Button.	Locate Peripheral #aa and determine who pressed the Process button.
PER #aa PROCESS CLR	RS485 Peripheral Device #aa's process has cleared to normal.	Locate Peripheral #aa and determine who pressed the Process button to normal.
PERIPH #aa RESET	RS485 Peripheral Device #aa sent a RESET command. Someone pressed the Reset button on Peripheral #aa.	Locate Peripheral #aa and determine who pressed the Reset button.
PERIPH #aa RETURN	RS485 Peripheral Device #aa has restored communication with the main Cheetah Xi..	Determine what was changed to restore the communication.
PERIPH #aa SILENCE	RS485 Peripheral Device #aa sent a Silence command. Someone pressed the Silence button on Peripheral #aa.	Locate Peripheral #aa and determine who pressed the Silence button.
PERIPH #aa WALKTEST	RS485 Peripheral Device #aa sent a Walktest command.	Locate Peripheral #aa and determine who keyed the device and pressed the Walktest button.
PER #aa Znnn DISABLE	RS485 Peripheral Device #aa sent a Zone Disable in Zone nnn. Someone keyed the Remote Device #aa to Access and pressed the Zone Disable Button.	Locate Peripheral #aa and determine who pressed the Zone Disable button.
PER #aa Znnn ENABLE	RS485 Peripheral Device #aa's Zone Disable has cleared to normal.	Locate Peripheral #aa and determine who pressed the Zone Disable button to normal.
POWER FAULT: VZ nnn	The VESDA programmed for Zone nnn is reporting a power fault.	Locate VESDA Zone nnn and check the power connections.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
POWER FLT CLR: VZ nnn	The VESDA detector, Zone nnn, which previously reported POWER FAULT has power restored to normal.	This is an expected event if the power is restored to the VESDA detector. Note event if desired.
POWER SUPPLY LOW	The specific device has lost its operating power or it is too low for proper operation. Other devices see this message and all devices on the loop turn OFF their LED. This is specifically for the 24V power input on output module.	Check the loop voltage for proper voltage. Check the device 24V and loop voltage input. If loop voltage is low, remove loop terminal block and see if the loop voltage restores. If it does check the loop for possible causes. If it doesn't check the main board power supply for proper voltages.
POWER SUPPLY TRB CLR	The addressable device that was previously reporting a POWER SUPPLY LOW trouble is now normal.	Note what was causing the device to lose its 24V power.
POWER-UP RESET	The Cheetah Xi system has been powered and a long reset was performed.	Determine how power was removed from the system.
PRE-ALARM #1	The addressable device has reached its Pre-Alarm #1 threshold.	Press F1 to determine the loop/address of the device. Locate the device and examine the cause for the elevated obscuration.
PRE-ALARM #1 CLEAR	The addressable device has restored below its Pre-Alarm #1 level and is normal.	Press F1 to determine the loop/address of the device. Locate the device and examine the cause for the original Pre-Alarm and restoration.
PRE-ALARM #2	The addressable device has reached its Pre-Alarm #2 threshold.	Press F1 to determine the loop/address of the device. Locate the device and examine the cause for the elevated obscuration.
PRE-ALARM #2 CLEAR	The addressable device has restored below its Pre-Alarm #2 level.	Press F1 to determine the loop/address of the device. Locate the device and examine the cause for the original Pre-Alarm and restoration.
PRE-DISCHARGE INPUT	The input device programmed for PRE-DISCHARGE is active.	Press F1 to determine the loop/address of the device. Locate the device and determine who activated the Pre-Discharge input.
PROCESS INPUT	The addressable input module programmed for Process state is active.	Press F1 to determine the loop/address of the device. Locate the device and determine the cause for the activation.
PROCESS CLEAR	The addressable input that was previously active with a Process event has cleared.	Note action taken to restore the process to normal.
RELAY P1na DISABLED	CRM4 relay is disabled.	Same as noted above for NAC.
RELAY P1na ENABLED	CRM4 relay is enabled.	No action required.
SILENCE FUNCTION	The user pressed the Silence button or a remote Silence input.	Determine who pressed the Silence button.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
SECTOR ACTION CLEAR	The VESDA detector that previously reported a SECTOR ACTION event has cleared below the ACTION level.	This is an expected event if the obscuration falls below the ACTION setting. Note event if desired.
SECTOR ACTION Vnnn-x	The VESDA detector's sector x on Zone nnn has reached the ACTION level.	Locate VESDA nnn determine area for sector x. Look for obvious signs of obscuration/smoke.
SECTOR ALERT CLEAR	The VESDA detector that previously reported a SECTOR ALERT event has cleared below the ALERT level.	This is an expected event if the obscuration falls below the ALERT setting. Note event if desired.
SECTOR ALERT Vnnn-x	The VESDA detector's sector x on Zone nnn has reached the ALERT level.	Locate VESDA nnn determine area for sector x. Look for obvious signs of obscuration/smoke.
SECTOR FIRE-1 CLEAR	The VESDA detector that previously reported a FIRE-1 event has cleared below the FIRE-1 level.	This is an expected event if the obscuration falls below the FIRE-1 setting. Note event if desired.
SECTOR FIRE-1 Vnnn-x	The VESDA detector's sector x on Zone nnn has reached the FIRE-1 level.	Locate VESDA nnn determine area for sector x. Look for obvious signs of obscuration/smoke.
SECTOR FIRE-2 CLEAR	The VESDA detector that previously reported a FIRE-2 event has cleared below the FIRE-2 level.	This is an expected event if the obscuration falls below the FIRE-2 setting. Note event if desired.
SECTOR FIRE-2 Vnnn-x	The VESDA detector's sector x on Zone nnn has reached the FIRE-2 level.	Locate VESDA nnn determine area for sector x. Look for obvious signs of obscuration/smoke.
SUPERVISORY INPUT	The addressable input device programmed for Supervisory is active.	Press F1 to determine the loop/address of the device. Locate the device and examine the cause for the activation.
SUPERVISORY CLEAR	The addressable device that was previously active with a supervisory event has cleared.	Note the cause for the supervisory return to normal.
SYSTEM POWER LOW	The Cheetah Xi main 24V power is low.	Check input power AC and Battery to determine if they are normal. Remove all field wiring. Determine if device or wiring is pulling down system power.
SYSTEM POWER RETURN	System Power Low trouble has been restored.	Note cause for power low fault.
SYSTEM RESET	The Reset button was pressed on the control panel, peripheral, or addressable input module. A fast reset will be performed unless Acknowledge was pressed to perform other reset types.	Determine location where Reset was performed and locate person who pressed the button.

EVENT DISPLAY	DESCRIPTION	RESOLUTION
TURBINE SHOT #1:Znnn	The Turbine application of watermist, shot #1 is active in zone nnn.	Expected result when Watermist release begins. Determine the cause of the alarms shown prior to this event that started the Turbine shots.
TURBINE SHOT #2:Znnn	The Turbine application of watermist, shot #2 is active in zone nnn.	Expected result when Watermist release begins. Determine the cause of the alarms shown prior to this event that started the Turbine shots.
TVA#1 WATERMIST Znnn	The TVA application of watermist, shot #1 is active in zone nnn.	Expected result when Watermist release begins. Determine the cause of the alarms shown prior to this event that started the TVA shots.
TVA#2 WATERMIST Znnn	The TVA application of watermist, shot #2 is active in zone nnn.	Expected result when Watermist release begins. Determine the cause of the alarms shown prior to this event that started the TVA shots.
VESDA CFG ERR: VZ nnn	VESDA detector Zone nnn has a configuration error.	Locate VESDA detector nnn and connect with software or programmer to diagnose configuration error.
VESDA MISSING: VZ nnn	VESDA detector Zone nnn is programmed in the Cheetah Xi but not reporting through VESDAnet attached to HLI/through P4.	Locate VESDA nnn and determine why it is not reporting through VESDAnet HLI or remove this detector from the Cheetah Xi.
VESDA RETURN: VZ nnn	VESDA detector Zone nnn that previously reported as MISSING is now responding again.	This event is expected if the VESDA communication is restored. Note events if desired.
WALKTEST ALARM	The addressable sensor has been activated while in the Walktest state.	Validate that the inspector activated this sensor while in the Walktest state. Check the inspector's sequence of alarms with the history recorded.
WATERFLOW ALARM	The addressable input programmed for Waterflow is active.	Locate the waterflow input and determine cause for activation of the alarm. In a Pre-Action system, the Waterflow is active when a sprinkler head is open/active – water is flowing in the pipe.
WRONG LOOP TRB CLR	A Device On Wrong Loop trouble has been cleared.	Note method used to clear the trouble.
ZONE DISABLED:	The zone identified in the last part of this message is disabled. The inputs can still operate in the panel, but the outputs will not operate.	Determine who disabled the zone.
ZONE ENABLED:	The zone that was previously disabled is now enabled.	Determine who enabled the zone.

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APPENDIX 1 - BATTERY CALCULATION FORM

TOTAL SYSTEM REQUIREMENTS	Standby Current	Alarm Current	
1. Controller	0.275 A	0.275 A	
2. DACT (if installed)	0.150 A	0.190 A	
3. SLM (if installed)	0.100 A	0.100 A	
4. CRPM (if installed)	0.000 A	0.060 A	
5. Network (if installed)	0.050 A	0.050 A	
6. CRM4 (0.010 per relay)	0.000 A	____A	
7. Signaling Line Circuits (CSC + SLM)	____A <SAME>	____A (Note 4)	Insert totals from Section 2
8. Auxiliary Power (CSC + SPS)	____A (Note 1)	____A (Note 2,4)	Insert totals from Section 3
9. Notification Circuits	0.000 A	____A (Note 2)	Insert totals from Section 4
Total(Stdby)	____A	Total (Alm) ____A	(Note 1 &2)

Standby Capacity = [Total (Stdby)] x [Standby Time] + [Total (Alm)] x [0.083] (Note 5)

Minimum Battery Size = [Standby Capacity] x [1.2] = _____AH (Note 3,5)

SECTION 2		Standby Current	Alarm Current	
Addressable Device Current		(#used) x (current) = total	(#used) x (current) = total	
63-1052/1058	Photo	(____) x (0.481mA) = ____	(____) x (2.000mA) = ____	
67-033/034	Ion	(____) x (0.481mA) = ____	(____) x (4.400mA) = ____	
63-1053/1059	Photo/Heat	(____) x (0.481mA) = ____	(____) x (2.000mA) = ____	
60-1039/1040	Heat	(____) x (0.215mA) = ____	(____) x (2.000mA) = ____	
55-045/050	MMM	(____) x (0.485mA) = ____	(____) x (2.000mA) = ____	
55-041/046	MM	(____) x (0.485mA) = ____	(____) x (2.000mA) = ____	
20-1063/4	APS	(____) x (0.370mA) = ____	(____) x (2.000mA) = ____	
55-042/047	SCM	(____) x (0.630mA) = ____	(____) x (2.000mA) = ____	(Note 4)
55-043/048	RM	(____) x (0.500mA) = ____	(____) x (2.000mA) = ____	
63-1057/1062	Duct	(____) x (0.360mA) = ____	(____) x (7.000mA) = ____	
63-1063	Relay Base	(____) x (0.750mA) = ____	(____) x (0.750mA) = ____	
63-1064	Sounder Base	(____) x (0.900mA) = ____		
55-052/053	Release Module	(____) x (0.450mA) = ____	(____) x (6.000mA) = ____	(Note 4)

Total Signaling Line Circuits ____mA / 1000 = ____A **Insert total in line #6 above.**

SECTION 3		Standby Current	Alarm Current
Auxiliary Power		(#used) x (current) = total	(#used) x (current) = total
10-2321	Remote Display	() x (0.025 A) = ____	() x (0.105 A) = ____
10-2630	2-Button EXP Protocol Remote Display	() x (0.036 A) = ____	() x (0.139 A) = ____
10-2631	10-Button EXP Protocol Remote Display	() x (0.036 A) = ____	() x (0.139 A) = ____
10-2646	14-Button EXP Protocol Remote Display	() x (0.036 A) = ____	() x (0.139 A) = ____
10-2627	Ethernet Module	() x (0.097 A) = ____	() x (0.134 A) = ____
10-2583	Multi-Interface Module	() x (0.200 A) = ____	() x (0.200 A) = ____
10-2616	Keltron Printer	() x (0.200 A) = ____	() x (1.200 A) = ____
10-2413	MasterBox Interface	() x (0.022 A) = ____	() x (0.276 A) = ____
10-2373	Zone Annunciator	() x (0.034 A) = ____	() x (0.083 A) = ____
10-2411	LED Graphic Micro	() x (0.043 A) = ____	() x (0.074 A) = ____
10-2667	20 Zone Remote Annunciator	() x (0.051 A) = ____	() x (0.148 A) = ____
63-1064	Sounder Base	() x (0.007 A) = ____	() x (0.027 A) = ____
	Solenoids connected to SCMs		() x () A = ____
_____	Type	() x (0.xxx A) = ____	() x (0.xxx A) = ____
Total Aux. Power		_____ A	_____ A Insert totals in line #7 above.

SECTION 4		(#used) x (current) = total
Notification Model		
_____	Type	() x (xxmA) = ____
_____	Type	() x (xxmA) = ____
_____	Type	() x (xxmA) = ____
_____	Type	() x (xxmA) = ____
Total NAC		_____ mA / 1000 = _____ A Insert total in line #8 above.

NOTES:

1. Auxiliary Power cannot exceed 2.0A, or 4.0A w/ SPS, in normal standby condition.
2. Auxiliary Power plus Notification Power cannot exceed 6.0A, or 12.0A w/ SPS.
3. Cheetah Xi Control panel can support charging up to 75AH of standby batteries. The SPS can support charging up to an additional 75AH of standby batteries for a system total of 150AH.
4. Addressable device currents above are identical for standby and alarm conditions. Auxiliary power does not include current delivered to SCM or RCM output circuits during alarm conditions.
5. Standby time should be 24, 60 or 90 hours as required by the local authority or installation. Factory Mutual requires a 90 hour standby time for Sprinkler Systems. 0.083 hour represents 5 minutes of alarm. 1.2 represents battery derating factor of 20%.

"SYSTEM OPERATION POSTING"



P/N 02-11466 REV 1
OPERATING INSTRUCTIONS
10-068 *Cheetah Xi* CONTROL SYSTEM
Commercial Protected Premises Control Unit
Local, Auxiliary, Remote Station (PPU), Central Station (PPU), Releasing Service



OPERATIONAL CONDITIONS

<u>SYSTEM STATUS</u>	<u>LED's ON</u>	<u>AUDIBLE STATUS</u>
Normal Standby:	AC Normal Green LED	All audibles off
System Trouble:	Trouble Yellow LED	Local piezo on, Trouble audible(s) on
System Alarm:	Alarm Red LED	Local piezo pulses, Alarm audible(s) on
To Silence Panel:	Press SILENCE button	Silences audibles & piezo. Changes flashing LED's to steady. Press F1 for top line to show source of event.
To Reset Panel:	Press RESET button	Resets system including turning off outputs, interrupting resettable power. Momentarily activates piezo, all LED's, and trouble relay. Restores system to normal state.

CAUTION: Remove AC and battery power before servicing equipment. The lithium battery used in this device may present a risk of fire or chemical burn if mistreated. Do not recharge, disassemble, heat above 100°C (212°F), or incinerate. Replace coin cell battery with Fike part 02-4040 only. Use of another battery may present a risk of fire or explosion.

Periodic testing and inspection shall be conducted in accordance with NFPA 72 and NFPA 16.

AC and Battery fuses must be replaced with 15A Mini Automotive, Fast Acting Fuses.

Auxiliary Power fuses must be replaced with 4A Mini Automotive, Fast Acting Fuses.

Terminals P3, P4, P5, P6, P7, P8, P9, P10, and P11 are Power Limited Circuits.

This control unit is intended for installation in a controlled indoor environment, in a dry location.

The operation of a manual release will override an activated abort switch.

IN CASE OF TROUBLE CONTACT:

Phone # _____

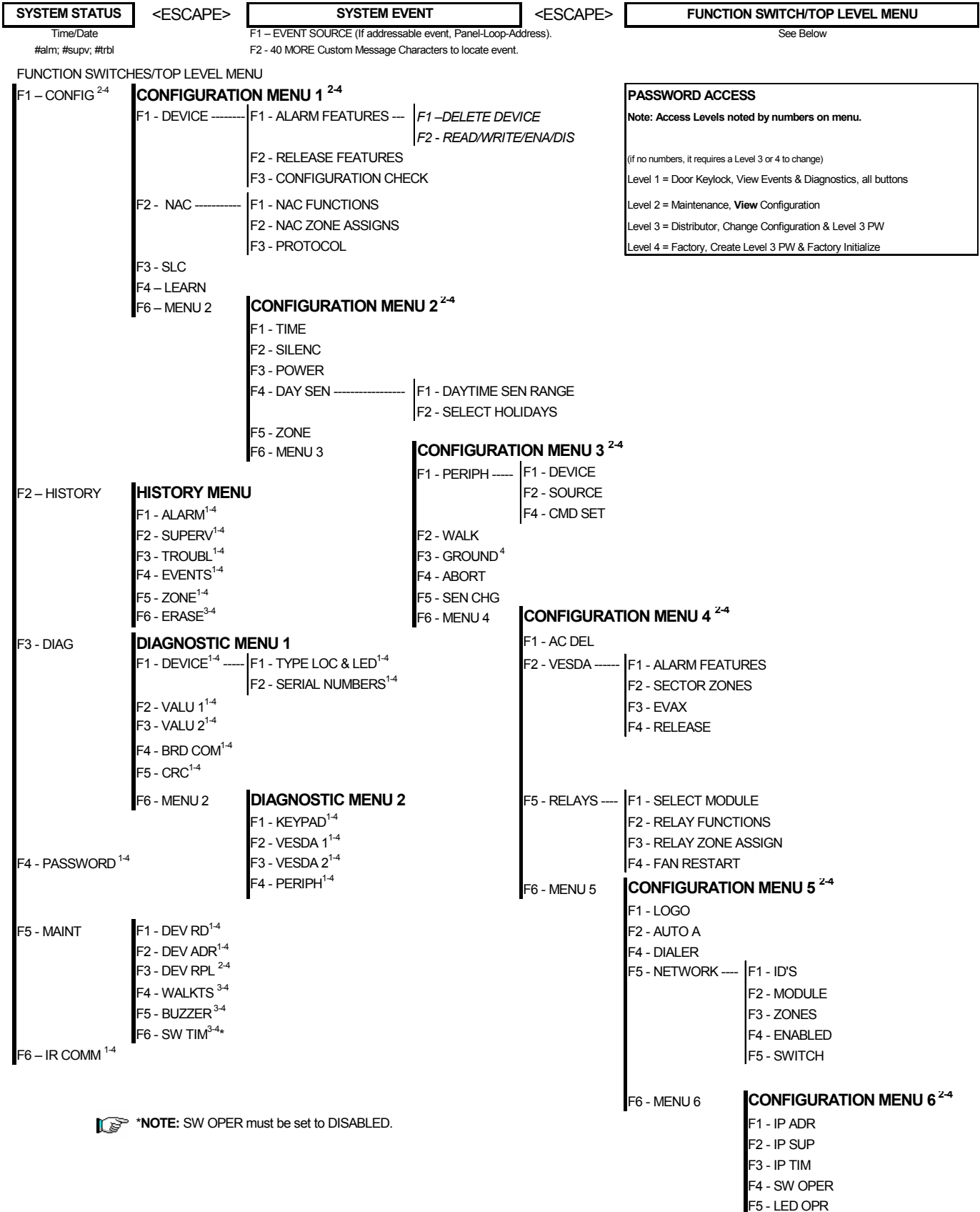
OR


Fike's Customer Service Department
+1.800.979.FIKE (3453) OR +1.816.229.3405

Refer to Fike Installation, Operation and Maintenance Manual #06-356

Frame the System Operation Posting sheet located on the reverse side of this page and place adjacent to control equipment.

APPENDIX 3 – CHEETAH XI MENU STRUCTURE



 *NOTE: SW OPER must be set to DISABLED.

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APPENDIX 4 – PRE-DISCHARGE AND ABORT TYPES

As noted in the operation section of this manual, each alarm or suppression zone can enter the Alarm state. The suppression zone can enter the Pre-Discharge state depending on the activation of the input device(s) and their configured **Pre-Discharge type** (defined below).

PRE-DISCHARGE TYPE

A	Alarm Device Only – This type will create the Alarm state only and will NOT allow it to participate in Pre-Discharge events.
B	1st Cross Zone Device – This type will work in conjunction with type C for crossing two different TYPES of detection. If one alarm has occurred from Type B OR C, the Alarm state is created. The zone requires at least one alarm from Type B AND one from Type C to advance to the Pre-Discharge state.
C	2nd Cross Zone Device – This type will work in conjunction with type B for crossing two different TYPES of detection. If one alarm has occurred from Type B OR C, the Alarm state is created. The zone requires at least one alarm from Type B AND one from Type C to advance to the Pre-Discharge state.
D	Count Zone – This type requires at least two detection alarms active in the same zone to advance to the Pre-Discharge state.
E	Single Device Release – This type will allow a single detection alarm to advance to the Pre-Discharge state.
F	Non Abortable Release (Manual Release) – This type will activate the alarm and/or release state and will override any abort activations. Used for Manual Release programming.

Once the zone enters the Pre-Discharge state, a countdown time is started (manual or detection). The Cheetah Xi can have one **abort type** (defined below) assigned to the system. This abort type is a defined operation for ability to prevent the suppression zone from advancing to the release state and activating the suppressant agent.

ABORT TYPE

1	Abort is effective only if active upon entry into Pre-Discharge state. Countdown continues during abort activation. Upon abort deactivation (during Pre-Discharge), the release can not again be aborted, so release occurs upon countdown completion. Conforms to Industrial Risk Insurers (IRI) requirements.
2	Countdown continues during abort activation. Release occurs when both the countdown is completed and the abort is deactivated.
3	If the abort is active during Pre-Discharge, release occurs upon abort deactivation.
4	If the abort is active during Pre-Discharge, release occurs 10 seconds after abort deactivation. Only abortable ONCE.
5	Upon abort deactivation, countdown occurs from the full programmed countdown time. Prior to countdown completion, abort activation extends the countdown time to the programmed length. Does not conform to UL requirements (pg 89), but is allowed by some Local Authority Having Jurisdiction.
6	Upon abort deactivation, system operates in “New York City mode” which has a 90 second verification delay, then a 30 second countdown. Prior to countdown completion, abort activation again extends the countdown time. During 120 second verification delay, the system emulates continuous abort activation. After a 90 second delay, the system starts a 30 second Pre-Discharge delay. Does not conform to UL requirements (pg 89), but is allowed by some Local Authority Having Jurisdiction.



NOTE: The ABORT input delays release initiated by automatic detection schemes. **Release initiated by Manual Release input circuits override the Abort Input.**

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Fike®

704 South 10th Street
P.O. Box 610
Blue Springs, Missouri 64013 U.S.A.
+1.800.979.FIKE (3453)
Fax: +1.816.229.0314
<http://www.fike.com>