Operation and Maintenance Manual

10-068, *Cheetah*® Xi

Addressable Fire Suppression Control System

P/N 06-356-2
(Rev. 10 / March, 2024)

Fike®

SOLUTIONS

- Fire Protection
- Explosion Protection
- Overpressure Protection
- Pressure Activation

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REVISION HISTORY

Document Title: Cheetah Xi Addressable Fire Suppression System Operation and Maintenance Manual

Document Reorder Number: 06-356-2

Revision	Section	Date	Reason for Change
5	All Sections	04/2012	Separated manual into separate Installation, Operation and Programming Manuals, added FAAST detector
6	Sections 1, 3, 6, and Appendix A	08/2013	Added programming features for AHU restart.
7	All Sections	08/2014	Added FAAST XT aspirating smoke detector
8	All Sections	09/2015	Clarification and General Updates
9	All Sections	10/2016	Added VESDA Modbus HLI and new FAAST detectors; Firmware V7.20
10	All Sections	03/2024	Revised to include minor board changes and updated class/style designations in accordance with UL 9th Ed.

TABLE OF CONTENTS

LIST OF EXHIBITS

1.1 ABOUT THIS MANUAL

The purpose of this manual is to enable persons responsible for the Cheetah Xi system to operate, test and perform maintenance of the system. It provides a detailed description of how the system operates in response to different system events and recommended steps for resolution response to each event. Each individual who will be required to interface with the panel during a system event should thoroughly read and understand the instructions contained within this manual.

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 is trained to properly sell, install, and service 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 SAFETY INFORMATION

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment.

WARNING

Warnings are used to indicate the presence of a hazard which will or may cause personal injury or death, or loss of service if safety instructions are not followed or if the hazard is not avoided.

Caution

Cautions are used to indicate the presence of a hazard which will or may cause damage to the equipment if safety instructions are not followed or if the hazard is not avoided.

Notes: Notes indicate 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.

1.4 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.

Exhibit 1-1: Related Documentation

Document Title	Part Number
Cheetah Xi Addressable Fire Suppression Control System Installation Manual	06-356
Cheetah Xi Addressable Fire Suppression Control System Programming Manual	06-651

1.5 UNDERSTANDING CHEETAH Xi

Many Fire Alarm systems today use relatively simple input and output devices that are connected to a central controller. The central controller typically polls the input devices, either one at a time or in groups, and the individual devices respond with some value. The controller then determines any action needed using the preprogrammed logic that links the inputs with the appropriate output response.

Unlike the systems described above, the Cheetah Xi is a peer-to-peer system. It utilizes intelligent detectors and output devices that not only include all necessary processing for decision making, but can also include the control logic for system operation. The logic parameters, along with other device parameters are downloaded to the devices during system configuration into nonvolatile memory. When an input device determines that action should be taken using its downloaded parameters, it transmits a message onto the system's signaling line circuit (SLC). Output devices receive this message and use their downloaded parameters to determine if they should take action. This direct communication between devices reduces response time and reduces the amount of processing that must be performed by the Cheetah Xi controller.

1.5.1 SYSTEM CONTROLLER

Even though the command and control processing for the system is not performed by the Cheetah Xi controller, it is still an integral part of the system. Its primary function is to act as the communication hub for the devices connected to the systems signaling line circuits (SLC). This provides a path that allows each device to transmit and receive device status information with one another and the controller. The controller is also responsible for providing the user interface, performing system timing, delivery of power to field devices, storing system history events, supervising SLC devices, storing device custom messages, communicating system events to peripheral devices and providing the system programming interface point.

1.5.2 INTELLIGENT ADDRESSABLE DEVICES

The Cheetah Xi system's input and output devices are intelligent and maintain their own operating configuration. The devices are connected to the Cheetah Xi controller's signaling line circuits (SLC) and use the SLCs to transmit and receive status information with one another and the control panel. Each SLC can contain up to 254 devices in any combination. Each device must be assigned a unique address (1-254) for proper supervision by the controller. When shipped from Fike, each device is addressed as Loop 0, Address 0. The device address must be changed (programmed) into the device during system installation using the IR Tool (P/N 55-051) or Hand-Held Programmer (P/N 10-2648). The panel can also auto-address a new device (default loop 0, address 0) when wired to the loop and the Auto Address function is turned ON. It will recognize the new device by recording a DEVICE NOT IN CONFIG trouble and automatically address it to the first available empty address on the loop (if one exists).

1.5.3 PERIPHERAL DEVICES

The Cheetah Xi system's RS485 peripheral bus provides an interface point that allows you to connect up to 31 optional peripheral devices to the system. These devices are used provide remote annunciation and control of system events and to expand the system operational capabilities. In a network system, the peripheral bus allows all panels to report to a single graphic panel for annunciation purposes. The peripheral bus transmits both zone and panel status information. The same information is transmitted out the panels RS232 bus as well.

1.6 UL (90.23) OPERATIONAL LIMITATIONS

The following tables identify the configurable features that can be changed by using the panel's programming software C-Linx. The table also identifies features that are available, but are not permitted to be used per the Cheetah Xi system's UL listing.

Exhibit 1-2: Programming Features

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.					
Circuit or Component	**Program Feature or Option**	**Permitted in UL 864? (Y/N)**	**Possible Settings (Defaults shown bold)**	**Settings permitted in UL 864**	**Notes**
Main Board Configuration Options					
MISC.	*Miscellaneous Options*				
	AC Trouble Delay	Y	0-30 hours, **(Default 2)**	1–3	
	Abort Type	N	1 – 6 **(Default 2)**	1–4	
	Voice Panel Priorities				
	• Alarm	Y	1-251 **(Default 4)**		6
	• Test Alarm	Y	2-252 **(Default 5)**		6
	• Supervisory	Y	3-253 **(Default 6)**		6
	• Process	Y	4-254 **(Default 7)**		6
	Fan Restart	Y	**Automatic**/Manual		
	Drill/Silence/Acknowledge	N	**Enabled** / Disabled	Enabled	1,2
	Auto Message	Y	Enabled / **Disabled**		
	Walktest	Y	**Enabled** / Disabled		
	Supervision Options				
	Transformer	Y	**120VAC** / 240VAC		
	Addressable Loop Wiring Style (SLC)	Y	**Class B (Style 4)**, Class A (Style 6), Class X (Class A/Style 7)		
	Ground Fault Level 1	N	**Enabled** / Disabled	Enabled	2
	Ground Fault Level 2	N	**Enabled** / Disabled	Enabled	2, 3
	Main Battery	N	**Supervised** / Unsupervised	Supervised	
	Auxiliary Battery	N	Supervised / **Unsupervised**	Supervised	
	Auxiliary Loop Module Present	Y	Enabled / **Disabled**		
	Auxiliary Power Module Present	Y	Enabled / **Disabled**		
	Eclipse Device Error Trouble	Y	**Enabled** / Disabled	Enabled	4
	AHU Fire Dept Key Required for AHU Restart	Y	Yes / **No**		
	First Event Latched on LCD	Y	**Enabled** / Disabled	Enabled	7
	Battery Cutoff	Y	Loop # and Address # (L: 1-4 Address: 0-254)		
	Silence Options				
	Unsilence Time	Y	1-**24** hours		
	Silence Reminder	Y	Enabled / **Disabled**		
	Silence Inhibit	Y	Enabled / **Disabled**		
	Positive Alarm Sequence	Y	Enabled / **Disabled**		
	Silence Mode	Y	**UL** / ULC	**UL only**	5,8
	Automatic Alarm Silence Time	N	1 – **4 (**Hr)		8

Notes:

1. City of Chicago does not allow use of Drill, Silence and Acknowledge switches.
2. Can only be changed with Factory Level password.
3. Level 2 ground fault detection required for use with solenoids.
4. If device on SLC has an internal error then the panel produces a trouble state (Enabled) and does not just log it (Disabled). (i.e. Checksum Error/Device Error:2000)
5. An audible signal that has been silenced at the protected premises shall automatically resound and remain energized until silenced and retransmitted to any supervising station to which the original signal was transmitted, as applicable, at least once every 24 hours until the condition is corrected and the product is restored to the normal supervisory condition.
6. Priorities must be set only if the panel is part of a panel network with CyberCat panels with voice operation.
7. LCD display to latch on initial Trouble or Supervisory events (YES) or LCD to display current Trouble or Supervisory event (NO).
8. When Silence Mode is set to ULC, a timer can be set to automatically silence the panel upon expiration of the timer. Panel is not ULC listed.

Exhibit 1-3: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Time Functions	*Alarm Sensitivity Changes*				
	Daytime Sensitivities (start/stop)	Y	12:00 AM – 12:00 AM		
	Sensitivity Changes	Y	Enabled / **Disabled**		
	Days that use daytime sensitivity	Y	Sunday – Saturday		
	Use Daylight Savings Time	Y	**Enabled** / Disabled		
	Holiday Schedule				
	Night time sensitivity	Y	20 days total (mm/dd/yyyy)		3
	DACT Auto Test				
	DACT Auto test start hour	Y	0 – 23 **(2 default)**		
	DACT Auto test period (hrs.)	Y	**0** - 24		
NAC	P10 and P11 (Main board NACs)				
	NAC Selection	Y	**NAC1** / NAC2		
	Sync Protocol	Y	**NO** / Gentex / System Sensor		1,2
	State (Activation)	Y	**Alarm** / Pre-Alarm 1 / Pre-Alarm 2 / Supervisory / Trouble / Process / Release / Pre-discharge		
	Silenceable	Y	**Silenceable** / Non Silenceable		
	Zone Assignment	Y	1 – **254**		
	Circuit	Y	**Enabled** / Disabled		
	Drill	Y	Enabled / **Disabled**		
	Walktest	Y	Enabled / **Disabled**		
	Non-Silence for Waterflow Activation	Y	Enabled / **Disabled**		
	Panel Sync Protocol	Y	Gentex / **System Sensor** / Gentex – Visual Silence/ System Sensor – Visual Silence		
Relays	*P2 Main Board Relays*				
	Relay Selection	Y	**R1** / R2		4
	State (Activation)	Y	**Alarm** / Pre-Alarm 1 / Pre-Alarm 2 / Supervisory / Trouble / Process / Zone Disable / Release / Pre-discharge / Abort		
	Silenceable	Y	**Non-Silenceable** / Silenceable		
	Zone Assignment	Y	1 - **254**		
	Relay	Y	**Enabled** / Disabled		
	Drill Operation	Y	Enabled / **Disabled**		

Notes:

1. If synchronization is selected, both NAC circuits will use the same sync protocol.
2. Refer to Fike document 06-186 for compatible notification appliances.
3. Allows the installer to assign the night time sensitivity obscuration level to devices during scheduled holidays. No other functions are affected or disabled.
4. Allows on board relays to be configured from the default setting of Alarm for R1 and Supervisory for R2 to the states listed in State (Activation).

Exhibit 1-4: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Relays	*P12 (optional card position)*				
	Relay Selection	Y	**A** / B / C / D		
	Module	Y	No Module Installed / **CRM4** / CRPM (Opt 1) / CRPM (Opt 2) / Fire Communicator		
	State	Y	**Alarm** / Pre-Alarm 1 / Pre-Alarm 2 / Supervisory / Trouble / Process / Zone Disable / Release / Pre-discharge / Abort		1
	Restart Delay	Y	**0,** 40 – 250 (sec)		1
	Silenceable	Y	**Non-Silenceable** / Silenceable		1
	Zone Assignment	Y	1 – **254**		1
	Relay	Y	**Enabled** / Disabled		1
	Drill Operation	Y	Enabled / **Disabled**		1
	P13 (optional card position)				
	Relay Selection	Y	**A** / B / C / D		
	Module	Y	No Module Installed / **CRM4** / CRPM (Opt 1) / CRPM (Opt 2) / Network Interface Card		
	State	Y	**Alarm** / Pre-Alarm 1 / Pre-Alarm 2 / Supervisory / Trouble / Process / Zone Disable / Release / Pre-discharge / Abort		1
	Restart Delay	Y	**0,** 40 – 250 (sec)		1
	Silenceable	Y	**Non-Silenceable** / Silenceable		1
	Zone Assignment	Y	1 – **254**		1
	Relay	Y	**Enabled** / Disabled		1
	Drill Operation	Y	Enabled / **Disabled**		1
Zones	Zones	Y	1 – **254**		
	Type	Y	**Type A Alarm Zone** / Type B/C Count Zone / Type D Cross Zone / Type E Single Pre-discharge Zone		
	Custom Message	Y	20 character user defined		
	Automatic Countdown	Y	0 – 255 **(30)**		
	Manual Countdown	Y	0 – 30 **(15)**		
	Zone Enabled	Y	**Enabled** / Disabled		
	Zone Chimes…				
	Zone Number	Y	1-254		
	Chime Code	Y	0-0-0-0 (1-9)		

Notes:
1. Configuration option available only when CRM4 module is selected.

Exhibit 1-5: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Peripherals	Peripheral List	Y	2 - 32		
	Custom Message	Y	20 character user defined **(PERIPHERAL ID 02)**		1
	Zone Assignment	Y	**0** - 254		1
	Supervision	Y	**Unsupervised** / Supervised		1
	Voice	Y	**No Voice** / EVAX / Fike		
	Status	Y	STD / **EXP**		2
	History Transmit	Y	**Compact** / Verbose		3
	History Packing	Y	Unpacked / **Packed**		4
	History Message	Y	STD / **EXP**		5
VESDA	Protocol	Y	**Modbus** / Open HLI		
	VEA Template	Y	**0** - 19		6
	Pipe	Y	1 - 40		6
	Zone	Y	**1** - 246		6

Notes:

1. Peripheral device must be added to the Peripherals list before these configuration options are available.
2. This command contains status for Alarm, Supervisory, Trouble and all other states. Peripheral devices that have firmware version before 3.00 should set this variable to STD, which is the original Cheetah Xi format. The EXP selection refers to an “Expanded” format. Peripheral devices with 3.00 firmware or newer will used this command. The EXP setting speeds up operation of the peripheral bus.
3. If set to COMPACT, a message filter within the panel is used to prevent transmission of certain history record events, including the NEW DEVICE history messages. This is done so that the peripherals do not display messages that are not required. If set to VERBOSE, all history messages are transmitted.
4. HISTORY PACKING refers to how many history records are transmitted back-to-back with minimum time in between. If set to UNPACKED, history records are sent one at a time. If set to PACKED, up to 50 history records are sent back-to-back. This will speed up transmission of large amounts of history data.
5. HISTORY MESSAGE refers to what kind of data is packed into the history command. If set to STD (standard), data is packed as with previous versions. If set to EXP (expanded), both lines 1 and 2 of the history data as shown on the LCD of the panel is packed into the history command.
6. VESDA VEA detectors can have multiple sampling pipes ranging from 40 to 120 and each pipe (sector) can be assigned to a different panel zone number for annunciation purposes. C-Linx enables you to create up to 19 pipe templates with each template consisting of 40 pipes. The templates allow you to map each of the 40 pipes to a panel zone. The template(s) can then be assigned to one or more VEA detectors.

Exhibit 1-6: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Network	*Network Settings*				
	Network Address (Panel ID)	Y	**1** - 128		
	Network Module Type	Y	**None** / First / Middle / Last		1
	Network Panel Message	Y	20 character user defined **(CUSTOM MSG PANEL 001)** where ZZZ = zone number		
	Network Switch Operation	Y	**Global** / Local		2
	Network Switch IDs	Y	**1** – 128		9
	Network Zones	Y	1 – 254		3
	Panel Supervision	Y	1 – 128		4
	Wiring Style	Y	**Class B (Style 4)** / Class X (Class A/Style 7)		
	History Repeats	Y	**No Repeats /** 1 Repeat / 2 Repeat		10
	Ethernet Settings				
	Source IP Address	Y	**000.000.000.000 User Defined**		5
	Destination IP Address	Y	**000.000.000.000 User Defined**		6
	Supervision IP Address	Y	**000.000.000.000 User Defined**		7
	Panel IP Supervision	Y	**000.000.000.000**		4
	History Transmits	Y	**1** – 10		11
	Supervision Timeout	Y	1 – 59 (Sec., Min., Hour) **4 min. default**		
	IP Time	Y	**IP Time Disabled** Accept IP Time Send IP Time		8

Notes:

1. Defines the location of the panel with respect to others on the network.
2. Defines if the respective panel will react to Reset, Silence, Acknowledge, and Drill commands received from other networked panels.
3. Defines which network zones will participate in the local panel zone(s).
4. Defines which network panel(s) the selected panel should supervise.
5. Defines the unique Internet Protocol (IP) address for the selected panel.
6. Defines the unique Internet Protocol (IP) address for the panel that is to receive history events from the selected panel.
7. Defines the unique Internet Protocol (IP) address for the panel that is to supervision responses from the selected panel.
8. Used to synchronize panel time over the network.
9. Selects which network panels the panel will receive switch commands from.
10. Sets the number of times history records are transmitted across the network.
11. Sets the number of times history records are transmitted across the Ethernet connection (Fike recommends a setting of 2).

Exhibit 1-7: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Photo Detector)	*Common*				
	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Custom Message	Y	60 character user defined **(1-001 PHOTO DETECT Loop 1 - Address 001)**		
		Y	Default / **User Defined**		
	Zone Assignments	Y	**0** – 253		2
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
	Alarm Verification	Y	Time: 0 – 60 seconds		
		Y	Enabled / **Disabled**		
	Sensitivity				
	Pre-Alarm 1 & 2 Levels	Y	Enabled / **Disabled**		8
		Y	0.5%/ft. – **4.0%/ft.** (0.1%/ft. increments)		3, 8
	Alarm Levels	Y	Acclimate: 1.3%/ft. – 3.6%/ft. **(High 2.0% - Low 2.5%)**		4
		Y	Day/Night: 1.3%/ft. – 3.6%/ft. **(Day 3.6% - Night 3.6%)**		
		Y	**Alarm** / Supervisory / Supervisory NL		10
		Y	UL268 7th		6, 7, 9
	Drift Compensation (Warning/Trouble)	Y	50 – 100% **Warning 80%/Trouble 100%**		5
	Walktest	Y	**Walktest at Alarm Level** / Walktest with IR / Walktest at 1.3%		
	Device Summing				
	Broadcast Thresholds for Summing (%OBS)	N	Enabled / **Disabled** (8 levels 0.5%/ft. – 4.0%/ft. in 0.1%/ft. increments)		
	Summing Activation Level (%OBS)	N	1.0 – 10%/ft. (0.5%/ft. increments)		
	Summing Broadcast State	N	**Disabled** / Alarm / Summing Alarm / Supervisory Latching / Supervisory Non-Latching / Pre-Alarm 1 / Pre-Alarm 2		
	Summing Addresses	N	1 – 8 (Device addresses to participate in summing group)		

Notes:
1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones, 2 zone ranges or 1 range and 2 discrete zones.
3. Pre-Alarm 2 setting must always be set equal or higher than Pre-Alarm 1 setting.
4. High setting must be equal or lower obscuration setting than Low setting.
5. Can be set in 1% increments. Trouble must be higher % than Warning.
6. For use with photo detectors identified as UL 268 7th edition compliant.
7. Setting available in C-Linx v7.7.1.0 and newer.
8. Not used when "UL268 7th" is selected.
9. Alarm Level is fixed at 3.6%/foot when "UL268 7th" is selected.
10. Supervisory and Supervisory NL activation states are not available when "UL268 7th" is selected.

Exhibit 1-8: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Photo Detector)	*Remote Annunciator*				
	Annunciator Type	Y	**None** / Remote LED – Follows Red / Remote LED – Follows Green / Remote LED – Follows Amber / Remote LED – Independent / Sounder Base / Relay Base		1,2
	Silenceable	Y	Silenceable / **Non- Silence**		2
	Positive Alarm Sequence (PAS)	Y	**Disabled** / Enabled		2
	Output Settings – Priority Row	Y	1 – 8		1
	Activation State	Y	**No State** / Alarm / Summing Alarm / Test Alarm / Alarm Verification ON / Pre-Alarm 1 / Pre-Alarm 2 / Supervisory / Trouble / Open Circuit Trouble / Short Circuit Trouble / Low Power Trouble / Maintenance Trouble / Process / Zone Disable Switch / Release / Pre-Discharge / Abort / Release Ckt. Trouble		
	Action Type	Y	**No Action** / Activate on Any of 3 zones / Activate on All of 3 zones / Activate on Specific Device / Activate on multiple priority rows active		
	Output Pattern	Y	**OFF** / ON Continuous / Slow / Fast / Temporal / Walktest / Alert / Action		
	State Counter	Y	**1** – 16		

Notes:

1. If annunciator type is set to Independent Operation, Sounder Base, or Relay Base an 8-row priority table will be displayed. Table values are set using the Output Settings fields.
2. If annunciator type is set to Sounder Base, Silence and Positive Alarm Sequence (PAS) options will be displayed.

Exhibit 1-9: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Photo/Heat Detector)	*Common*				
	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Custom Message	Y	60 character user defined **(1-001 PHO/HT DETECT Loop 1 - Address 001)**		
		Y	Default / **User Defined**		
	Zone Assignments	Y	**0** – 253		2
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
	Alarm Verification	Y	Time: 0 – 60 seconds		
		Y	Enabled / **Disabled**		
	Sensitivity				
	Pre-Alarm 1 & 2 Levels	Y	Enabled / **Disabled**		9
		Y	0.5%/ft. – **4.0%/ft.** (0.1%/ft. increments)		3, 9
	Alarm Levels	Y	Acclimate: 1.3%/ft. – 3.6%/ft. **(High 2.0% - Low 2.5%)**		4
		Y	Day/Night: 1.3%/ft. – 3.6%/ft. **(Day 3.6% - Night 3.6%)**		
		Y	**Alarm** / Supervisory / Supervisory NL		11
		Y	UL268 7th		7, 8, 10
	Flame Enhance	N	**ON** / OFF		6, 9
	Drift Compensation (Warning/Trouble)	Y	50 – 100% **Warning 80%/Trouble 100%**		5
	Walktest	Y	**Walktest at Alarm Level** / Walktest with IR / Walktest at 1.3%		
	Device Summing				
	Broadcast Thresholds for Summing (%OBS)	N	Enabled / **Disabled** (8 levels 0.5%/ft. – 4.0%/ft. in 0.1%/ft. increments)		12
	Summing Activation Level (%OBS)	N	1.0 – 10%/ft. (0.5%/ft. increments)		12
	Summing Broadcast State	N	**Disabled** / Alarm / Summing Alarm / Supervisory Latching / Supervisory Non-Latching / Pre-Alarm 1 / Pre-Alarm 2		12
	Summing Addresses	N	1 – 8 (Device addresses to participate in summing group)		12
	Remote Annunciator (See Exhibit 1-8 for programming features)				

Notes:
1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones, 2 zone ranges or 1 range and 2 discrete zones.
3. Pre-Alarm 2 setting must always be set equal or higher than Pre-Alarm 1 setting.
4. High setting must be equal or lower obscuration setting than Low setting.
5. Can be set in 1% increments. Trouble must be higher % than Warning.

6. Refer to Section 3.4.6 for description of Flame Enhance operation.
7. For use with photo heat detectors identified as UL 268 7th edition compliant.
8. Setting available in C-Linx v7.7.1.0 and newer.
9. Not used when “UL268 7th” is selected.
10. Alarm Level is fixed at 3.6%/foot when “UL268 7th” is selected.
11. Supervisory and Supervisory NL activation states are not available when “UL268 7th” is selected.
12. Configuration options and settings available in C-Linx v7.5.0.0 and earlier

Exhibit 1-10: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Photo/Duct Detector)	*Common*				
	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Custom Message	Y	60 character user defined **(1-001 DUCT DETECT Loop 1 - Address 001)**		
		Y	Default / **User Defined**		
	Zone Assignments	Y	**0** – 253		2
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
	Alarm Verification	Y	Time: 0 – 60 seconds		
		Y	Enabled / **Disabled**		
	Sensitivity				
	Pre-Alarm 1 & 2 Levels	Y	Enabled / **Disabled**		
		Y	0.6%/ft. – **4.0%/ft.** (0.1%/ft. increments)		3
	Alarm Levels	Y	Acclimate: 0.8%/ft. – 3.4%/ft. **(High 2.0% - Low 2.5%)**		4
		Y	Day/Night: 0.8%/ft. – 3.4%/ft. **(Day 1.5% - Night 3.4%)**		
		Y	**Alarm** / Supervisory / Supervisory NL		
	Drift Compensation (Warning/Trouble)	Y	50 – 100% **Warning 80%/Trouble 100%**		5
	Walktest	Y	**Walktest at Alarm Level** / Walktest with IR / Walktest at 1.3%		
	Device Summing				
	Broadcast Thresholds for Summing (%OBS)	N	Enabled / **Disabled** (8 levels 0.5%/ft. – 4.0%/ft. in 0.1%/ft. increments)		
	Summing Activation Level (%OBS)	N	1.0 – 10%/ft. (0.5%/ft. increments)		
	Summing Broadcast State	N	**Disabled** / Alarm / Summing Alarm / Supervisory Latching / Supervisory Non-Latching / Pre-Alarm 1 / Pre-Alarm 2		
	Summing Addresses	N	1 – 8 (Device addresses to participate in summing group)		
	Remote Annunciator (See Exhibit 1-8 for programming features)				

Notes:
1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones, 2 zone ranges or 1 range and 2 discrete zones.
3. Pre-Alarm 2 setting must always be set equal or higher than Pre-Alarm 1 setting.
4. High setting must be equal or lower obscuration setting than Low setting.
5. Can be set in 1% increments. Trouble must be higher % than Warning.

Exhibit 1-11: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Heat Detector)	*Common*				
	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Custom Message	Y	60 character user defined **(1-001 HEAT DETECT Loop 1 - Address 001)**		
		Y	Default / **User Defined**		
	Zone Assignments	Y	**0** – 253		2
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
	Alarm Verification	Y	Time: 0 – 60 seconds		
		Y	Enabled / **Disabled**		
	Sensitivity				
	Pre-Alarm 1 & 2 Levels	Y	Enabled / **Disabled**		
		Y	70°F - **190°F** (5°F increments)		3
	Alarm Levels (Day/Night)	Y	Fixed Temp: **135°F** - 190°F (5°F increments)		4
		Y	Rate of Rise: **135°F** - 170°F (5°F increments)		4
	Walktest	Y	**Walktest at 135°F** / Walktest with IR		
	Remote Annunciator (See Exhibit 1-8 for programming features)				

Notes:
1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones, 2 zone ranges or 1 range and 2 discrete zones.
3. Pre-Alarm 2 setting must always be set equal or higher than Pre-Alarm 1 setting.
4. Rate of Rise temperature range is 135°F - 170°F. Fixed temperature range is 135°F - 190°F.

Exhibit 1-12: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Ion Detector)	*Common*				
	Loop Number of Device	Y	**1**- 4		1
	Address of Device	Y	**1** – 254		
	Custom Message	Y	60 character user defined **(1-001 ION DETECT Loop 1 - Address 001)**		
		Y	Default/**User Defined**		
	Zone Assignments	Y	**0** – 253		2
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
	Alarm Verification	Y	Time: 0 – 60 seconds		
		Y	Enabled / **Disabled**		
	Sensitivity				
	Pre-Alarm 1 & 2 Levels	Y	Enabled / **Disabled**		
		Y	100 – 40 Microns (5 Micron increments)		3
	Alarm Levels	Y	Acclimate: 80 – 50 Microns (5 Micron increments)		4
		Y	Day/Night: 80 – 50 Microns (5 Micron increments)		
		Y	**Alarm** / Supervisory / Supervisory NL		
		N	**Smolder Enhance Off** / Smolder Enhance On		
	Drift Compensation	Y	50 – 100% **Warning 90%/Trouble 100%**		5
	Walktest	Y	**Walktest at Alarm Level** / Walktest with IR / Walktest at 80 MIC		
	Device Summing				
	Broadcast Thresholds for Summing (%OBS)	N	Enabled / **Disabled** (8 levels 0.5%/ft. – 4.0%/ft. in 0.1%/ft. increments)		
	Summing Activation Level (%OBS)	N	1.0 – 10%/ft. (0.5%/ft. increments)		
	Summing Broadcast State	N	**Disabled** / Alarm/Summing Alarm / Supervisory Latching / Supervisory Non-Latching / Pre-Alarm 1 / Pre-Alarm 2		
	Summing Addresses	N	1 – 8 (Device addresses to participate in summing group)		
	Remote Annunciator (See Exhibit 1-8 for programming features)				

Notes:
1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones, 2 zone ranges or 1 range and 2 discrete zones.
3. Pre-Alarm 2 setting must always be set equal or higher than Pre-Alarm 1 setting.
4. High setting must be equal or lower obscuration setting than Low setting.
5. Can be set in 1% increments. Trouble must be higher % than Warning.

Exhibit 1-13: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Monitor Module)	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Custom Message	Y	60 character user defined **(1-001 INPUT MANALRM Loop 1 - Address 001)**		
		Y	Default / **User Defined**		
	Zone Assignments	Y	**0** – 253		2,7
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		6
	Input Function Type	Y	No Input Function / **ManualAlarm** / Detection/ Waterflow /Pre-Alarm 1 / Pre-Alarm 2 / Supervisory / Trouble / Process / PAS Inhibit / Reset / Silence / Acknowledge / Drill / Zone Disable / Fan Restart / Smoke Control Confirmation / Manual Alarm Stage 2 / AHU Fire Dept Key / Manual Release / Manual Release with Countdown / Abort / Watermist Activation		6,7
		Y	Verify Time: 0 – 255 seconds		3
		Y	**Latching** / Non-Latching		4
		Y	**Normally Open** / Normally Closed		5
		Y	**Class B (Style B) Contact** / Class A (Style D) Latching / Class A Auto-Restore		
		Y	**No Short Detection** / Short Detection		

Notes:

1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones, 2 zone ranges or 1 range and 2 discrete zones.
3. If monitor module function type is set to Detection or Watermist Activation, an alarm verification time can be set.
4. Either = Waterflow, PA1, PA2, Supervisory, Trouble, Process, PAS Inhibit; Non-Latch = Silence, Acknowledge, Drill, Zone Disable, Fan Restart, Smoke Confirmation, Abort; Latching = ManAlarm, Detection, Reset, Manual Alarm Stage 2, Manual Release, Manual Release with Countdown, Watermist.
5. NO Contacts = Detection, Manual Alarm, Reset, Manual Alarm Stage 2, Manual Release, Manual Release with Countdown, Abort, Watermist; NO/NC Contacts = Waterflow, PA1, PA2, Supervisory, Trouble, Process, PAS Inhibit, Silence, Acknowledge, Drill, Zone Disable, Fan Restart, Smoke Confirmation.
6. If monitor module function type is set to Detection or Waterflow, a Predischarge Type must be set.
7. If input function type is set to “Zone Disable”, can be assigned to zone 254 “All Zones”.

Exhibit 1-14: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Mini Monitor Module)	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Custom Message	Y	60 character user defined **(1-001 MINI MANALRM Loop 1 - Address 001)**		
		Y	Default / **User Defined**		
	Zone Assignments	Y	**0** – 253		2,7
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		6
	Alarm Verification	Y	Time: 0 – 60 seconds		
		Y	Enabled / **Disabled**		
	Input Function Type	Y	No Input Function / **Manual Alarm** / Detection/ Waterflow /Pre-Alarm 1 / Pre-Alarm 2 / Supervisory / Trouble / Process / PAS Inhibit / Reset / Silence / Acknowledge / Drill / Zone Disable / Fan Restart / Smoke Control Confirmation / Manual Alarm Stage 2 / AHU Fire Dept Key / Manual Release / Manual Release with Countdown / Abort / Watermist Activation		6
		Y	Verify Time: 0 – 255 seconds		3
		Y	**Latching** / Non-Latching		4
		Y	**Normally Open** / Normally Closed		5
		Y	**No Short Detection** / Short Detection		

Notes:

1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones, 2 zone ranges or 1 range and 2 discrete zones.
3. If monitor module function type is set to Detection, an alarm verification time can be set.
4. Either = Waterflow, PA1, PA2, Supervisory, Trouble, Process, PAS Inhibit; Non-Latch = Silence, Acknowledge, Drill, Zone Disable, Fan Restart, Smoke Confirmation, Abort; Latching = ManAlarm, Detection, Reset, Manual Alarm Stage 2, Manual Release, Manual Release with Countdown, Watermist.
5. NO Contacts = Detection, Manual Alarm, Reset, Manual Alarm Stage 2, Manual Release, Manual Release with Countdown, Abort, Watermist; NO/NC Contacts = Waterflow, PA1, PA2, Supervisory, Trouble, Process, PAS Inhibit, Silence, Acknowledge, Drill, Zone Disable, Fan Restart, Smoke Confirmation.
6. If monitor module function type is set to Detection or Waterflow, a Predischarge Type must be set.
7. If input function type is set to “Zone Disable”, can be assigned to zone 254 “All Zones”.

Exhibit 1-15: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Pull Station Module)	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Custom Message	Y	60 character user defined **(1-001 PULL STATION Loop 1 - Address 001)**		
	Custom Message	Y	Default/**User Defined**		
	Zone Assignments	Y	**0** – 253		2
	Input Function	Y	No Input Function / **Manual Alarm** / Manual Release / Manual Release with Countdown		

Notes:
1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones, 2 zone ranges or 1 range and 2 discrete zones.

Exhibit 1-16: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Supervised Control Module)	*Common*				
	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Output	Y	**Enabled**/Disabled		
	Custom Message	Y	60 character user defined **(1-001 OUTPUT MODULE Loop 1 - Address 001)**		
		Y	Default/**User Defined**		
	Zone Assignments (device troubles)	Y	**0** – 253		2
	Defaults for Pre-Action	Y	Yes/**No**		3
	Defaults for 2 Stage Alarm	N	Yes/**No**		4
	Drill Output Pattern	Y	Drill Disabled / **On Continuous** / Slow / Fast / Temporal		
	Output Silenceable	Y	**Silenceable**/Non-Silenceable		
	Positive Alarm Sequencing (PAS)	Y	Enabled / **Disabled**		
	Power Supply Monitor	Y	**Enabled** / Disabled		
	Output Control				
	Output Settings Priority Row	Y	1 - 32		
	Activation State	Y	No State / **Alarm** / Summing Alarm / Test Alarm / Alarm Verification ON / Pre-Alarm 1 / Pre-Alarm 2 / Supervisory / Trouble / Open Circuit Trouble / Short Circuit Trouble / Low Power Trouble / Maintenance Trouble / Process / Zone Disable Switch / Release / Pre-Discharge / Abort / Release Circuit Trouble		
	Action Type	Y	No Action / **Activate on Any of 3 zones** / Activate on All of 3 zones / Activate on Specific Device / Activate on multiple priority rows active		
	Output Pattern	Y	OFF / **ON Continuous** / Slow / Fast / Temporal / Walktest / Timed / Custom Defined		
	Output Pattern Set	Y	**1** - 3		
	State Counter	Y	**1** – 16		
	Zone Assignments (activation)	Y	**1** - 255		5

Notes:

1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones.
3. Modifies control module configuration for use with Pre-Action solenoid.
4. If selected, the control module configuration will be modified for 2-Stage Alarm Operation (City of Chicago).
5. Can be assigned to any 3 zones, 254 any zone, or 255 any zone (non-disable).

Exhibit 1-17: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Relay Module)	*Common*				
	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Output	Y	**Enabled**/Disabled		
	Custom Message	Y	60 character user defined **(1-001 RELAY MODULE Loop 1 - Address 001)**		
		Y	Default/**User Defined**		
	Zone Assignments (device troubles)	Y	**0** – 253		2
	AHU Shutdown Relay	Y	Enabled / **Disabled**		7
	Restart Delay	Y	**0** – 255 seconds		5
	Misc. Options (feedback relay monitoring)	Y	**Not Monitored** / Monitored by dry contact / Independent dry contact		6
	Positive Alarm Sequencing (PAS)	Y	Enabled / **Disabled**		6
	Output Control (Note 7)				
	Output Settings Priority Row	Y	1 - 32		
	Activation State	Y	**Alarm** / Summing Alarm / Test Alarm / Alarm Verification ON / Pre-Alarm 1 / Pre-Alarm 2 / Supervisory / Trouble / Open Circuit Trouble / Short Circuit Trouble / Low Power Trouble / Maintenance Trouble / Process / Zone Disable Switch / Release / Pre-Discharge / Abort / Release Circuit Trouble		
	Action Type	Y	No Action / **Activate on Any of 3 zones** / Activate on All of 3 zones / Activate on Specific Device / Activate on multiple priority rows active		
	Relay State	Y	**ON** / OFF / Timed / Time Delay		
	Timeout	Y	0**, 5** – 80 minutes		3
	State Counter	Y	**1** – 16		
	Output	Y	Silenceable/**Non-Silenceable**		8
	Drill	Y	**Enabled** / Disabled		
	Zone Assignments (activation)	Y	**1** - 255		4

Notes:
1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones,
3. Timeout delay becomes active if relay state is set to 'Time Delay'.
4. Can be assigned to any 3 zones, 254 any zone, or 255 any zone (non-disable).
5. Restart delay becomes active if relay is configured for AHU shutdown operation.
6. These options are not available if relay is configured for AHU shutdown operation.
7. Output control is disabled if relay is set for AHU Shutdown operation.
8. Silence option becomes active if relay state is set to "ON".

Exhibit 1-18: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Releasing Module)	*Common*				
	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Output	Y	**Enabled**/Disabled		
	Custom Message	Y	60 character user defined **(1-001 RELEASING MOD Loop 1 - Address 001)**		
		Y	Default/**User Defined**		
	Zone Assignments	Y	**0** – 253		2
	Output Type	Y	**No Output** / Solenoid / Expanded Solenoid / Masterbox / ARM/IRM / Expanded ARM/IRM / Watermist System		3
	Solenoid Output Type				
	Output State	Y	**No Output State** / Alarm / Pre-Discharge / Release		
	Timeout	Y	**0** – 80 Minutes/Seconds		
	Expanded Solenoid Output Type				
	Timeout	Y	0 – 80 Minutes/Seconds		
	Output Control				
	Output Settings Priority Row	Y	1 - 32		
	Activation State	Y	**No State** / Alarm / Summing Alarm / Supervisory / Release / Pre-Discharge		
	Action Type	Y	No Action / **Activate on Any of 3 zones** / Activate on All of 3 zones / Activate on Specific Device / Activate on multiple priority rows active		
	Release State	Y	**OFF** / ON (Continuous) / Timed		
	State Counter	Y	**1** – 16		
	First Action Latch Rows	Y	**0** - 32		4
	Masterbox Output Type				
	Output State	Y	No Output State / **Alarm** / Pre-Discharge / Release		
	ARM/IRM Output Type				
	Output State	Y	No Output State / Alarm / Pre-Discharge / **Release**		

Notes:

1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 3 discrete zones,
3. Depending upon the output type selected, additional programming options will become available.
4. Any action within the first rows defined by the value will operate on a first only basis. Outputs associated with the first active row will remain until that row is no longer active. Any rows operating on the same output value that become true will be locked out from changing the output value until the first one that became active is no longer active.

Exhibit 1-19: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (Releasing Module)	*Expanded ARM/IRM Output Type*				
	Output Control				
	Output Settings Priority Row	Y	1 - 32		
	Activation State	Y	**No State** / Alarm / Summing Alarm / Supervisory / Release / Pre-Discharge		
	Action Type	Y	No Action / **Activate on Any of 3 zones** / Activate on All of 3 zones / Activate on Specific Device / Activate on multiple priority rows active		
	Release State	Y	**OFF** / ON (Continuous) / Timed		
	State Counter	Y	**1** – 16		
	First Action Latch Rows	Y	**0** - 32		1
	Watermist System Output Type				
	Output State	Y	No Output State / Alarm / Pre-Discharge / **Release**		
	Watermist Type	Y	No Watermist Type / Turbine Generator / Machinery Space / Custom Cycle		
	Custom Cycle (seconds)	Y	On 4 – 64 **[36]** Off 4 – 64 **[44]**		

Notes:

1. Any action within the first rows defined by the value will operate on a first only basis. Outputs associated with the first active row will remain until that row is no longer active. Any rows operating on the same output value that become true will be locked out from changing the output value until the first one that became active is no longer active.

Exhibit 1-20: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (FAAST Detector)	*Common*				
	Loop Number of Device	Y	**1** - 4		1
	Address of Device	Y	**1** – 254		
	Custom Message	Y	60 character user defined **(1-001 FAAST DETECT Loop 1 - Address 001)**		
		Y	Default/**User Defined**		
	Zone Assignments	Y	**0** – 253		2
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
	Walktest	Y	Enabled / **Disabled**		
		Y	0.1% - 0.99645% ft. (slider)		
	States				
	State Assignments				
	Fire 2 / Fire 1 / Action 2 / Action 1 / Alert	Y	**Disabled** / Alarm / PreAlarm 2 / PreAlarm 1 / Supervisory / Process		3
		Y	Latching / **Non-Latching**		4
	Fire 1 or Fire 2 Alarm is Broadcast when Isolated	Y	Enabled / **Disabled**		
	Alarm Verification Timers				
	Fire 2 / Fire 1 / Action 2 / Action 1 / Alert	Y	**No Timer** / Timer 1 / Timer 2 / Timer 3		5
	Verification Timer Values				
	Timer 1 / Timer 2 / Timer 3	Y	**0** – 255 (seconds)		
	Acclimate				
	Acclimate	Y	Enabled / **Disabled**		
	Acclimate High Range	Y	Range 1-H (0.00046%ft – 0.04980%ft) Range 2-M (0.05%ft – 0.09982%ft) Range 3-M (0.1%ft – 0.99645%ft) **Range 4-L (1%ft – 2.5%ft)**		6

Notes:
1. Cheetah Xi can have up to four (4) addressable loops.
2. Can be assigned to 4 discrete zones, 2 zone ranges or 1 range and 2 discrete zones.
3. Each detection level on the FAAST detector can be mapped to a panel state (user defined).
4. Each detection level can be configured as a latching or non-latching event. **Must be latching if configured for alarm.**
5. Each detection level can be configured to initiate one of three Alarm Verification timers.
6. Allows you to set the high sensitivity level for the selected acclimate range.

Exhibit 1-21: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (FAAST Detector)	*Day Sensitivity Levels*				
	Fire 1 / Fire 2 / Action 2 / Action 1 / Alert	Y	Range 1-H (0.00046%ft – 0.04980%ft) Range 2-M (0.05%ft – 0.09982%ft) Range 3-M (0.1%ft – 0.99645%ft) **Range 4-L** (1%ft – 3.98818%ft)		
	Copy Nighttime Sensitivity	Y	Yes / **No**		
	Night Sensitivity				
	Fire 1 / Fire 2 / Action 2 / Action 1 / Alert	Y	Range 1-H (0.00046%ft – 0.04980%ft) Range 2-M (0.05%ft – 0.09982%ft) Range 3-M (0.1%ft – 0.99645%ft) **Range 4-L** (1%ft – 3.98818%ft)		
	Copy Nighttime Sensitivity	Y	Yes / **No**		
	Miscellaneous				
	Particulate Level Display	Y	Fire 2 / **Fire 1** / Action 2 / Action 1 / Alert		
	Air Flow Trouble Boundary	Y	0 – 100 (% off normal) **(20 default)**		
	Air Flow Trouble Timer	Y	**No Timer** / Timer 1 / Timer 2 / Timer 3		
	Security				
	Passcode	Y	0 – 9999 **(1111 default)**		
	Test Button/Functions Locked	Y	**Enabled**/Disabled		
	Isolate Button/LCD Settings Locked	Y	**Enabled**/Disabled		
	Configuration Locked	Y	**Enabled** / Disabled		
	Can be Disabled	Y	Enabled / **Disabled**		
	Reference Detector				
	Analog Broadcast Increasing Step	Y	0 - **255**		1
	Analog Broadcast Decreasing Step	Y	0 - **255**		1
	Reference Detector Address	Y	**0** – 254 (0 = disable)		2
	Relays				
	Configuration (Relays 1 – 5)	Y	Latching: Yes / **No**		
		Y	Fire 2 / Fire 1 / Action 2 / Action 1 / Alert		
	Configuration (Relay 6)	Y	Latching: Yes / **No**		
		Y	High Airflow / Low Airflow / Disable / Filter Minor / Filter Urgent / Sensor / Config / Aspirator / Time / Filter Door / Low Voltage / Comm		

Notes:
1. Set to 255 to disable Analog Broadcast.
2. Reference detector cannot use Acclimate feature.

Exhibit 1-22: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Defaults (FAAST Detector)	*FAAST XT*				
	Enable Channels	Y	1 - 4		
	Fan Speed	Y	Slow / **Medium** / Fast		
Defaults (Update Device Checksum)	Recalculate addressable device Configuration Checksums?	Y	Yes / No		
Defaults (Reset Default Config)	Reset All Default Device Configurations?	Y	Yes / No		
Defaults (Custom Messages)	Panel LCD Custom Message Line 2 Logo	Y	20 character user defined (**Fike Corporation**)		
	Addressable Devices (Restores all device custom messages to default)	Y	Yes / No		
	Peripheral Devices (Restores all device custom messages to default)	Y	Yes / No		
	Air Sampling Devices (Restores all device custom messages to default)	Y	Yes / No		
Defaults (Password)	Used to assign a unique Level 2 password (8 available)	Y	A – H (4 digit user defined)		

Exhibit 1-23: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Peripheral Device Configuration Options					
Remote Display 14 Key	Address	Y	**2** - 32		
	Custom Message	Y	20 character user defined **(Fike Remote Display)**		
	Corporate Logo	Y	20 character user defined **(Fike Corporation)**		
	Buzzer Operation	Y	**Enabled** / Disabled		
	Network History Display	Y	**Show All History** / Filter History by Zone		
	Countdown Display	Y	**Show Countdown Display** / Show Release Imminent		
	Countdown Filter	Y	**Show All Zone Countdowns** / Filter Countdown by Zone / Do not show Countdowns		
	Programmable Key Functions (1 – 8)	Y	NO Function / Reset / Silence / Acknowledge / Drill / Process / Walktest / IR Tool / Step Alarm / Step Supervisory / Step Trouble / Step All / Fan Restart / Zone Disable		1
	Zone Assignment	Y	0 – 255		1
Remote Display 2 and 10 Key	Address	Y	**2** - 32		
	Custom Message	Y	20 character user defined **(Fike Remote Display)**		
	Corporate Logo	Y	20 character user defined **(Fike Corporation)**		
	Buzzer Operation	Y	**Enabled** / Disabled		
	Network History Display	Y	**Show All History** / Filter History by Zone		
	Countdown Display	Y	**Show Countdown Display** / Show Release Imminent		
	Countdown Filter	Y	**Show All Zone Countdowns** / Filter Countdown by Zone / Do not show Countdowns		

Notes:

1. Process and Zone Disable will require a zone number be assigned (1 – 253).

Exhibit 1-24: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Graphic Annunciator (256 LED)	Address	Y	**2** - 32		
	LED Number	Y	3 - 256		
	LED Function	Y	**No Function Assigned** / Device Activation / Device Trouble / Device Activation or Trouble / Device Pre-Alarm / Device Activation or Pre-Alarm / Zone State Activation / Switch 1 Feedback / Switch 2 Feedback / Switch 3 Feedback / Switch 4 Feedback / Panel Silenced / Panel Drill / Panel Walk Test / Sounder / Network Device Activation / Network Device Trouble / Network Device Activation or Trouble / Network Device Pre-Alarm / Network Device Activation or Pre-Alarm		
	Device (selection)	Y	(PNL) 1 – 128: (Loop) 1 – 4, (Add) 1 – 254		1
	Activation State	Y	**Alarm** / Pre-alarm / Process / Trouble / Supervisory / Zone Disable / Pre-Discharge / Release		2
	Zone Assignments	Y	1 - 254		2
	Network Device (selection)	Y	(PNL) 1 – 128: (Loop) 1 – 4, (Add) 1 – 254		3
	LED Illumination Pattern				
	Active State	Y	Off / Continuous / **Slow Blink** / Fast Blink		
	Inactive State	Y	**Off** / Continuous / Slow Blink / Fast Blink		
	Silenced State	Y	Off / **Continuous** / Slow Blink / Fast Blink		
	Acknowledged State	Y	Off / **Continuous** / Slow Blink / Fast Blink		
	Piezo	Y	**Enabled** / Disabled		

Notes:

1. Configuration options become available if LED Function is set to 'Device'.
2. Configuration options become available if LED Function is set to 'Zone State Activation'.
3. Configuration options become available if LED Function is set to 'Network Device'.

Exhibit 1-25: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Zone Annunciator (20 LED)	Address	Y	**2** - 32		
	LED Number	Y	1 - 20		
	LED Function	Y	**No Function Assigned** / Zone State Activation / Panel Silenced / Panel Drill / Panel Walk Test / Communication OK / Power OK		
	Activation State	Y	**Alarm** / Pre-Alarm / Process / Trouble / Supervisory / Zone Disable / Pre-Discharge / Release		1
	Zone Assignments	Y	1 – 254		1
	LED Illumination Pattern				
	LED Illumination Pattern – Active State	Y	Off / Continuous / **Slow Blink** / Fast Blink		
	LED Illumination Pattern – Inactive State	Y	**Off** / Continuous / Slow Blink / Fast Blink		
	LED Illumination Pattern – Silenced State	Y	Off / **Continuous** / Slow Blink / Fast Blink		
	LED Illumination Pattern – Acknowledged State	Y	Off / **Continuous** / Slow Blink / Fast Blink		
Multi Interface Module	Address	Y	**2** - 32		
	Interface Type	Y	Cheetah Gateway / **Serial Printer** / Parallel Printer / Computer		2
Ethernet Port	Address	Y	2 - 32		
DACT	Address	Y	2 – 32		
	Mounting	Y	**Internal** / External		

Notes:

1. Configuration options become available if LED Function is set to 'Zone State Activation'.
2. Configuring the MIM for Cheetah Gateway operation is no longer available after Firmware Version 7.0. Gateway programming has been left in C-Linx for compatibility with panels with older firmware.

Exhibit 1-26: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
LED Annunciator 20-Zone	Address	Y	**2** - 32		
	LED Function (1-40)	Y	**No Function Assigned** / On – Device Activation / On - Device Trouble / On – Device Active or Trb / On – Device PreAlarm / On – Device Active or PreAlm / On – Zone Process / On – Zone Trouble / On – Zone Supervisory / On – Zone Abort / On – Zone Disabled / On – Zone PreAlarm / On – Zone Alarm / On – Zone Predischarge / On – Zone Release / On – Zone Test Alarm / On – Zone Action / On – Panel Silence / On – Panel Drill / On – Panel Walktest / On – Panel Comm OK / On – Panel Power OK / On – Panel Buzzer Active / On – Any Network Device Active / On – Any Network Device Trouble / On – Any Network Device PreAlm / On – All Network Device Active / Off – Any Network Device Active / Off – All Network Device Active / On – Any LED Active / On – All LED Active / Off – Any LED Active / Off – All LED Active / On – Alarm Silence / On – Supervisory Silence / On – Trouble Silence / On – Alarm Silence Inhibit / On – Device Active or PreAlm(Stdy) / On – Alarm Signal Cancel / On – Battery Trouble		
	LED Assignment	Y	Device / Zone / Panel / Net Device / LED		1

Notes:

1. LED assignment options are tied to the specific LED function selected.

Exhibit 1-27: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
LED Annunciator 20-Zone	*Assignment by Device*				
	Select Devices	Y	1 - 254		
	Selection Options	Y	**Select** / Clear		
		Y	**All Addresses** / Even Addresses / Odd Addresses / All Photo Sensors / All Photo/Heat Sensors / All Photo/Duct Sensors / All Ion Sensors / All Heat Sensors / All Monitor Modules / All Dual Monitor Modules / All Mini Monitor Modules / All Pull Station Modules / All Conventional Zone / All Control Modules / All Relay Modules / All Releasing Modules / All FAAST Sensors		
		Y	On Loop **1** - 4		
		Y	Between 1 - 254		
		Y	And 1 - 254		
		Y	Select All / Clear All / Invert All		
	Assignment by Zone				
	Select Zones	Y	1 - 254		
	Selection Options	Y	**Select** / Clear		
		Y	**All Zones** / Even Zones / Odd Zones		
		Y	Between **1** - 254		
		Y	And 1 - **254**		
		Y	Any Zone (check box)		
		Y	Select All / Clear All / Invert All		
	Assignment by Network Device				
	Select Network Devices	Y	1 – 254 (Example: 002: 1-001)		
	Selection Options	Y	**Select** / Clear		
		Y	**All Addresses** / Even Addresses / Odd Addresses / All Photo Sensors / All Photo/Heat Sensors / All Photo/Duct Sensors / All Ion Sensors / All Heat Sensors / All Monitor Modules / All Dual Monitor Modules / All Mini Monitor Modules / All Pull Station Modules / All Conventional Zone / All Control Modules / All Relay Modules / All Releasing Modules / All FAAST Sensors		
		Y	On Panel **1** – 128		
		Y	On Loop **1** - 4		
		Y	Between **1** - 254		
		Y	And 1 - **254**		
			Select All / Clear All / Invert All		

Exhibit 1-28: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
LED Annunciator 20-Zone	*Assignment by LED*				
	Select LED Assignments	Y	1 - 40		
Relay Controller	Peripheral Address	Y	**2** - 32		
	Local Buzzer	Y	**Enabled** / Disabled		
	Relay Group Configuration (1 – 6)				
	Relay	Y	1 - 4		
	Function	Y	**No Function Assigned** / On – Device Activation / On – Device Trouble / On – Device PreAlarm / On – Zone Process / On – Zone Trouble / On – Zone Supervisory / On – Zone Abort / On – Zone Disabled / On – Zone PreAlarm / On – Zone Alarm / On – Zone PreDischarge / On – Zone Release / On - Zone Test Alarm / On – Zone Action / On – Any Network Device / On – Any Network Device Trouble / On – Any Network Device PreAlm / Off – Any Network Device / Off – All Network Device		1
	Assignment by Device				
	Select Devices	Y	1 – 254		
	Selection Options	Y	**Select** / Clear		
		Y	**All Addresses** / Even Addresses / Odd Addresses / All Photo Sensors / All Photo/Heat Sensors / All Photo/Duct Sensors / All Ion Sensors / All Heat Sensors / All Monitor Modules / All Dual Monitor Modules / All Mini Monitor Modules / All Pull Station Modules / All Conventional Zone / All Control Modules / All Relay Modules / All Releasing Modules / All FAAST Sensors		
		Y	On Loop: **1** – 4		
		Y	Between: **1** – 254		
		Y	And: 1 – **254**		
		Y	Select All / Clear All / Invert All		

Exhibit 1-29: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Relay Controller	*Assignment by Zone*				
	Select Zones	Y	1 – 254		
	Selection Options	Y	Select / Clear		
		Y	All Zones / Even Zones / Odd Zones		
		Y	Between: **1** – 254		
		Y	And: 1 – **254**		
		Y	Any Zone (check box)		
		Y	Select All / Clear All / Invert All		
	Assignment by Network Device				
	Select Devices	Y	1 – 254		
	Select Options	Y	**All Addresses** / Even Addresses / Odd Addresses / All Photo Sensors / All Photo/Heat Sensors / All Photo/Duct Sensors / All Ion Sensors / All Heat Sensors / All Monitor Modules / All Dual Monitor Modules / All Mini Monitor Modules / All Pull Station Modules / All Conventional Zone / All Control Modules / All Relay Modules / All Releasing Modules / All FAAST Sensors		
		Y	On Panel: **1** – 128		
		Y	On Loop: **1** – 4		
		Y	Between: **1** – 254		
		Y	And: 1 – **254**		
		Y	Select All / Clear All / Invert All		
Class A Card	Peripheral Address	Y	**2** - 32		

Exhibit 1-30: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
Air Sampling Detectors Configuration Options					
VESDA Compact	VESDA Zone Number	Y	1 – 246		
	Fire 1 State	Y	**Alarm** / Supervisory / Trouble		
	Device Enabled	Y	**Enabled** / Disabled		
	Custom Message	Y	20 Characters user defined **(CUSTOM MESSAGE VZ001)**		
		Y	**Default Custom Message** / User Defined Custom Message		
	Zone Assignments	Y	0 – 253		1
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
	Point ID Information – Loop ID	Y	1 – 4		3
	Point ID Information – Address ID	Y	1 – 254		3
VESDA Laser Focus, Laser Plus, VLI, VEP, VEP1, VEP2 and VEU	VESDA Zone Number	Y	1 – 246		
	Fire 1 State	Y	**Alarm** / Supervisory / Trouble		
	Device Enabled	Y	**Enabled** / Disabled		
	Custom Message	Y	20 Characters user defined **(CUSTOM MESSAGE VZ001)**		
		Y	**Default Custom Message** / User Defined Custom Message		
	Zone Assignments	Y	**0** – 253		1
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
		Y	Fire 1 / **Fire 2**		2
	Point ID Information – Loop ID	Y	1 – 4		3
	Point ID Information – Address ID	Y	1 – 254		3

Notes:

1. Four zones available.
2. VESDA detection level that must be reached before Predischarge operation is initiated.
3. Point ID used only for reporting device information to DACT and EVAX.

Exhibit 1-31: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
VESDA Scanner	VESDA Zone Number	Y	1 – 246		
	Fire 1 State	Y	**Alarm** / Supervisory / Trouble		4
	Device Enabled	Y	**Enabled** / Disabled		
	Custom Message	Y	20 Characters user defined **(CUSTOM MESSAGE VZ001)**		
		Y	**Default Custom Message** / User Defined Custom Message		
	Zone Assignments	Y	0 – 253		1
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
		Y	Fire 1 / **Fire 2**		2
	Sector Zone Number 1-4	Y	1 – 254		
	Sector State	Y	**Alarm** / Supervisory / Trouble		4
	Point ID Information – Loop ID	Y	1 – 4		3
	Point ID Information – Address ID	Y	1 – 254		3

Notes:

1. Four zones available.
2. VESDA detection level that must be reached before Predischarge operation is initiated.
3. Point ID used only for reporting device information to DACT and EVAX.
4. Allowable sector (pipe) state assignment is based on Fire 1 state setting (Alarm = Alarm or Supervisory / Supervisory = Supervisory only).

Exhibit 1-32: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
VESDA VFT-15	VESDA Zone Number	Y	1 – 246		5
	Fire 1 State	Y	**Alarm** / Supervisory / Trouble		4
	Device Enabled	Y	**Enabled** / Disabled		
	Custom Message	Y	20 Characters user defined **(CUSTOM MESSAGE VZ001)**		
		Y	**Default Custom Message** / User Defined Custom Message		
	Zone Assignments	Y	0 – 253		1
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
		Y	Fire 1 / **Fire 2**		2
	Sector Zone/State Assignments				
	Sector Zone	Y	1 - 253		
	Sector State	Y	**Alarm** / Supervisory / Trouble		4
	Point ID Information – Loop ID	Y	1 – 4		3
	Point ID Information – Address ID	Y	1 – 254		3

Notes:

1. Four zones available.
2. VESDA detection level that must be reached before Predischarge operation is initiated.
3. Point ID used only for reporting device information to DACT and EVAX.
4. Allowable sector (pipe) state assignment is based on Fire 1 state setting (Alarm = Alarm or Supervisory / Supervisory = Supervisory only).
5. Each VFT-15 detector will automatically occupy sixteen VESDAnet zones, one for the detector itself and the next fifteen subsequent zones for the pipes. No VESDA device can be assigned to this zone range regardless of the number of pipes connected to the VFT-15 detector. It is imperative that the VFT-15 detector be assigned to a VESDAnet zone with enough consecutive zones available.

Exhibit 1-33: Programming Features Cont.

Circuit or Component	Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings (Defaults shown bold)	Settings permitted in UL 864	Notes
VESDA VEA-40, 60, 80, 100, 120	VESDA Zone Number	Y	1 – 246		
	Fire 1 State	Y	**Alarm** / Supervisory / Trouble		4
	Device Enabled	Y	**Enabled** / Disabled		
	Custom Message	Y	20 Characters user defined **(CUSTOM MESSAGE VZ001)**		
		Y	**Default Custom Message** / User Defined Custom Message		
	Zone Assignments	Y	0 – 253		1
	Predischarge Type	Y	**Type A: Alarm Only** / Type B: 1st Cross Zone / Type C: 2nd Cross Zone / Type D: Count Zone / Type E: Single Pre-discharge		
		Y	Fire 1 / **Fire 2**		2
	Additional VEA Configuration				
	VEA Configuration	Y	**VEA-40**/60/80/100/120		
	Zone Templates				
	Pipes	Y	**1–40** / 41-80 / 81-120		
	Template	Y	**0** - 19		
	Pipe Activation States				
	Pipe Set	Y	0 - 5		
	Pipe	Y	**Alarm** / Supervisory / Trouble		4
	Point ID Information – Loop ID	Y	1 – 4		3
	Point ID Information – Address ID	Y	1 – 254		3

Notes:

1. Four zones available.
2. VESDA detection level that must be reached before Predischarge operation is initiated.
3. Point ID used only for reporting device information to DACT and EVAX.
4. Allowable sector (pipe) state assignment is based on Fire 1 state setting (Alarm = Alarm or Supervisory / Supervisory = Supervisory only / Trouble = Trouble only).

2.1 CHEETAH Xi MAIN DISPLAY

The Cheetah Xi system's main display and control board, as shown in Exhibit 2-1, consists of a 4 x 20 LCD screen, general system status LEDs, and several push-buttons that allow you to navigate through the system menus and issue specific command and control functions.

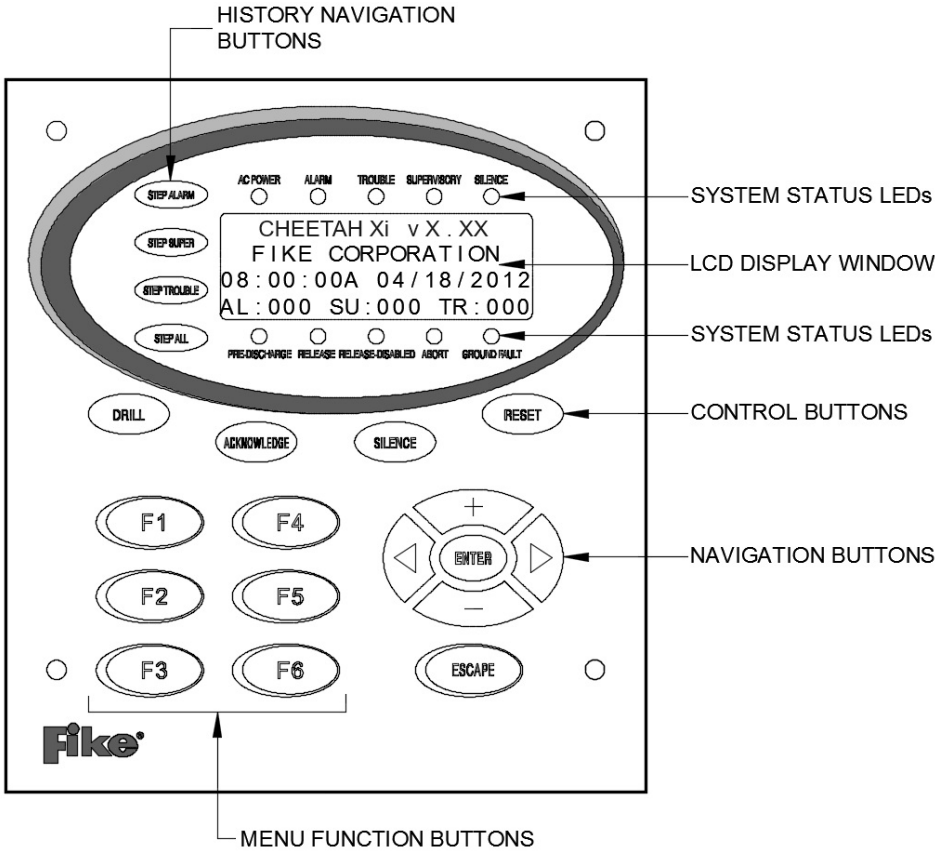


Exhibit 2-1: Cheetah Xi Main Display

Access to almost all of the control and navigation buttons are blocked with the system enclosure door in the closed and locked position. This prevents unauthorized access by individuals who are not properly trained on how to respond to system events and how to operate the system.

A general description of the main display features is provided as follows.

2.1.1 SYSTEM STATUS LEDs

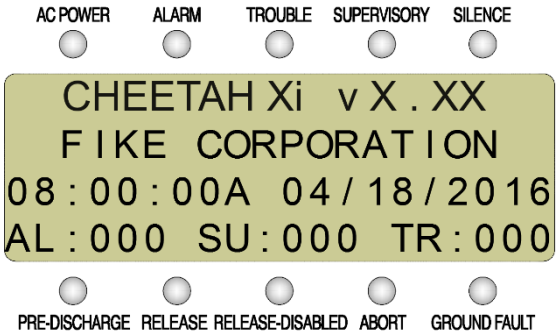


Exhibit 2-2: Status LEDs

Exhibit 2-3: Status LED Descriptions

Indicator	Color	When Active	To Turn Off
AC Power	Green	Illuminates steady when proper primary AC power is applied. Normally ON.	Turns off when AC power is removed or is too low for proper operation.
Alarm	Red	Flashes when the panel enters the Alarm State. Illuminates steady after you Acknowledge or Silence the event.	Clear the Alarm condition and reset the system.
Trouble	Yellow	Flashes when the panel enters the Trouble State or if a zone or device is disabled. Illuminates steady after you Acknowledge or Silence the event.	Clear the Trouble condition. Some trouble events are latching. If latching, the panel must be reset to restore the system to normal.
Supervisory	Yellow	Flashes when the panel enters the Supervisory State or if a zone or device is disabled. Illuminates steady after you Acknowledge or Silence the event.	Clear the Supervisory condition. (Supervisory inputs may be configured as latching or non-latching. If configured for latching, the panel must be reset to restore the system to normal.)
Silence	Yellow	Illuminates steady after you Silence the event, either locally at the main display or remotely at a remote display unit. Silencing the system turns off the panel's integral audible and all notification appliance circuits that are programmed as Silenceable.	Turns off when the panel is reset or another system event occurs. NFPA 72 requires that a silenced panel resound every 24 hours.
Predischarge	Red	Flashes when the panel enters the Predischarge State. Illuminates steady after you Acknowledge or Silence the event.	Turns off when the panel is reset.
Release	Red	Flashes when the panel enters the Release State. Illuminates steady after you Acknowledge or Silence the event.	Turns off when the panel is reset.
Disabled	Yellow	Illuminates steady when any device or zone is disabled. Outputs in the disabled zone will not operate. Panel will also indicate a Supervisory and Trouble event when a zone is disabled.	Turns off when panel is reset or a device or circuit is enabled.
Abort	Yellow	Flashes when the panel is placed into Abort State. Illuminates steady after you Acknowledge or Silence the event.	Turns off if the Abort condition clears and no other abort events are present on the system.
Ground Fault	Yellow	Illuminates steady when a system Ground Fault condition is present on the system.	Turns off when the ground fault is cleared or the panel is reset.

2.1.2 HISTORY NAVIGATION BUTTONS

When an event occurs, the system categorizes the event as an Alarm, Supervisory, or Trouble event and adds it to a corresponding history buffer. The information stored in each history buffer and can be displayed using the history step buttons shown below. Unless the enclosure is ordered with Lexan™ covering the display opening, these buttons are accessible even with the enclosure door closed, allowing responding personnel to review system events based on the order of occurrence (Step All) or based on selected event types (Alarm, Supervisory or Trouble).

Press this button to step through the current ALARM events stored in the panel's Alarm history buffer (1,600 events).

Press this button to step through the current SUPERvisory events stored in the panel's Supervisory history buffer (800 events).

Press this button to step through the current TROUBLE events stored in the panel's Trouble history buffer (800 events).

Press this button to step through all current events (Alarm, Supervisory and Trouble) on the display.

Press the F5 function button to toggle between current events and the entire 3200 event history display.

2.1.3 CONTROL BUTTONS

The Control buttons on the main display allow you to execute the designated system function by pressing the button. A brief functional description of each button is provided below:

Press this button to manually activate all outputs and notification appliance circuits assigned for Drill Function in the configuration. Press RESET to clear the Drill activation.

Press this button to Acknowledge an Alarm, Trouble or Supervisory State. Deactivates local piezo without silencing active outputs. Creates 'Acknowledge' event in the history. Pressing Acknowledge ONCE will acknowledge all events currently active on the system. When multiple events are active each event is not required to be individually acknowledged.

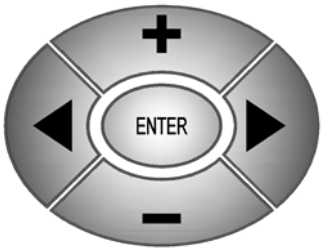
Press this button to Silence any notification appliance circuits that are sounding and programmed as silenceable outputs. Also deactivates local piezo. Creates 'Silence Function' event for all loops. Pressing Silence ONCE will silence all events currently active on the system. When multiple events are active each event is not required to be individually silenced.

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.

Press this button to Reset the 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 reactivate.

2.1.4 NAVIGATION AND FUNCTION BUTTONS

The navigation buttons on the main display are provided to allow you to easily navigate and change the systems operational parameters. A brief functional description of each button is provided below:



NAVIGATION (+, ►, -, ◄)

The ◄► arrow buttons 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.

Press this button to toggle from Off-Normal Event display (if events are present) to System Normal (no events preset) 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 Normal Menu, pressing ESCAPE takes you back to event #1.

Saves and enters any system configuration settings.

FUNCTION BUTTONS

The function buttons are used to navigate the control panel's menu system during system operation, maintenance and configuration of the system.

2.1.5 LCD DISPLAY

There are three main display screens for the Cheetah Xi system: System Normal (no events present), System Event (if events are present) and Top Level Menu. A brief description of each display is provided as follows.

2.1.5.1 SYSTEM NORMAL DISPLAY

The System Normal display, as shown in Exhibit 2-4, provides an example of the information presented on the main display when the panel is in normal operating condition.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			**C**	**H**	**E**	**E**	**T**	**A**	**H**		**X**	**i**		**v**	**X**	**.**	**X**	**X**		
B			**F**	**I**	**K**	**E**		**C**	**O**	**R**	**P**	**O**	**R**	**A**	**T**	**I**	**O**	**N**		
C	**H**	**H**	**:**	**M**	**M**	**:**	**S**	**S**	**A**		**M**	**M**	**/**	**D**	**D**	**/**	**Y**	**Y**	**Y**	**Y**
D	**A**	**L**	**:**	**0**	**0**	**0**		**S**	**U**	**:**	**0**	**0**	**0**		**T**	**R**	**:**	**0**	**0**	**0**

Exhibit 2-4: System Normal Display

- Row A - Provides a standard system message, including panel name and firmware version.
- Row B – Displays a 20 character custom message that can be customized.
- Row C - Displays the current time and date set for the system.
- Row D – Displays the number of Alarm (AL), Supervisory (SU), and Trouble (TR) events currently present on the system.

Note: When a panel has cleared all local trouble and supervisory events but still has these events to transmit on a networked system, the trouble (or supervisory) counter will alternately showing **'000'** or **'---'** at half-second intervals to indicate network transmissions are still occurring for that state.

In Normal state, the control panel does the following functions at normal intervals:

- Supervises all SLC devices, panel circuits for device and circuit integrity
- Transmits system event information to peripheral bus devices

2.1.5.2 SYSTEM EVENT DISPLAY

The System Event display, as shown in Exhibit 2-5, provides an example of the information presented on the main display when an event occurs.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**A**	**L**	**A**	**R**	**M**	**:**		**D**	**E**	**V**	**I**	**C**	**E**		**T**	**Y**	**P**	**E**		
B	**C**	**U**	**S**	**T**	**O**	**M**		**M**	**E**	**S**	**S**	**A**	**G**	**E**		**L**	**-**	**A**	**D**	**R**
C	**H**	**H**	**:**	**M**	**M**	**:**	**S**	**S**	**A**		**M**	**M**	**/**	**D**	**D**	**/**	**Y**	**Y**	**Y**	**Y**
D		**E**	**V**	**E**	**N**	**T**		**X**	**X**	**X**	**X**		**O**	**F**		**Y**	**Y**	**Y**	**Y**	

Exhibit 2-5: System Event Display

- Row A - Shows the type of event and device type.
- Row B - Displays the custom message (user defined) for the device/circuit that caused the event.

> **Note:** Pressing the F1 or F2 buttons while a system event is displayed toggles the display to show more detail related to the event displayed.

Press the F1 function button to toggle Rows A and B to display the Panel-Loop-Address of event as shown in Exhibit 2-6. Press F1 again to return to the System Event display.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**P**	**N**	**L**	**0**	**0**	**1**		**L**	**O**	**O**	**P**	**1**		**A**	**D**	**D**	**R**	**0**	**0**	**1**
B	**C**	**U**	**S**	**T**	**O**	**M**		**M**	**S**	**G**		**P**	**A**	**N**	**E**	**L**	**-**	**0**	**0**	**1**
C	**H**	**H**	**:**	**M**	**M**	**:**	**S**	**S**	**A**		**M**	**M**	**/**	**D**	**D**	**/**	**Y**	**Y**	**Y**	**Y**
D		**E**	**V**	**E**	**N**	**T**		**X**	**X**	**X**	**X**		**O**	**F**		**Y**	**Y**	**Y**	**Y**	

Exhibit 2-6: Panel-Loop-Address Display

Press the F2 function button to toggle Rows C and D to display an extra 40 characters of the device's custom message as shown in Exhibit 2-7. Press F2 again to return to the System Event display.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**A**	**L**	**A**	**R**	**M**	**:**		**D**	**E**	**V**	**I**	**C**	**E**		**T**	**Y**	**P**	**E**		
B	**C**	**U**	**S**	**T**	**O**	**M**		**M**	**E**	**S**	**S**	**A**	**G**	**E**		**L**	**-**	**A**	**D**	**R**
C	**L**	**O**	**O**	**P**		**1**														
D	**A**	**D**	**D**	**R**	**E**	**S**	**S**		**0**	**0**	**1**									

Exhibit 2-7: Expanded Custom Message Display

2.1.5.3 TOP LEVEL MENU

The Cheetah Xi is equipped with an extensive menu system that allows you to configure the systems operating parameters, view history events, perform system diagnostics, and view system operating parameters for maintenance purposes. From the System Normal Display, press the ESCAPE function button to view the Top Level Menu, as shown in Exhibit 2-8.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				**T**	**O**	**P**		**L**	**E**	**V**	**E**	**L**		**M**	**E**	**N**	**U**			
B	**F**	**1**	**-**	**C**	**O**	**N**	**F**	**I**	**G**		**F**	**4**	**-**	**P**	**A**	**S**	**S**	**W**	**R**	**D**
C	**F**	**2**	**-**	**H**	**I**	**S**	**T**	**R**	**Y**		**F**	**5**	**-**	**M**	**A**	**I**	**N**	**T**		
C	**F**	**3**	**-**	**D**	**I**	**A**	**G**				**F**	**6**	**-**	**I**	**R**		**C**	**O**	**M**	**M**

Exhibit 2-8: Top Level Menu

Most of the Cheetah Xi's menus are password protected to prevent unauthorized access. Limited access to the system's HISTORY (F2), DIAGNOSTICS (F3) and MAINTENANCE (F5) menus is allowed without needing to enter a system password. This allows emergency response and maintenance personnel to respond to system events.

Navigation through the menu system is accomplished using the menu function buttons, the ESC button and the ENTER button provided on the main display as described in Section 2.1.4. Pressing the corresponding function button will cause the LCD screen to display the selected menu. A brief description of TOP LEVEL MENU choices is described as follows:

F1 - CONFIG

Press the F1 function button to display the panel's Configuration menu. The configuration menus allow you to change the operating parameters of the Cheetah Xi system. The configuration menus are password protected and require entry of a User Level or higher password to view; or an Administrator Level password to change the configuration parameters.

F2 - HISTRY

Press the F2 function button to display the panel's History menu. From this screen you can select Alarm, Supervisory, Trouble, Events, Zone, and Erase functions. If selected, the history messages for the specific history buffer are displayed in the sequential order they occurred. Events will be displayed ONLY if there are current events present since reset in that respective state. Other states, such as Drill and Walktest, are available only in the Event History.

F3 - DIAG

Press the F3 function button to display the panel's Diagnostic menu. The diagnostic menus are designed to assist the service technician in isolating and correcting hardware faults with the system.

F4 - PASSWRD

Press the F4 function button to display the Password entry screen.

F5 - MAINT

Press the F5 function button to display the Maintenance menu. The Maintenance menu provides several features that can be used by service personnel to maintain and test the Cheetah Xi system.

F6 - IR COMM

Press the F6 function button to enable system IR communication with field devices. The IR tool (non-listed) 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.

2.2 PASSWORD PROTECTION

Access to the Cheetah Xi system's control and function buttons are restricted by the enclosure door. With the door closed and locked, responding personnel can only view system events on the panel display and use the accessible EVENT STEP buttons (if not covered by optional Lexan™) to filter through the systems event history. Opening the enclosure door provides access to the systems Control and Function buttons, which allows greater system operation capabilities. With the enclosure door open, responding personnel have the ability to Silence or Acknowledge system events, initiate Drill commands and Reset the system. In addition, the system operator has limited access to the systems menus and features without needing to enter a system password.

Access to the Cheetah Xi system's menus is password protected to restrict access to those who require it. Each Cheetah Xi allows up to eight (8) User level passwords and a single System Administrator password to be assigned by the system installer. The available security access levels are described as follows.

Password Level	Designation	Privileges
	Default (door panel closed)	▪ View system events on LCD display ▪ Access to STEP buttons for reviewing system history
1	Customer (door panel open – no password entered)	All default privileges, plus: ▪ Access to system control switches for executing system Drill, Acknowledge, Silence and Reset ▪ History menu (view only) ▪ Diagnostic menus (view only) ▪ Maintenance menu: Read Device and Device Address (all other menu features are view only) ▪ IR Communication (enable/disable)
2	USER (Level 2 password entered – eight available)	All default and Level 1 privileges, plus: ▪ Configuration menus: Configuration check and set system time and date (all other menu features are view only). ▪ Maintenance menu: Device Replace, Walktest, Buzzer Enable/Disable zones ▪ Level 2 passwords are assigned during system configuration
3	SYSTEM ADMINISTRATOR (Level 3 password entered)	All default, Level 1 and Level 2 privileges, plus: ▪ Full access to all system menus ▪ Default password is set by the factory prior to shipment. Can be changed in the field.

Exhibit 2-9: Password Access Levels

2.2.1 LOGGING ONTO THE SYSTEM

To log onto the system, press the F4 function button from the Top Level Menu. The Password screen, as shown in Exhibit 2-10 will be displayed. After entering a successful password, press the ESCAPE button to return to the Top Level menu.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				**E**	**N**	**T**	**E**	**R**		**P**	**A**	**S**	**S**	**W**	**O**	**R**	**D**			
B									**X**	**X**	**X**	**X**								
C				**A**	**C**	**C**	**E**	**S**	**S**	**:**		**D**	**E**	**N**	**I**	**E**	**D**			
D						**C**	**O**	**D**	**E**	**:**		**X**	**X**	**X**	**X**					

Exhibit 2-10: Password Entry Screen

- Row B - Allows entry of a 4 digit password. Use the ◄► navigation buttons to move the cursor to the appropriate field and the +/- buttons (cycles through 0-9) to enter a password.

  Note: After entry of a Level 3 password, you have the ability to change the default administrator password as detailed in 2.2.2.

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

- Row D - Random 4 digit-code that changes periodically. Used by the factory to gain access to the system if the Administrator password has been forgotten.

2.2.2 CHANGING THE SYSTEM ADMINISTRATOR PASSWORD

After entering a successful Administrator level password you can change the default administrator password by changing the 4-digit number that appears on the far right of Row B, as shown in Exhibit 2-11.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				**E**	**N**	**T**	**E**	**R**		**P**	**A**	**S**	**S**	**W**	**O**	**R**	**D**			
B									**P**	**A**	**S**	**S**	**<**	**-**	**-**	**-**	**P**	**A**	**S**	**S**
C				**A**	**C**	**C**	**E**	**S**	**S**	**:**		**D**	**E**	**N**	**I**	**E**	**D**			
D						**C**	**O**	**D**	**E**	**:**		**X**	**X**	**X**	**X**					

Exhibit 2-11: Password Entry Screen

- Row B (far right) - Allows entry of a new 4 digit password. Use the ◄► navigation buttons to move the cursor under each field and the +/- buttons to enter the new password (cycles through 0-9). After completing the password change, press the ENTER button to confirm the change.

  Note: If the Administrator password is changed and then forgotten, you must contact Fike and provide the 4-digit CODE displayed on Row D of the password entry screen along with a completed password indemnification form.

Reserved for future use.

3.1 GENERAL SYSTEM OPERATION

The Cheetah Xi system operation is based upon a Zone and State Relationship. Each device, input or output must be assigned to at least one Zone and State. 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 mode or condition of operation for the fire alarm system. Input devices can be assigned to individual zones or a range of zones (only one zone is typical). Panel events, such as AC Power, Battery, NAC Supervision, or any other main panel initiated troubles, report to Zone 254. Zone 254 and Zone 255 are ANY ZONE selections that CAN NOT be disabled. Output devices may be configured for any zone (Z255) or maximum zones in action table (3 x 32 = 96 different zones).

When an input is activated, it will 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).

Operation Example: When an input device configured for Supervisory Input for Zone 3 is activated, it will cause any output configured for Supervisory Zone 3 to turn ON.

3.1.1 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 and are immediately annunciated.

3.1.2 DAYLIGHT SAVINGS

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. Daylight Saving Time (for the U.S. and its territories) is NOT observed in Hawaii, American Samoa, Guam, Puerto Rico, the Virgin Islands, the Eastern Time Zone portion of the State of Indiana, and by most of Arizona (with the exception of the Navajo Indian Reservation in Arizona).

Control panels with firmware Version 3.00 and higher operate as follows:

Daylight Saving Time will start on the second Sunday in March, and change back to standard time on the first Sunday in November.

Control panels with firmware older than 3.00 operate as follows:

Daylight Saving Time begins for most of the United States 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.

3.1.3 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.

3.1.4 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.

3.1.5 STATE COUNTERS

The Cheetah Xi can count states to create an activation of an output. The state counters are created from Eclipse addressable devices ONLY (e.g., If zone 1 has several alarms, the output can be programmed to activate upon receipt of 2 alarms total). VESDA does not participate in State Counters.

Note: Do not share zones across the network when state counters are used to activate outputs.

3.1.6 NETWORK OPERATION

Fike's Cheetah Xi and CyberCat 254/1016 control panels can be interfaced together to form a common network of up to 128 panels (network nodes). Each local control panel maintains its own area of protection, while being able to monitor and control other areas (other network nodes). Each panel can receive, display, and log all events distributed across the network. In areas where the entire or portions of the network must be monitored at a central location, each network node(s) can be configured to supervise and display the status of other selected network nodes.

Network events are transmitted across the network by zone and state. Critical events have priority transmission across the network. For example, if multiple supervisory or troubles occur followed by a subsequent alarm, the alarm will be inserted as a priority event for transmission across the network. The event is displayed exactly the same on all network panels (nodes). The first 20 characters of the custom message for the device are transmitted across the network to SUPERVISING controllers only. The peripheral devices do NOT receive custom message information unless the event comes from the panel where the peripheral is connected.

Network nodes can be configured to either share common zone numbers on the network (e.g., Zone 1 spanning multiple panels operates as one zone for all inputs and outputs), or leave the panel zones independent from each other (e.g., Zone 1 on panel 1 is independent from zone 1 on panel 2). If the panel is NOT configured to respond to the zone event that is transmitted, it will respond by logging the event in the panel's history buffer and displaying it on the panels display.

Networked panels will synchronize their time and date to what is stored in the "First" panel. This occurs every 24 hours at 12 am.

Two types of network interface modules are available:

- P/N 10-2482 for connecting panels (nodes) with twisted-pair wire (Refer to Fike Document 06-349, "Network Module" for more details).
- P/N 10-2642 for connecting panels (nodes) with fiber-optic cable (Refer to Fike Document 06-387, "Fiber Optic Network Module" for more details).

Note: The same type of network interface module MUST be used on all panels connected to a common network for communication to occur.

3.1.6.1 IP NETWORK

Fike's Ethernet module (P/N 10-2627) provides a means to connect up to 128 Cheetah Xi and CyberCat control panels (including 50 point) to an existing IP network for centralized monitoring. As events occur on a panel that is connected to an Ethernet network, it will transmit its history messages over the facilities Local Area Network (LAN) or Wide Area Network (WAN) to the supervising (monitoring) panel where the event will be indicated on the panel display. The Ethernet network only allows one way communication between the source panel and the supervising panel; therefore, it CANNOT be used for true panel networking as described in Section 3.1.6 above.

Each panel to be connected to the IP network must have its own Ethernet module and must be configured to transmit its history events to only ONE supervising panel, which can be located either on or off the premises.

Refer to Fike Document 06-388, "Ethernet Module" for more details.

3.1.7 POSITIVE ALARM SEQUENCE

This feature is enabled or disabled for all outputs connected to the panel. When enabled, an Alarm signal from an automatic fire detection device shall be Acknowledged at the main panel display, remote keypad or input module within the set time frame (15 - 30 seconds) after annunciation of the Alarm event in order to initiate the panel's alarm investigation phase. Annunciation to this point consists of only the Cheetah Xi local piezo sounder and the event message on the main panel display and/or 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.

During the Alarm investigation phase, trained personnel have up to 180 seconds 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 180 second 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 and restore the system to normal operation.

Note: Device configurations must be sent to all addressable devices if changes are made to the panel's positive alarm sequence operational settings.

Note: When positive alarm sequencing is enabled in the Cheetah Xi panel, then by default, all VESDA detectors will initiate the panel's PAS operation; however, PAS activation is tied solely to the activation of the base detector. Detectors that are capable of supporting detection via multiple sampling tubes/pipes (i.e., VLS, VFT and VEA) will not take the PAS operation into the next state in response to individual tube/pipe activation.

3.1.8 PRE-DISCHARGE OPERATION

This feature allows any of the system zones to be assigned a pre-discharge countdown time, that when activated by a detector or input module configured for pre-discharge operation, delays the control panel from entering the RELEASE state for a set period of time. This feature provides a small window of opportunity for responding personnel to conduct a fire investigation prior to activation of the suppression system to determine if the event is a false alarm or a real fire event. Each suppression zone can be configured with a separate countdown timer for Automatic or Manual inputs as identified below:

Automatic Countdown (0 – 255 seconds) – Photo, Heat, Photo/Heat, Photo Duct, and Ion detectors.

Manual Countdown (0 – 30 seconds) – Pull Station, Monitor Module, and Mini Monitor Module.

To participate in Pre-Discharge operation, detectors and input modules must be assigned a "pre-discharge" type that is stored both in panel memory and device memory. The pre-discharge types are 'A' through 'F' as described below:

A – Alarm device only. Alarm of this device will NOT cause Pre-Discharge to occur in the zone(s) assigned to this device. It will create an Alarm state only.

B – 1st Cross Zone device. Pre-discharge will occur in the zone(s) assigned to this device when a corresponding "C" type device is alarmed.

C – 2nd Cross Zone device. Pre-discharge will occur in the zone(s) assigned to this device when a corresponding "B" type device is alarmed.

D – Counting Zone. Pre-discharge will occur when two or more "D" type devices are alarmed in the assigned zone(s).

E – Single Device Release. Only one Alarmed "E" type device will cause pre-discharge in the assigned zone(s).

F – Manual Release. This device type skips pre-discharge and causes immediate release in the assigned zone(s).

3.1.9 ABORT OPERATION

The feature prevents any of the system zones from progressing to the Release State if accidentally activated by detectors or input modules. Abort operation may be activated by any input configured for Abort. Abort functionality is determined by the system wide Abort Type set in the panel configuration as described as follows:

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 cannot be aborted again. Release will occur upon countdown completion. Conforms to Industrial Risk Insurers (IRI) requirements.

Type 2. Countdown continues during abort activation. Release occurs when both the countdown is completed and the abort is deactivated.

Type 3. If the abort is active during Pre-discharge, release occurs upon abort deactivation.

Type 4. If the abort is active during Pre-discharge, release occurs 10 seconds after abort deactivation. The release cannot be aborted again.

Type 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, but is allowed by some Local Authority Having Jurisdictions (AHJs).

Type 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 the 120 (90 + 30) second verification delay, the system starts a 30 second Pre-discharge delay. Does not conform to UL requirements, but is allowed by some Local Authority Having Jurisdictions (AHJs).

Note: Activation of a manual release without countdown will override an Abort input and cause the immediate release of the suppression system.

3.1.10 DEVICE LED OPERATION

Each Cheetah Xi addressable device is equipped with an LED that flashes to provide positive indication of the device status. The following responses are expected from the device LED:

Device Status	LED Operation	Device Status	LED Operation
Normal	Flashes green	Trouble (open)	Flashes yellow (slow)
Pre-Alarm 1	Flashes red (slow)	Trouble (short)	Flashes yellow (fast)
Pre-Alarm 2	Flashes red (fast)	Trouble (general)	Steady yellow
Alarm (Sum)	Steady red	Test Alarm	Flashes red/green

3.2 PANEL MENU STRUCTURE

The Cheetah Xi control panel is equipped with an extensive menu structure. Refer to Appendix A for a complete breakdown of the system menu structure. Access to certain panel menus and functions (Configuration Menus) are password protected and require the operator to log onto the system in order to view them or gain access to make changes. Refer to Section 2.2.1 for details on how to log onto the system.

Access to system menus such as History, Diagnostics and Maintenance are not password protected. This allows responding personnel to easily review system events as they occur by accessing the History Menu and diagnose potential problems occurring on the system via the Diagnostics Menus. The Maintenance Menu provides several functions that are designed to assist service personnel in maintaining the system. A detailed description of these panel menus and available functions is provided in the following Sections 4.0, 5.0 and 6.0 for reference purposes.

3.3 PANEL OPERATION BY EVENT

The operation of the control panel varies depending upon the event present on the system. This section provides a description of the information that will be presented on display for each panel event, along with instructions on how to respond to the event.

3.3.1 POWER-UP RESET

The system will perform a power-up reset (long reset) when power (AC or DC) is first applied to the Cheetah Xi controller or when a RESET command is initiated either from the main controller display, peripheral device, or a remote input module configured for reset. Prior to performing the system reset, the panel will display the following screen for 4 seconds.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		R	E	C	O	R	D		N	E	W		D	E	V	I	C	E		
B	M	E	S	S	A	G	E	S		F	R	O	M		R	E	S	E	T	?
C										N	O									
D																				

Exhibit 3-1: Record New Device Display

This screen provides you the opportunity to select whether to record new device messages during the system reset process. By default, this feature is set to "NO", which allows the panel to reset and return to Normal Sate without recording new device messages. Press the ACKNOWLEDGE button once to change the "NO" on Row C to "YES". This will cause all devices connected to the SLC loop to transmit a new device message that will be displayed and recorded in the controller history. Press the ACKNOWLEDGE button a second time to change the "NO" to "YES WITH LEARN NEW". This will cause only new devices connected to the SLC loop to transmit a new device message. If the loop wiring or devices are changed on the system, you must select "YES" to record new device messages; otherwise the panel will reset and return to Normal State without recording the changes made to the loop.

Upon completion of the 4 second delay, the system reset process will continue and the control panel will do the following:

1. Clears All (latched) active inputs
2. Interrupts resettable power
3. Drops power to SLC loops
4. Sends "System Reset" message to history buffer, printers, PC graphics and remote displays
5. Sends BROADCAST ADDRESS message to devices and requests their response.
6. Displays the following screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				P	O	W	E	R	-	U	P		R	E	S	E	T			
B	C	U	S	T	O	M		M	S	G		P	A	N	E	L		0	0	1
C	H	H	:	M	M	:	S	S	A		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 3-2: Power-Up Reset Display

- Row A – Indicates activation of the panel's power-up reset process.
- Row B – Displays a 20 character custom message that can be changed to suit your project requirements.
- Row C – Displays the current system time and date.
- Row D – Displays the total number of system events present on the system.

If the record new device messages feature was selected, the screen will display all new device messages as they are received by the controller. When finished, the screen will display "ADDR LOOP ON LINE" and then will return to the System Normal display.

Note: If any alarm or trouble event exists after a system reset, all NACs, control outputs, and panel audio and visual indicators will reactivate.

3.3.2 NORMAL STATE

The system operates in Normal State when no alarm or troubles exists. In Normal State, the control panel does the following:

1. Green AC POWER LED illuminates.
2. Supervises loop devices (requests device status every 8 seconds). If device fails to report, panel will indicate DEVICE MISSING trouble within 1 minute. Likewise, if a new device is present on the system and not in the panel configuration, a DEVICE NOT IN CONFIG trouble will be reported.
3. LED on SLC devices will blink every 5 seconds.
4. SLC devices communicate their status directly to other devices (peer-to-peer).
5. Supervises panel NAC and auxiliary power circuits.
6. Supervises AC/DC power.
7. Supervises devices connected to peripheral bus.
8. Displays a system normal message as follows:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			**C**	**H**	**E**	**E**	**T**	**A**	**H**		**X**	**i**		**v**	**X**	**.**	**X**	**X**		
B			**F**	**I**	**K**	**E**		**C**	**O**	**R**	**P**	**O**	**R**	**A**	**T**	**I**	**O**	**N**		
C	**H**	**H**	**:**	**M**	**M**	**:**	**S**	**S**	**A**		**M**	**M**	**/**	**D**	**D**	**/**	**Y**	**Y**	**Y**	**Y**
D	**A**	**L**	**:**	**0**	**0**	**0**		**S**	**U**	**:**	**0**	**0**	**0**		**T**	**R**	**:**	**0**	**0**	**0**

Exhibit 3-3: System Normal Display

- Row A – Displays a standard system message including panel name and firmware operating version.
- Row B – Displays a 20 character custom message that can be changed to suit your project requirements.
- Row C – Displays the current system time and date.
- Row D – Displays the number of Alarm (AL), Supervisory (SU), and Trouble (TR) events present on the system.

3.3.3 ALARM / WATERFLOW STATE

When and initiating device (detector, manual pull and input configured for detection or waterflow) activates, the control panel does the following:

1. ALARM LED flashes.
2. Panel sounder emits slow pulse pattern.
3. LED on active device will turn on (RED) to indicate its activated status. It will light its remote LED as programmed, if connected.
4. System Alarm relay (P2) activates.
5. Associated system outputs (notification and control) activate if programmed for specific Zone and State of activated device.
6. Sends Alarm message to remote displays, history buffer, printers, and PC monitoring stations, DACT
7. Displays Alarm event on the LCD display as follows:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**A**	**L**	**A**	**R**	**M**	**:**		**D**	**E**	**V**	**I**	**C**	**E**		**T**	**Y**	**P**	**E**		
B	**C**	**U**	**S**	**T**	**O**	**M**		**M**	**E**	**S**	**S**	**A**	**G**	**E**		**L**	**-**	**A**	**D**	**R**
C	**H**	**H**	**:**	**M**	**M**	**:**	**S**	**S**	**A**		**M**	**M**	**/**	**D**	**D**	**/**	**Y**	**Y**	**Y**	**Y**
D		**E**	**V**	**E**	**N**	**T**		**X**	**X**	**X**	**X**		**O**	**F**		**Y**	**Y**	**Y**	**Y**	

Exhibit 3-4: Alarm Display

- Row A – Displays the device type associated with the Alarm event (i.e. photo, photo/heat, photo duct, ionization, pull station, monitor module, mini monitor module, dual monitor module, conventional zone module)
- Row B – Displays the 20 character custom message for the device
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to an Alarm / Waterflow Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The panel ALARM LED will change from flashing to steady. The control panel will send an acknowledge message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
2. Press the F1 button to toggle Rows A and B on display to show the Panel-Loop-Address of active device.
3. Press the F2 button to toggle Rows C and D on display to show the extra 40 characters of the devices custom message.
4. Investigate the cause of the Alarm and if a fire is present, follow the buildings emergency evacuation procedures. ***Proceed to next step only if it is determined that the event is a false Alarm.***
5. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The panel ALARM LED will change from flashing to steady. The control panel will send a silence message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
6. Correct the condition causing the false Alarm; then press the system RESET button to clear the event and return the panel to the Normal State. The control panel will send a SYSTEM NORMAL message to remote displays, history buffer, printers, PC monitoring stations, and DACT.

Note: By default, the panel will record the first 999 Alarm events 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 999 Alarm event limitation can be turned off in panels equipped with firmware V6.50 or higher.

Note: Waterflow events will initiate a 2 second alarm verification time delay in order to prevent activation of the module in the case of water pressure surges.

3.3.4 ALARM VERIFICATION

Refer to Section 3.4.1 for a complete description of the Alarm Verification feature.

When a detector or input module configured for alarm verification activates, the control panel initiates an alarm verification time delay (0-60 seconds for detectors and 2 seconds for waterflow input) and does the following:

1. LED on active device will turn on (RED) to indicate its activated status.
2. Sends Alarm Verification message to network panels, remote displays, history buffer, printers, and PC monitoring stations.
3. Associated system outputs (notification and control) will activate if programmed for specific Zone and State of activated device (defaulted off).
4. Displays Alarm Verification event on the LCD display as follows:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			**A**	**L**	**A**	**R**	**M**		**V**	**E**	**R**	**I**	**F**	**Y**		**O**	**N**			
B	**C**	**U**	**S**	**T**	**O**	**M**		**M**	**E**	**S**	**S**	**A**	**G**	**E**		**L**	**-**	**A**	**D**	**R**
C	**H**	**H**	**:**	**M**	**M**	**:**	**S**	**S**	**A**		**M**	**M**	**/**	**D**	**D**	**/**	**Y**	**Y**	**Y**	**Y**
D		**E**	**V**	**E**	**N**	**T**		**X**	**X**	**X**	**X**		**O**	**F**		**Y**	**Y**	**Y**	**Y**	

Exhibit 3-5: Alarm Verification Display

- Row A – Displays activation of Alarm Verification time delay
- Row B – Displays the 20 character custom message for the device
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to an Alarm Verification Event:

1. Press the F1 button to toggle Rows A and B on display to show the Panel-Loop-Address of active device.
2. Press the F2 button to toggle Rows C and D on display to show the extra 40 characters of the devices custom message.
3. Investigate the cause of the Alarm and if a fire is present, follow the buildings emergency evacuation procedures. ***Proceed to next step only if it is determined that the event is a false Alarm.***
4. Correct the condition causing the Alarm Verification; then, press the system RESET button to clear the event and return the panel to the Normal State.
5. If Alarm Verification delay expires and device is still in alarm, the device will enter the Alarm State as described in 3.3.3.

Note: Alarm Verification events are non-latching and will clear when delay expires and device clears.

Note: Alarm Verification is limited to local panel operation only and will not operate across the panel network.

3.3.5 SUMMING ALARM STATE (NON-LISTED)

Refer to Section 3.4.7 for a complete description of the Summing Alarm state.

Summing is a method for up to eight “like type” smoke detectors (e.g., photoelectric, ionization & photo duct) to be grouped together to generate a fast alarm response to dispersed smoke. When a detector is active with a summing alarm, the control panel does the following:

1. ALARM LED flashes.
2. Panel sounder emits slow pulse pattern.
3. LED on active device will turn on (RED) to indicate its activated status. It will light its remote LED as programmed, if connected.
4. System Alarm relay (P2) activates.
5. Associated system outputs (notification and control) will activate if programmed for specific Zone and State of activated device.
6. Sends Summing Alarm message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
7. Displays Summing Alarm event on the LCD display as follows:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	S	U	M	A	L	:		D	E	V	I	C	E		T	Y	P	E		
B	C	U	S	T	O	M		M	E	S	S	A	G	E		L	-	A	D	R
C	H	H	:	M	M	:	S	S	A		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 3-6: Summing Alarm Display

- Row A – Displays the device type associated with the Summing Alarm event
- Row B – Displays the 20 character custom message for the device
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to a Summing Alarm Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The panel ALARM LED will change from flashing to steady. The control panel will send an acknowledge message to remote displays, history buffer, printers, and PC monitoring stations.
2. Press the F1 button to toggle Rows A and B on display to show the Panel-Loop-Address of active device.
3. Press the F2 button to toggle Rows C and D on display to show the extra 40 characters of the devices custom message.
4. Investigate the cause of the Alarm and if a fire is present, follow the buildings emergency evacuation procedures. ***Proceed to next step only if it is determined that the event is a false Alarm.***
5. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The panel ALARM LED will change from flashing to steady. The control panel will send a silence message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
6. Correct the condition causing the false Alarm; then press the system RESET button to clear the event and return the panel to the Normal State. The control panel will send a SYSTEM NORMAL message to remote displays, history buffer, printers, PC monitoring stations, and DACT.

3.3.6 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 Walk-Test activation. Upon entering the Trouble State the control panel does the following:

1. TROUBLE LED flashes.
2. Panel sounder emits steady tone.
3. LED on device in Trouble will blink (Yellow) to indicate its trouble status. It will light its remote LED as programmed, if connected.
4. System Trouble relay (P2) activates. This relay is normally energized and will de-energize.
5. Associated system outputs (notification and control) will activate if programmed for specific Zone and State of activated device.
6. Sends Trouble message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
7. Displays Trouble event on the LCD display for 100 seconds as follows; then switches to the System Status Display if all events are restored and no buttons are pressed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			G	E	N	E	R	A	L		T	R	O	U	B	L	E			
B	C	U	S	T	O	M		M	E	S	S	A	G	E		L	-	A	D	R
C	H	H	:	M	M	:	S	S	A		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 3-7: Trouble Display

- Row A – Displays the device type associated with the Trouble event
- Row B – Displays the 20 character custom message for the device
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to a Trouble Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The panel TROUBLE LED will change from flashing to steady. The control panel will send an acknowledge message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
2. Press the F1 button to toggle Rows A and B on display to show the Panel-Loop-Address of active device.
3. Press the F2 button to toggle Rows C and D on display to show the extra 40 characters of the devices custom message.
4. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The panel TROUBLE LED will change from flashing to steady. The control panel will send a silence message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
5. Investigate the cause of the Trouble event. Refer to Fike document 06-639, “Event/History Messages” for a complete listing of system event messages and suggested corrective actions.
6. Correct the condition causing the Trouble event; the panel will return to normal if no other events are present (non-latching events).
7. For latching troubles, press the system RESET button to clear the event and return the panel to the Normal State.

Note: The Trouble state is generally non-latching, excluding ‘LOOP CLASS A OPEN’, ‘LOOP SHORT’, and ‘DRIFT TROUBLE’ troubles which are latching. The latching troubles noted require reset of the panel to clear the fault once it is corrected.

3.3.7 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 input contacts. Upon entering the Supervisory State the control panel does the following:

1. SUPERVISORY LED flashes.
2. Panel sounder emits fast pulse pattern..
3. LED on active device will turn on (Red) to indicate its active status. It will light its remote LED as programmed, if connected.
4. System Supervisory relay (P2) activates.
5. Associated system outputs (notification and control) will activate if programmed for specific Zone and State of activated device.
6. Sends Supervisory message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
7. Displays Supervisory event on the LCD display for 100 seconds as follows; then switches to the System Status Display if all events are restored and no buttons are pressed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		S	U	P	E	R	V	I	S	O	R	Y		I	N	P	U	T		
B	C	U	S	T	O	M		M	E	S	S	A	G	E		L	-	A	D	R
C	H	H	:	M	M	:	S	S	A		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 3-8: Supervisory Display

- Row A – Displays the device type associated with the Supervisory event
- Row B – Displays the 20 character custom message for the device
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to a Supervisory Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The panel SUPERVISORY LED will change from flashing to steady. The control panel will send an acknowledge message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
2. Press the F1 button to toggle Rows A and B on display to show the Panel-Loop-Address of active device.
3. Press the F2 button to toggle Rows C and D on display to show the extra 40 characters of the devices custom message.
4. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The panel SUPERVISORY LED will change from flashing to steady. The control panel will send a silence message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
5. Investigate the cause of the Supervisory event.
6. Correct the condition causing the Supervisory event; the panel will require reset to restore the system to Normal (non-latching events).
7. For latching events, press the system RESET button to clear the event and return the panel to Normal.

Note: Supervisory inputs may be configured for latching or non-latching. Latching troubles require reset of the panel to clear the fault.

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

3.3.8 PRE-DISCHARGE STATE

Refer to Section 3.1.8 for a complete description of the Pre-Discharge State.

System detectors and input devices can be configured to initiate a pre-discharge time delay (manual or automatic) in the zone it is assigned to upon activation. The time delay prevents the zone from entering the Release State until the preset time delay expires (configurable by zone). Upon entering the Pre-discharge State, the control panel does the following:

1. PREDISCHARGE LED flashes.
2. Panel sounder emits slow pulse pattern.
3. LED on active device will turn on (Red) to indicate its active status.
4. Associated system outputs (notification and control) will activate if programmed for specific Zone and State of activated device.
5. Sends Pre-discharge message to remote displays, history buffer, printers, and PC monitoring stations.
6. Displays Pre-discharge event on the LCD display:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	Z	O	N	E		0	0	1		R	E	L	E	A	S	E		I	N	
B					0	3	0		S	E	C	O	N	D	S					
C	Z	O	N	E		C	U	S	T	O	M		M	E	S	S	A	G	E	
D	A	L	:	0	0	0		S	U	:	0	0	0		T	R	:	0	0	0

Exhibit 3-9: Pre-Discharge Display

- Row A – Displays the zone number (1-254) associated with the Pre-Discharge event
- Row B – Displays the pre-discharge countdown timer (0-255 sec. auto / 0-30 sec. manual)
- Row C – Displays the custom message assigned to the zone in pre-discharge
- Row D – Displays the number of Alarm (AL), Supervisory (SU), and Trouble (TR) events present on the system.

How to respond to a Pre-Discharge Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The panel LEDs will change from flashing to steady. The control panel will send an acknowledge message to remote displays, history buffer, printers, and PC monitoring stations.
2. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The panel LEDs will change from flashing to steady. The control panel will send a silence message to remote displays, history buffer, printers, and PC monitoring stations.
3. Investigate the cause of the Pre-Discharge event:
   a. If a fire is present, follow the buildings emergency evacuation procedures. Once the countdown timer on the LCD reaches 000, the suppression agent serving the associated zone will be released.
   b. If it is determined that the event is a false Alarm, locate the nearest Abort switch in the affected zone and press and hold prior to expiration of the pre-discharge time delay. This will prevent the suppression system from being released. Continue to hold until the panel is returned to Normal State.
4. Correct the condition causing the false Alarm; then press the system RESET button to clear the event and return the panel to the Normal State. The control panel will send a SYSTEM NORMAL message to remote displays, history buffer, printers, PC monitoring stations, and DACT.

Note: Pre-Discharge events are latching and will require a panel reset to clear the event and return the panel to Normal State.

Note: There is NO Pre-Discharge communication over a panel network.

3.3.9 ABORT STATE

Refer to Section 3.1.9 for a complete description of the Abort State.

The Abort State may be activated by any input configured for Abort. Abort operation prevents the system from progressing to the Release State if accidentally activated. Its exact functionality is determined by the system abort type set in the panel configuration. Upon activation of an Abort input, the control panel does the following:

1. ABORT LED illuminates.
2. TROUBLE LED flashes if the abort event occurs without an Alarm event present on the panel (invalid abort).
3. Panel sounder emits steady tone.
4. LED on active device will turn on (Red) to indicate its active status.
5. Associated system outputs (notification and control) will activate if programmed for specific Zone and State of activated device.
6. Sends Abort message to remote displays, history buffer, printers, and PC monitoring stations.
7. Pre-Discharge delay timer continues to countdown (if active) until it reaches 000 seconds, but system is prevented from progressing to the Release State as long as the abort input is active.
8. Displays Abort event on the LCD display:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A					A	B	O	R	T		I	N	P	U	T					
B	C	U	S	T	O	M		M	E	S	S	A	G	E		L	-	A	D	R
C	H	H	:	M	M	:	S	S	A		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 3-10: Abort Display

- Row A – Displays the Abort active event
- Row B – Displays the 20 character custom message for the active device
- Row C – Displays the Time and Date of the event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to an Abort Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The panel LEDs will change from flashing to steady. The control panel will send an acknowledge message to remote displays, history buffer, printers, and PC monitoring stations.
2. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The panel LEDs will change from flashing to steady. The control panel will send a silence message to remote displays, history buffer, printers, and PC monitoring stations.
3. Investigate the cause of the Abort event:
   a. Invalid Abort (***no alarm present***) – Release the Abort and the panel will return to NORMAL operation.
   b. Valid Abort (***alarm present***) – If a fire is present, release the abort switch to allow the suppression agent to be released. If the event is a false alarm, continue to hold the abort switch to prevent the suppression system from being released. Correct the condition causing the false alarm; then press the system RESET button to clear the event and return the panel to the NORMAL State. The control panel will send a SYSTEM NORMAL message to remote displays, history buffer, printers, PC monitoring stations, and DACT. Once the panel is returned to NORMAL operation (no alarms present), release the abort switch.

Note: Abort events are non-latching. Once an Abort is restored to normal, the panel may return to Normal, go back to the Pre-Discharge State or immediately go into the Release State depending on whether the countdown time has expired and the system abort type selected.

Note: Manual Release inputs will override an abort input and cause the immediate advancement to the Release State or manual countdown.

3.3.10 RELEASE STATE

The Release State will be activated upon expiration of the Pre-Discharge State delay timer, activation of any input configured for manual release with no countdown, or activation of a sensor configured for “single sensor release”. In the Release State the control panel does the following:

1. RELEASE LED will flash.
2. ALARM and PREDISCHARGE LEDs will flash if not already active (manual release)
3. Panel sounder emits slow pulse pattern.
4. LED on active device will turn on (Red) to indicate its active status.
5. Associated system outputs (notification, control, and releasing) will activate if programmed for specific Zone and State of activated device.
6. Sends Release message to remote displays, history buffer, printers, and PC monitoring stations.
7. Displays the Pre-Discharge countdown timer on the LCD display unless the Release State is initiated by a manual release without countdown; then the custom message for the input device is displayed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	Z	O	N	E		0	0	1		R	E	L	E	A	S	E		I	N	
B					0	0	0		S	E	C	O	N	D	S					
C	Z	O	N	E		C	U	S	T	O	M		M	E	S	S	A	G	E	
D	A	L	:	0	0	0		S	U	:	0	0	0		T	R	:	0	0	0

Exhibit 3-11: Release Display

- Row A – Displays the zone number (1-254) associated with the Pre-Discharge event
- Row B – Displays the completed pre-discharge countdown timer
- Row C – Displays the custom message assigned to the zone in pre-discharge
- Row D – Displays the number of Alarm (AL), Supervisory (SU), and Trouble (TR) events present on the system.

How to respond to a Release Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The panel LEDs will change from flashing to steady. The control panel will send an acknowledge message to remote displays, history buffer, printers, and PC monitoring stations.
2. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The panel LEDs will change from flashing to steady. The control panel will send a silence message to remote displays, history buffer, printers, and PC monitoring stations.
3. Contact an authorized Fike distributor to investigate the cause of the release event and to recharge and restore your system to normal operation.
4. Depending upon the type of suppression system connected to your panel, pressing the system RESET button after an agent discharge may or may not return the panel to the Normal State. Certain releasing mechanisms must be manually reset to return them to normal operation. Until they are reset, the panel will be in a constant trouble state.

Note: Release events are latching.

3.3.11 PRE-ALARM STATE

Refer to Section 3.4.2 for a complete description of the Pre-Alarm state.

System detectors can be configured to initiate two levels of Pre-Alarms (Pre-Alarm 1 and Pre-Alarm 2). As the smoke obscuration or temperature level in a detector exceeds the programmed Pre-Alarm levels, the control panel does the following:

1. TROUBLE LED flashes (panel trouble relay does not activate).
2. Panel sounder emits steady tone.
3. LED on active device will slow blink (Red) to indicate a Pre-Alarm 1 status. It will change to a fast blink for Pre-Alarm 2.
4. Associated system outputs (notification and control) will activate if programmed for specific Zone and State of activated device.
5. Sends Pre-Alarm message to remote displays, history buffer, printers, and PC monitoring stations.
6. Displays Pre-Alarm event on the LCD display for 100 seconds as follows; then switches to the System Status Display if all events are restored and no buttons are pressed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A					P	R	E	-	A	L	A	R	M		#	1				
B	C	U	S	T	O	M		M	E	S	S	A	G	E		L	-	A	D	R
C	H	H	:	M	M	:	S	S	A		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 3-12: Pre-Alarm Display

- Row A – Displays the device type associated with the Pre-Alarm event
- Row B – Displays the 20 character custom message for the device
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to a Pre-Alarm Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The panel PRE-ALARM LED will change from flashing to steady. The control panel will send an acknowledge message to remote displays, history buffer, printers, and PC monitoring stations.
2. Press the F1 button to toggle Rows A and B on display to show the Panel-Loop-Address of active device.
3. Press the F2 button to toggle Rows C and D on display to show the extra 40 characters of the devices custom message.
4. Investigate the cause of the Pre-Alarm and if a fire is present, follow the buildings emergency evacuation procedures. ***Proceed to next step only if it is determined that the event is a false Alarm.***
5. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The panel PRE-ALARM LED will change from flashing to steady. The control panel will send a silence message to remote displays, history buffer, printers, and PC monitoring stations.
6. Correct the condition causing the Pre-Alarm event.

Note: 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.

Note: There is NO Pre-Alarm communication with the DACT.

3.3.12 PROCESS STATE

The Process State may be activated by any input (switch card or monitor module) configured for Process. These inputs are typically connected to non-alarm system contacts used for process management functions. When a Process event occurs the control panel does the following:

1. LED on active device will turn on (Red) to indicate its active status.
2. Associated system outputs (notification and control) will activate if programmed for specific Zone and State of activated device.
3. Sends Process message to remote displays, history buffer, printers, and PC monitoring stations.
4. Displays Process event on the LCD display for 100 seconds as follows; then switches to the System Status Display if all events are restored and no buttons are pressed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				**P**	**R**	**O**	**C**	**E**	**S**	**S**		**I**	**N**	**P**	**U**	**T**				
B	**C**	**U**	**S**	**T**	**O**	**M**		**M**	**E**	**S**	**S**	**A**	**G**	**E**		**L**	**-**	**A**	**D**	**R**
C	**H**	**H**	**:**	**M**	**M**	**:**	**S**	**S**	**A**		**M**	**M**	**/**	**D**	**D**	**/**	**Y**	**Y**	**Y**	**Y**
D		**E**	**V**	**E**	**N**	**T**		**X**	**X**	**X**	**X**		**O**	**F**		**Y**	**Y**	**Y**	**Y**	

Exhibit 3-13: Process Display

- Row A – Displays the device type associated with the Process event
- Row B – Displays the 20 character custom message for the device
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to a Process Event:

1. Press the F1 button to toggle Rows A and B on display to show the Panel-Loop-Address of active device.
2. Press the F2 button to toggle Rows C and D on display to show the extra 40 characters of the devices custom message.
3. Check the Process message for the type of event and location.
4. Correct the condition causing the Process event.

Note: Process events are non-latching. Once the Process contact is restored, the panel will return to normal if no other events are present.

Note: Process inputs must be activated and deactivated from the same switch (panel or remote). Switch activation at different locations for the same Process function will not toggle (deactivate) other active switches programmed for the same Process function. All Process input switches serving the same zone must be deactivated before the process input will clear at the panel.

3.3.13 ZONE DISABLE STATE

The Zone Disable State may be activated by any input configured for Zone Disable. When a Zone is disabled, outputs in the disabled zone will not operate unless activated from a different zone that is not disabled. Disabling a zone from the C-Linx Software or by the main panel menu's will cause the control panel to operate in the following manner:

1. Panel enters Trouble and Supervisory states.
2. Supervisory LED flashes.
3. TROUBLE LED flashes.
4. DISABLED LED flashes.
5. System Trouble relay (P2) activates.
6. Panel sounder emits steady tone.
7. Sends Zone Disable message to remote displays, history buffer, printers, PC monitoring stations, and DACT.
8. Displays Zone Disable event on the LCD display for 100 seconds as follows; then switches to the System Status Display if all events are restored and no buttons are pressed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		**Z**	**O**	**N**	**E**		**D**	**I**	**S**	**A**	**B**	**L**	**E**	**D**	**:**			**0**	**0**	**1**
B	**C**	**U**	**S**	**T**	**O**	**M**		**M**	**E**	**S**	**S**		**Z**	**O**	**N**	**E**		**0**	**0**	**1**
C	**H**	**H**	**:**	**M**	**M**	**:**	**S**	**S**	**A**		**M**	**M**	**/**	**D**	**D**	**/**	**Y**	**Y**	**Y**	**Y**
D		**E**	**V**	**E**	**N**	**T**		**X**	**X**	**X**	**X**		**O**	**F**		**Y**	**Y**	**Y**	**Y**	

Exhibit 3-14: Zone Disable Display

- Row A – Displays the Zone disabled state with Zone #
- Row B – Displays the 20 character custom message for the Zone
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to a Zone Disable Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The panel DISABLED LED will change from flashing to steady. The control panel will send an acknowledge message to remote displays, history buffer, printers, and PC monitoring stations.
2. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The panel DISABLED LED will change from flashing to steady. The control panel will send a silence message to remote displays, history buffer, printers, and PC monitoring stations.
3. Check the Zone Disable message for the type of event and location.
4. Correct the condition causing the Zone Disable event.

Note: Zone Disable events are 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.

Note: A zone disable input assigned to multiple zones will activate both the 'Trouble' and 'Supervisory' states in all zones assigned to the module.

Note: Zone 254 is an "All Zone" disable input.

Note: Activation and deactivation of a Zone Disable input must be accomplished from the same switch (panel or remote). Switch activation at different locations for the same Zone Disable function will not toggle (deactivate) other active switches programmed for the same zone Disable function. All Zone Disable input switches serving the same zone must be deactivated before the disable input clears at the panel.

3.3.14 DRILL STATE

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. When a Drill event occurs, the control panel does the following:

1. Panel sounder emits fast pulse pattern.
2. LED on active (Drill) device will turn on (Red) to indicate its active status.
3. Associated system outputs (notification and control) will activate if programmed for specific zone and state of activated device.
4. Sends Drill message to remote displays, history buffer, printers, and PC monitoring stations.
5. Displays Drill event on the LCD display for 100 seconds as follows; then switches to the System Status Display if all events are restored and no buttons are pressed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**I**	**N**	**P**	**U**	**T**		**A**	**C**	**T**	**I**	**V**	**E**	**:**		**D**	**R**	**I**	**L**	**L**	
B	**C**	**U**	**S**	**T**	**O**	**M**		**M**	**E**	**S**	**S**	**A**	**G**	**E**		**L**	**-**	**A**	**D**	**R**
C	**H**	**H**	**:**	**M**	**M**	**:**	**S**	**S**	**A**		**M**	**M**	**/**	**D**	**D**	**/**	**Y**	**Y**	**Y**	**Y**
D		**E**	**V**	**E**	**N**	**T**		**X**	**X**	**X**	**X**		**O**	**F**		**Y**	**Y**	**Y**	**Y**	

Exhibit 3-15: Drill Display

- Row A – Displays the Drill active event
- Row B – Displays the 20 character custom message for the active device
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

The following devices and panel circuits can be configured to participate in system drills:

Addressable Supervised Control Module: drill enabled by default
Addressable Relay Module: drill disabled by default
Main board NAC 1 & 2: drill disabled by default
Main board relays: drill disabled by default
CRM4 relays: drill disabled by default

How to respond to a Drill Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The control panel will send an acknowledge message to remote displays, history buffer, printers, and PC monitoring stations.
2. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The control panel will send a silence message to remote displays, history buffer, printers, and PC monitoring stations.
3. Drill events are latching. The control panel must be reset to return the system to Normal status.

Note: The control panel's NAC and relay circuits can be configured to participate in a system Drill. In addition, the intelligent addressable control and relay modules can be configured to participate in system Drills as well.

3.3.15 WALK-TEST OPERATION

Walk-Test provides a means to manually verify the proper operation of the system without unneeded disturbance to building occupants. Walk-test operation can be initiated by the Cheetah Xi controller or directly at each input device using Fike's IR tool (P/N 55-051). When executed from the Cheetah Xi panel, walk-test functions as a toggle mode, it is either ON or OFF. All SLC loop devices are taken off-line and will NOT initiate normal system events. While walk-test is active, the control panel operates as follows:

1. Panel sounder emits steady tone (can be programmed to not participate in walk-test).
2. TROUBLE LED flashes.
3. LED on active (walk-test) device blinks Green then Red when tested to indicate it is in the TEST ALARM status. LEDs will flash green every 5 seconds when alarm level clears.
4. System outputs (notification and control) will activate continuous (4 second duration) if programmed for specific Zone and State (walk-test) of activated device.
5. Sends walk-test message to remote displays, history buffer, printers, and PC monitoring stations.
6. Displays walk-test event on the LCD display for 100 seconds as follows; then switches to the System Status Display if all events are restored and no buttons are pressed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				W	A	L	K	T	E	S	T		A	L	A	R	M			
B	C	U	S	T	O	M		M	E	S	S	A	G	E		L	-	A	D	R
C	H	H	:	M	M	:	S	S	A		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 3-16: Walk-Test Display

- Row A – Displays the Walk-Test active event
- Row B – Displays the 20 character custom message for the active device
- Row C – Displays the Time and Date of Event
- Row D – Displays the event number (XXXX) and the total number of current events (YYYY)

How to respond to a Walk-Test Event:

1. Press the ACKNOWLEDGE button to silence the panel sounder only. The control panel will send an acknowledge message to remote displays, history buffer, printers, and PC monitoring stations.
2. Press the SILENCE button to silence the panel sounder and any activated outputs that are programmed as silenceable. The control panel will send a silence message to remote displays, history buffer, printers, and PC monitoring stations.
3. Walk-Test events are non-latching. The panel will exit the walk-test mode after 60 minutes of inactivity and will reset itself back to normal operation. The timer restarts upon any event or press of a button.

Note: The default Walk-Test timeout is 1 hour but can be set for a maximum of 4 hours. This timer restarts upon any event or press of button. If no events or buttons are pressed for the set timeout period, the system will automatically reset itself back to normal operation.

Refer to Section 6.4.1.4 for further details.

3.3.16 FAN RESTART OPERATION

Fan Restart operation provides a means to sequence the restart of AHU fan motors after they have been shut down in response to a fire alarm event. Fan restart operation can be accomplished using the panel mounted CRM4 relay cards (P/N 10-2204) and/or addressable relay modules connected to the panel's SLC loop programmed for 'AHU Shutdown Relay' operation.

Fan restart operation varies depending upon which component is used to perform the AHU shutdown (i.e., CRM4 or addressable relay). The following subsections describe how each component operates during the fan restart sequence.

Critical Note: Fan restart shall NOT be used for smoke control operation.

Critical Note: Fan restart over a panel network can only be accomplished using a monitor module programmed for "Fan Restart". Initiation of the fan restart sequence from the panel or peripheral device will not transmit over the network.

3.3.16.1 CRM4 FAN RESTART OPERATION

Each CRM4 relay can be designated for fan restart operation by configuring it with a restart delay (40 – 250 seconds). Once the relay has been designated for fan restart operation, it automatically defaults to a normally energized relay and will activate for any ALARM event in any of its zones. CRM4 fan restart can be configured for manual or automatic operation using the control panel's 'FAN RESTART MODE' function that can be found in Configuration Menu 4 > F5-Relays > F4-Fan Restart Mode.

Automatic Restart

Upon activation of an ALARM event, the CRM4 relays will activate and remain active even after the control panel is reset. After reset, the fan restart sequence begins automatically and relays will deactivate according to their programmed time delay allowing the startup of the AHU fan motors to be staggered. As each relay is deactivated, the corresponding designation on Rows B and C of this display will go blank. Once all fan restart relays have deactivated, the panel will return to the 'System Normal' screen.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**A**	**U**	**T**	**O**	**M**	**A**	**T**	**I**	**C**		**F**	**A**	**N**		**S**	**T**	**A**	**R**	**T**	
B		**1**	**2**	**A**			**1**	**2**	**B**			**1**	**2**	**C**			**1**	**2**	**D**	
C		**1**	**3**	**A**			**1**	**3**	**B**			**1**	**3**	**C**			**1**	**3**	**D**	
D	**A**	**L**	**:**	**0**	**0**	**0**		**S**	**U**	**:**	**0**	**0**	**0**		**T**	**R**	**:**	**0**	**0**	**0**

Exhibit 3-17: Automatic Fan Restart Display

- Row A – Displays "AUTOMATIC FAN START", indicating the fan restart sequence is running.
- Row B – Displays the CRM4 fan restart relays that have yet to deactivate (P12).
- Row C – Displays the CRM4 fan restart relays that have yet to deactivate (P13).
- Row D – Displays the number of alarm (AL), supervisory (SU), and trouble (TR) events present on the system.

Note: If all relays are deactivated prior to panel reset (because no alarm was present), then this display is not shown.

Manual Restart

Upon activation of an ALARM event, the CRM4 relays will activate and remain active even after the control panel is reset. After reset, the fan restart sequence must be initiated manually using any of the following sources: 1) press the control panel's "ENTER" key, 2) peripheral device (i.e., remote display or input/output card) switch configured for Fan Restart, 3) control panel's "AHU ON" function that can be found in MAINTENANCE MENU 2. Once initiated, the panel will start the automatic fan restart sequence and the AHU Shutdown relays will deactivate according to their programmed time delay allowing the startup of the AHU fan motors to be staggered. Once all relays are deactivated, the panel will return to the 'System Normal' screen.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	F	O	R		F	A	N		S	T	A	R	T	-	>	E	N	T	E	R
B		1	2	A			1	2	B			1	2	C			1	2	D	
C		1	3	A			1	3	B			1	3	C			1	3	D	
D	A	L	:	0	0	0		S	U	:	0	0	0		T	R	:	0	0	0

Exhibit 3-18: Manual Fan Restart Display

- Row A – Displays "FOR FAN RESTART->ENTER", indicating that the panel is waiting for the operator to press a fan restart switch. Once a restart switch is pressed, the Automatic Restart screen (Exhibit 3-14) will be displayed and the restart delay timers will activate.

Note: CRM4 relay(s) will remain in the activated state through a system reset and will only energize after the programmed time delay has expired.

3.3.16.2 ADDRESSABLE RELAY FAN RESTART OPERATION

Each addressable relay module connected to the panel's SLC loop can be designated for fan restart operation by configuring it for 'AHU Shutdown Relay' operation. Once the relay has been designated for AHU Shutdown operation, it automatically defaults to a normally energized relay and will activate for any ALARM event in any of its zones. Like the CRM4 relays, each addressable relay can be configured with a restart delay (0 – 255 seconds).

Upon activation of an ALARM event, each AHU Shutdown relay will activate and remain active even after the control panel is reset. After reset, the fan restart sequence must be initiated manually using any of the following sources: 1) control panel's "AHU ON" function that can be found in MAINTENANCE MENU 2, 2) addressable input module configured for "Fan Restart", 3) peripheral device (i.e., remote display or input/output card) switch configured for Fan Restart. Once initiated, the panel will start the automatic fan restart sequence and the AHU Shutdown relays will deactivate according to their programmed time delay allowing the startup of the AHU fan motors to be staggered.

Note: Addressable input module or peripheral device (i.e., remote display or input/output card) switches configured for "Fan Restart" will initiate the fan restart sequence for both panel CRM4 and addressable relay restart operation.

3.3.16.2.1 AHU FIRE KEY

Activation of the addressable relays for Fan Restart can be further restricted by requiring the activation of an input module configured for 'AHU FIRE KEY' operation before a Fan Restart switch can be acted on by the panel. This is a system variable that is either enabled or disabled via the panel's CONFIGURATION MENU 7 > F1-AHUKEY. When enabled, an "AHU FIRE KEY" must be active prior to activation of a Fan Restart switch in order for the control panel to act upon it. Activation of a Fan Restart switch prior to activation of the 'AHU FIRE KEY' will not start the fan restart sequence. The panel will only indicate the activation of the Fan Restart switch on its display and the event will be recorded in the panel's history buffer.

Note: If fire key operation is used, the switch (key or button operation) must be installed with limited access and must be UL 864 listed for Fire Protective Signaling System Use.

3.4 INTELLIGENT DETECTOR FEATURES

The Cheetah Xi's intelligent detectors offer a wide range of configurable features that can be used to provide optimum system performance. A brief description of each feature is provided in this Section for reference purposes. The following table shows the available features for each detector:

Detector	Alarm Verification	Pre-Alarm 1	Pre-Alarm 2	Acclimate	Day/Night Sensitivity	Drift Compensation	Walk-test	Device Summing	Flame Enhance	Smolder
Photoelectric	X	X	X	X	X	X	X	X		
Photo/Heat	X	X	X	X	X	X	X		X	
Photo Duct	X	X	X	X	X	X	X	X		
Ionization	X	X	X	X	X	X	X	X		X
Heat (FT/RR)	X	X	X				X			
FAAST	X	X	X	X	X		X			

Exhibit 3-19: Detector Programming Features

3.4.1 ALARM VERIFICATION

Alarm verification is used to delay the detectors automatic response to an alarm while the system/device verifies the alarm situation. If a detector programmed for alarm verification exceeds its alarm threshold, it broadcasts the Alarm Verification state and starts a timer (0-60 seconds). Output devices programmed for Alarm Verification in that same zone will turn ON until silenced (if programmed as Silenceable) in reaction to the Alarm Verification event. If the detector is still above the alarm threshold at the end of the verification period, the Alarm condition will be broadcast. Alarm Verification state will then be OFF. The control panel LED's and piezo do not operate during the Alarm Verification state. An Alarm Verification event is recorded in the event history buffer. Alarm verification is limited to the local panel only and does not transmit across the network; therefore, there is no history event recorded in the networked panels for this event nor do the relay modules or control modules connected to the network panels activate from this event.

3.4.2 PRE-ALARM

Pre-Alarms are used for performing an early warning of a fire alarm. There are two levels of Pre-Alarms that may be configured, **Pre-Alarm #1** and **Pre-Alarm #2** for each detector. Pre-Alarms may be independently enabled/disabled in the configuration of each detector. If Pre-Alarms are enabled in a detector and the Pre-Alarm level is exceeded, the panel will log the Pre-Alarm 1 or 2 state and any output circuit/module programmed for the respective Pre-Alarm State and Zone will turn ON until silenced (if programmed as Silenceable). The respective Pre-Alarm and Trouble LED's flash on the control panel until acknowledged or silenced, but the trouble outputs/states are not activated. There is also no Pre-Alarm communication with the DACT.

Example:

As smoke increases in a hazard, the obscuration of the photo-electric detector 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.

3.4.3 ACCLIMATE

The Acclimate feature allows the detector to observe its operating environment over a one-hour period. The detector then adjusts its alarm level between the user programmable alarm levels. This feature is enabled by default on all photo and ion detectors. It is internal to these devices and allows them to become accustomed to their operating environment.

3.4.4 DRIFT COMPENSATION

All Cheetah Xi intelligent detectors automatically perform a drift compensation routine. Drift compensation is a feature that allows the detector to become accustomed to its operating environment. This helps to ensure that as dust and dirt build-up in the detector chamber, it does not cause a false alarm on the detector by gradually adjusting for this increase. Drift compensation is performed on a long-term basis, where the Acclimate feature is performed on a short term basis.

3.4.5 DAY/NIGHT/HOLIDAY SETTINGS

If smoke detectors 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 detector has two alarm sensitivity thresholds. Night Alarm Level is always used on all detectors. 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 updated each calendar year. On non-holiday dates, a start time (hour AM/PM and minute) and stop time are configured for alarm sensitivity changes. Detectors 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.

3.4.6 FLAME ENHANCE (NON LISTED)

The Photo/Heat detector provides a 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 up its alarm response calculations. Also, if the temperature rise is greater than 3° C (37.4°F) AND there is greater than 1%/ft obscuration detected, it will also speed up the alarm response calculations for the photo detector.

3.4.7 SUMMING (NON-LISTED)

The Cheetah Xi photo, photo/duct and ion detectors are capable of providing an accumulating percentage for groups of up to eight 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 detector to initiate an alarm condition. This operation can be very beneficial to detect a fire early. As a fire builds, the smoke will rise and typically accumulate in several detectors. It typically takes longer for an individual detector to reach the alarm level. If several detectors are rising in obscuration detected, the alarm can be detected faster and notification can be accomplished in a prompt manner.

SUMMING EXAMPLE:

Photo Detector 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. It is programmed for a Summing threshold of 4%/ft. Each Summee (addresses noted previous) is configured for the obscuration to be transmitted to the Summer at 0.5%/ft, 0.6%/ft, 0.7%/ft (up to 8 levels). When the Summer obtains a SUM of the obscurations that are >= 4%/ft it reports the event to the system.

Note: As the obscuration level of the summee rises and falls, it will broadcast an “Analog Value” event message in relation to the summing functionality. The Summer will look at the most current values sent from the Summee to calculate the SUM for the SUMMING ALARM.

To set up this operation, a single detector 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) detectors 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. The Summer can be configured to report as any one of the following system event types when activated: Alarm, Summing Alarm, Supervisory Latching, Supervisory Non-Latching, Pre-Alarm1, and Pre-Alarm 2.

3.4.8 SMOLDER (NON LISTED)

The Ionization detector provides a smolder enhancement feature that allows the sensitivity of the detector to be increased where there is a slow buildup of smoke. If the device senses an increase in obscuration of approximately 30% of alarm, it will speed up its alarm response calculations.

3.4.9 WALK-TEST

Walk-testing allows for the system detectors (i.e., photo, photo/heat, photo/duct and ion) to be tested for proper operation without unneeded disturbance to building occupants. By default, all detectors are configured to participate in a system walk-test using smoke. Detector configuration can be changed using the panel’s programming software C-Linx to allow walk-testing using Fike’s IR tool. The IR tool or remote test station must be used for duct detector walk-testing. Detectors may only be activated once during the walk-test mode. Refer to Section 6.4.4 for further details.

4.1 OVERVIEW

The Cheetah Xi panel maintains a 3,200 event history buffer of all alarm, trouble, supervisory, and other system events, each with a time/date stamp. With no alarm events present on the system, events are added to the history buffer as they occur in the first available memory slot until all 3,200 history slots are filled. Once all 3,200 slots are filled, new events are added to the history buffer by overwriting the last 100 history events over and over (roll-over buffer). All history events will be transmitted onto the network and peripheral bus without limit. Resetting the control panel will restart the event history buffer allowing new events to be recorded over existing events until the 3,200 event limit is reached.

Note: It is strongly recommended that the control panel be reset to restart the event history buffer after performing system testing, service or maintenance to ensure that the entire 3,200 event history buffer is available for storing system events.

Upon initiation of an alarm event, the panel changes the way it records system events into the history buffer. It will record the initial alarm event and then the next 999 events for a total of 1,000 events. Once the 1,000 event limit is reached, new events will be added to the history buffer by overwriting the last 100 history events over and over (roll-over buffer). All history events will be transmitted onto the network and peripheral bus without limit. This operation ensures that the events that occur after the first alarm event are preserved in the history buffer for fire investigation purposes and are not overwritten as additional events occur at the local and network panels. The 1,000 alarm event limit can be disabled using the panel's "History Transmit" feature found in the panel's CONFIG MENU 5 > F5 NETWORK > F4 HIST TR. Disabling the alarm history limit feature requires a "System Administrator" level password. Turning off the alarm history limit allows the panel's entire 3,200 event history buffer to be used to record events after the first alarm event. Resetting the control panel will restart the event history buffer allowing new events to be recorded over existing events until the event limit (1,000 or 3,200) is reached.

The panel's event history buffer is battery backed by a lithium coin cell battery located on the main circuit board behind the keypad\display. If primary (AC) and secondary (DC) power is removed from the system, the battery will prevent the history buffer from being lost.

Refer to Fike document 06-639, "Event/History Messages" for a complete listing of system event messages and suggested corrective actions.

4.2 VIEWING HISTORY

As current system events occur, the display will toggle to show the current system event. Current events are those that have taken place since the last reset of the panel. With the panel door closed, you must use the STEP buttons to cycle through current events on the display:

STEP ALARM – Press to step through the current Alarm events on the display

STEP SUPER – Press to step through the current Supervisory events on the display.

STEP TROUBLE – Press to step through the current Trouble events on the display.

STEP ALL – Press to step through ALL current events on the display.

Note: To access the Alarm, Supervisory and Trouble history buffers, a like type event must be active. For example: Before you can view the Alarm history buffer, an active alarm must be present on the system.

With the panel door open, the **+/-** buttons on the display can also be used to increment or decrement through the current system events.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		A	D	D	R		L	O	O	P		O	N		L	I	N	E		
B								L	O	O	P		1							
C	H	H	:	M	M	:	S	S	P		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 4-1: Current Events Screen

To view the entire 3,200 event history buffer, including those prior to the reset, press the F5 button while viewing a current event to toggle between CURRENT and OLD history. Notice that Row D changes to indicate that you are viewing the Old Events history buffer (3200 events).

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		A	D	D	R		L	O	O	P		O	N		L	I	N	E		
B								L	O	O	P		1							
C	H	H	:	M	M	:	S	S	P		M	M	/	D	D	/	Y	Y	Y	Y
D	R	E	C	O	R	D		0	6	6	9		O	F		3	2	0	0	

Exhibit 4-2: Old Events Screen

History can also be viewed by accessing the History Menu. Press the ESCAPE button until the Top Level menu is displayed as shown below:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				T	O	P		L	E	V	E	L		M	E	N	U			
B	F	1	-	C	O	N	F	I	G		F	4	-	P	A	S	S	W	R	D
C	F	2	-	H	I	S	T	R	Y		F	5	-	M	A	I	N	T		
D	F	3	-	D	I	A	G				F	6	-	I	R		C	O	M	M

Exhibit 4-3: Top Level Menu

From the Top Level Menu, press the F2 button to display the History Menu:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A					H	I	S	T	O	R	Y		M	E	N	U				
B	F	1	-	A	L	A	R	M			F	4	-	E	V	E	N	T	S	
C	F	2	-	S	U	P	E	R	V		F	5	-	Z	O	N	E			
D	F	3	-	T	R	O	U	B	L		F	6	-	E	R	A	S	E		

Exhibit 4-4: History Menu

The Cheetah Xi has five history screens that are accessible without having to enter a password. Each screen allows you to view the history buffer by event type: Alarm, Supervisory, Trouble, All Events, and by Zone. This is the same function as pressing the STEP buttons on the Cheetah Xi display.

Press the corresponding function button to display the selected history screen:

F1 = Alarm History

F2 = Supervisory History

F3 = Trouble History

F4 = All System Events History

F5 = History Events by Zone

F6 = Erase System History Buffer

Note: Events are displayed **ONLY** if there are current event states present. For example: If no ALARM events are present on the system, pressing the F1 button will have no effect as there are no alarm events to display.

4.2.1 ALARM HISTORY

The ALARM History screen allows you to view the current alarm events (1,600 total) present on the system since the last reset of the panel. From the History Menu, press the F1 button to display the Alarm History screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	A	L	A	R	M	:		D	E	V	I	C	E		T	Y	P	E		
B	C	U	S	T	O	M		M	E	S	S	A	G	E		X	-	X	X	X
C	H	H	:	M	M	:	S	S	P		M	M	/	D	D	/	Y	Y	Y	Y
D	A	L	M		E	V		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 4-5: Alarm History Screen

- Row A - Displays the type of device in Alarm.
- Row B - Displays the custom message of the device in Alarm. Press the F1 button to further locate event.
- Row C - Displays the time and date that the Alarm event was initiated.
- Row D - Displays the Alarm event number in the order received and the total number of current Alarm events present on the system.

Use the **+/–** buttons on the display to scroll through all Alarm events in the history buffer.

4.2.2 SUPEVISORY HISTORY

The SUPERVISORY History screen allows you to view the current supervisory events (800 total) present on the system since the last reset of the panel. From the History Menu, press the F2 button to display the Supervisory History screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		S	U	P	E	R	V	I	S	O	R	Y		I	N	P	U	T		
B	C	U	S	T	O	M		M	E	S	S	A	G	E		X	-	X	X	X
C	H	H	:	M	M	:	S	S	P		M	M	/	D	D	/	Y	Y	Y	Y
D		S	U	P	V	R		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 4-6: Supervisory History Screen

- Row A - Displays a description of the Supervisory event.
- Row B - Displays the custom message of the Supervisory event.
- Row C - Displays the time and date that the Supervisory event was initiated.
- Row D - Displays the Supervisory event number in the order received and the total number of current Supervisory events present on the system.

Use the **+/–** buttons on the display to scroll through all Supervisory events in the history buffer.

4.2.3 TROUBLE HISTORY

The TROUBLE History screen allows you to view the current trouble events present on the system since the last reset of the panel. From the History Menu, press the F3 button to display the Trouble History screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			G	E	N	E	R	A	L		T	R	O	U	B	L	E			
B	C	U	S	T	O	M		M	E	S	S	A	G	E		X	-	X	X	X
C	H	H	:	M	M	:	S	S	P		M	M	/	D	D	/	Y	Y	Y	Y
D	T	R	O	U	B	L		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 4-7: Trouble History Screen

- Row A - Displays a description of the Trouble event.
- Row B - Displays the custom message of the Trouble event. Press the F1 button to further locate event.
- Row C - Displays the time and date that the Trouble event was initiated.
- Row D - Displays the Trouble event number in the order received and the total number of current Trouble events present on the system.

Use the **+/–** buttons on the display to scroll through all Trouble events in the history buffer.

4.2.4 EVENTS HISTORY

The EVENTS History screen allows you to view all of the current system events present on the system since the last reset of the panel. From the History Menu, press the F4 button to display the Events History screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				P	O	W	E	R	-	U	P		R	E	S	E	T			
B	C	U	S	T	O	M		M	S	G		P	A	N	E	L		0	0	1
C	H	H	:	M	M	:	S	S	P		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 4-8: Events History Screen

- Row A - Displays a description of the event.
- Row B - Displays the custom message of the event.
- Row C - Displays the time and date that the event was initiated.
- Row D - Displays the event number in the order received and the total number of current events present on the system.

Use the **+/–** buttons on the display to scroll through all Trouble events in the history buffer.

From this screen, you can view the entire 3,200 event history buffer by pressing the F5 button:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				P	O	W	E	R	-	U	P		R	E	S	E	T			
B	C	U	S	T	O	M		M	S	G		P	A	N	E	L		0	0	1
C	H	H	:	M	M	:	S	S	P		M	M	/	D	D	/	Y	Y	Y	Y
D	R	E	C	O	R	D		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 4-9: 3,200 Event History Screen

4.2.5 ZONE HISTORY

The ZONE History screen allows you to view the current system events (i.e., Alarm, Trouble, Supervisory, Alert, Evacuate and Page) present on the system by zone, since the last reset of the panel. From the History Menu, press the F5 button to display the Zone History screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	T	R	O	U	B	L	E		A	C	T		Z	O	N	E		0	0	1
B	C	U	S	T	O	M		M	E	S	S	A	G	E		X	-	X	X	X
C	H	H	:	M	M	:	S	S	P		M	M	/	D	D	/	Y	Y	Y	Y
D	Z	O	N	E		E	V		X	X	X	X		O	F		Y	Y	Y	Y

Exhibit 4-10: Zone History Screen

- Row A - Displays the type of the event (i.e., Alarm, Trouble, Supervisory, Process, Alert, Evacuate, Page, etc.) and the associated zone number.
- Row B - Displays the custom message of the Zone.
- Row C - Displays the time and date that the event was initiated.
- Row D - Displays the Zone event number in the order received and the total number of Zone events present on the system.

Use the **+/–** buttons on the display to scroll through all Zone events in the history buffer.

4.2.6 ERASE HISTORY

The ERASE History screen allows you to erase the Cheetah Xi's 3,200 event history buffer. This feature requires prior entry of a successful Level 3 (Administrator) password. From the History Menu, press the F6 button to display the Erase History screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A																				
B					P	R	E	S	S		E	N	T	E	R					
C			T	O		E	R	A	S	E		H	I	S	T	O	R	Y		
D																				

Exhibit 4-11: Erase History Screen

Press the Enter button on the display to erase the current history as well as All History for the panel. The following screen will appear indicating the history erase status:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A																				
B					*	*	E	R	A	S	I	N	G	*	*					
C					*	*	H	I	S	T	O	R	Y	*	*					
D																				

Exhibit 4-12: Erase History Status

Once the history erase is complete, the panel will automatically reset. Events stored in the panel's history buffer will remain present in the history buffer but will be marked as an "ERASED EVENT". The panel will also record a "HISTORY ERASED" event in the history buffer.

4.2.7 VIEWING ADDITIONAL EVENT INFORMATION

You can display additional event information from any of the History screens by pressing either the F1 or F2 button while viewing an event. The availability of additional information is tied to the type of system event being viewed.

Press the F1 button to display the Panel, Loop, and Address information of the event on Row A of the display:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	P	N	L	0	0	1		L	O	O	P	1		A	D	D	R	0	0	1
B	C	U	S	T	O	M		M	E	S	S	A	G	E		1	-	0	0	1
C	H	H	:	M	M	:	S	S	P		M	M	/	D	D	/	Y	Y	Y	Y
D		E	V	E	N	T		X	X	X	X		O	F		Y	Y	Y	Y	

Exhibit 4-13: Additional Information Screen

Press the F2 button to display all three lines of the custom message associated with the event displayed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			G	E	N	E	R	A	L		T	R	O	U	B	L	E			
B	C	U	S	T	O	M		M	E	S	S	A	G	E		L	I	N	E	1
C	C	U	S	T	O	M		M	E	S	S	A	G	E		L	I	N	E	2
D	C	U	S	T	O	M		M	E	S	S	A	G	E		L	I	N	E	3

Exhibit 4-14: Custom Message Screen

Press the F1 button or the F2 button to toggle back to previous display.

5.1 OVERVIEW

Problems with the Cheetah Xi system can generally be classified into two categories: programming problems and hardware. Normally hardware problems are annunciated on the Cheetah Xi system display. Programming problems are typically identified when the system operates unsuitably in response to a system event than intended.

The Cheetah Xi's Diagnostics Menus are designed to assist the service technician in isolating and correcting hardware faults with the system. The service of the Cheetah Xi system shall be performed solely by factory certified and qualified technicians that possess a complete understanding of the system hardware and functions.

5.2 DIAGNOSING PROBLEMS

Hardware problems with the system can be isolated to the panel or field devices by removing all field wiring and installing the circuit end-of-line resistor directly on the control board or module. Once you have isolated the cause of the problem (main board or field device), you can use the diagnostic menu features to further identify the problem. The Cheetah Xi system controller utilizes surface mount technology (SMT) for easy installation and maintenance. SMT prohibits component-level field repairs.

5.3 REMOVING OR REPLACING PANEL COMPONENTS OR FIELD DEVICES

If it is determined that a panel component is defective and needs to be replaced:

1. Use the system programming software to download the current system configuration from the panel.
2. Disconnect the system batteries then remove AC power.

⚠Caution:
Removing or replacing system components when power is applied will damage the equipment.

3. Disconnect field wiring from component(s). The majority of the Cheetah Xi system components have removable terminals to facilitate connection of field wiring.
4. Remove and replace the defective system component(s) following the installation instructions supplied with the component(s).

⚠Caution:
The Cheetah Xi components and field devices contain static sensitive components. Handle the electronics by the edges only and avoid touching the integrated components. Keep all electronics in the protective anti-static bag 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.

5. Reapply power to the system by reconnecting AC power then connecting system batteries.
6. Resend configuration (if applicable) to replaced component(s).
7. Verify proper operation of replaced component(s) before connecting field wiring.
8. Reconnect all field wiring.
9. Functionally test the operation of the system to verify proper operation.

5.4 DIAGNOSTIC MENU 1

The Cheetah Xi has 5 diagnostic menus available as tools for troubleshooting the system. From the Top Level Menu screen, press the F3 button to display the Diagnostic Menu 1:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		D	I	A	G	N	O	S	T	I	C		M	E	N	U		1		
B	F	1	-	D	E	V	I	C	E		F	4	-	L	E	D		T	S	T
C	F	2	-	V	A	L	U		1		F	5	-	C	R	C				
D	F	3	-	V	A	L	U		2		F	6	-	M	E	N	U		2	

Exhibit 5-1: Diagnostic Menu 1

Press the corresponding function button to display the selected diagnostic screen:

F1 = Addressable Device Diagnostic
F2 = Panel Diagnostics – Ground Fault
F3 = Panel Diagnostics
F4 = LED Test
F5 = Main Board Processor Communications
F6 = Diagnostics Menu 2

5.4.1 DEVICE DIAGNOSTIC

The Device Diagnostic menu allows you to diagnose problems with the addressable devices connected to the panel's signaling line circuits (SLCs). From the Diagnostic Menu 1, press the F1 button to display the Device Diagnostic menu:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		D	E	V	I	C	E		D	I	A	G	N	O	S	T	I	C	S	
B	F	1	-	T	Y	P	E		L	O	C		&		L	E	D			
C	F	2	-	S	E	R	I	A	L		N	U	M	B	E	R	S			
D																				

Exhibit 5-2: Device Diagnostic Menu

Press the corresponding function button to display the selected diagnostic screen:

F1 = Device Type, Location and LED diagnostics
F2 = Device Serial Number diagnostics

5.4.1.1 DEVICE TYPE, LOCATION AND LED DIAGNOSTICS

The Device Type Diagnostic screen allows you to compare the type of addressable device held in the panel's configuration at a specific address to the type of device present/found on the signaling line circuit (SLC). From the Device Diagnostic Menu, press the F1 button to display the Device Loc & LED Diagnostic screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**L**	**O**	**O**	**P**	**:**	**N**		**A**	**D**	**R**	**:**	**0**	**0**	**1**	**-**	**0**	**2**	**0**		**D**
B	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**0**
C	***C***	***O***	***N***	***F***	***I***	***G***	***U***	***R***	***E***	***D***		***D***	***E***	***V***		***T***	***Y***	***P***	***E***	
D	***P***	***R***	***E***	***S***	***E***	***N***	***T***		***D***	***E***	***V***	***I***	***C***	***E***		***T***	***Y***	***P***	***E***	

Exhibit 5-3: Device Type Diagnostic Screen

- Row A (LOOP) - Allows you to select the loop number, represented by '**N**'. Use the ◄► buttons to position the cursor under the field; then press the **+/-** buttons to change to desired loop (1-4).
- Row A (ADR) - Allows you to select the address range to display in groups of 20. Use the ◄► buttons to position the cursor under the first digits (001 in this case); then press the **+/-** buttons to increment/decrement the group selection
- Row A (D) - Allows you to select the data type that will be displayed on Row D. Use the ◄► buttons to position the cursor under the field; then press the **+/-** buttons to increment/decrement the selection.
  - D - Displays the device type present/found connected on the addressable loop at the specific address. Same device types as shown in Row C description below. Press the F1 button to view the device missing counter for the device at the cursor position. Press the F1 button again to return to previous screen.

    L – Allows you to light the LED for the device (red/green flash). To light the device LED, use the ◄► buttons to position the cursor under the desired address on Row D. Toggle the LED status by pressing the +/- button at the specific address location. An "L" will be displayed to indicate that the device LED is lit. Press the +/- button again to turn off the LED.

    R – Displays an "R" under each device address that has had its memory map read into the panel memory.

    d – Displays a "d" under each device address that has been disabled.
- Row B - These numbers act as placeholders for the range of addresses selected in Row A.
- Row C - Displays the type of device programmed in the configuration for the specific address displayed:

P = Photo	H = Heat	F = FAAST
D = DUCT	M = Monitor, 4"	- = Unknown
Y = Relay	m = Mini Monitor	A = Relay (AHU shutdown)
U = Photo/Heat	I = Ion	
T = Pull Station		
C = Control		

  Note: The panel loads this screen upon reset and does not provide live updates as loop changes are made. Therefore, the panel must be reset in order to update this screen if wiring or SLC status is modified.
- Row D - Information displayed in this row is determined by the "Data Type" selection made on the far right of Row A.

5.4.1.2 DEVICE SERIAL NUMBER DIAGNOSTIC

The Device Serial Number Diagnostic screen allows you to compare the serial number stored in the panel for the specific address to the serial number of the actual device present/found on the signaling line circuit (SLC). From the Device Diagnostic Menu, press the F2 button to display the Device Serial Number Diagnostic screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		L	O	O	P	:	N		A	D	D	R	E	S	S	:	0	0	1	
B	T	Y	P	E	:		T	Y	P	E		O	F		D	E	V	I	C	E
C	S	E	R	I	A	L		#		S	T	O	R	E	D	P	A	N	E	L
D	S	E	R	I	A	L		#		D	E	V	I	C	E		L	O	O	P

Exhibit 5-4: Device S/N Diagnostic Screen

- Row A (LOOP) - allows you to select the loop number, represented by 'N'. Use the ◄► buttons to position the cursor under the field; then press the +/- buttons to change to desired loop (1-4).
- Row A (ADDRESS) - Allows you to select the address of the device to display. Use the ◄► buttons to position the cursor under the field; then press the +/- buttons to increment/decrement the address selection.
- Row B - Displays the type of device connected to the panel for the loop and address in Row A.
- Row C- Displays the serial number of the device held by the panel for supervision of the loop and address displayed in Row A.
- Row D - Displays the serial number of the device physically connected to the loop and address displayed in Row A.

Note: Row C and D should match or a multiple device trouble will be reported.

5.4.2 VALUE 1 DIAGNOSTIC

The Value 1 Diagnostic screen allows you to view several of the Cheetah Xi's main board monitoring points, which are supervised continuously. From the Diagnostic Menu 1, press the F2 button to display the Value 1 Diagnostic screen (displayed in an analog-to-digital reference level):

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**G**	**F**	**:**	**1**	**1**	**1**	**<**	**A**	**1**	**:**	**2**	**3**	**4**		**L**	**1**	**:**	**0**	**4**	**0**
B	**2**	**4**	**:**	**2**	**3**	**1**		**A**	**2**	**:**	**2**	**3**	**5**		**L**	**2**	**:**	**0**	**4**	**0**
C	**B**	**1**	**:**	**2**	**4**	**7**		**A**	**3**	**:**	**2**	**3**	**4**		**N**	**1**	**:**	**0**	**8**	**9**
D	**B**	**2**	**:**	**2**	**5**	**5**		**A**	**4**	**:**	**2**	**3**	**4**		**N**	**2**	**:**	**0**	**8**	**8**

Exhibit 5-5: Value 1 Diagnostic Screen

- Row A (GF) = Ground Fault

  < = Level 1 ground fault is active (2.17V nominal, GF high detection)

  - = ground fault level is transitioning hardware (V6.50 and lower only)

  > = Level 2 Ground fault is active (5V nominal, GF low detection)

  For all circuits except RS485 circuits, use the following guides:

  Low = 60K ohm or less between power ground and chassis ground

  High = 1M ohm or less between Main power (27.6V) and chassis

V6.50 and lower		**V7.00 and higher**	
Level 1<:	Low = 0 – 84	Level 1<:	Normal = 0 – 130
	Normal = 85 - 120		High = 131 – 255
	High = 121 – 255		120 restoral
Level 2>:	Low = 0 – 189	Level 2>:	Low = 0 – 189
	Normal = 190 – 255		Normal = 190 – 255
			210 restoral

- Row A (A1) = Voltage Regulator on main for AC power: 120VAC = 200-255, 240VAC = 206-255
- Row A (L1) = Loop 1 short circuit detect; Normal = 10-255. For all RS485 circuits, the value is 0 ohms.
- Row B (24V) = Main panel 24VDC power; 140-255
- Row B (A2) = Voltage Regulator on main for AC power: 120VAC = 200-255, 240VAC = 206-255
- Row B (L2) = Loop 2 short circuit detect: Normal = 10-255
- Row C (B1) = Battery circuit on Main controller: Normal = 31-255
- Row C (A3) = Voltage Regulator on SPS for AC power: 120VAC = 200-255, 240VAC = 206-255
- Row C (N1) = Notification output #1: Open = 171-255, Short = 49-0
- Row D (B2) = Supplemental Power Supply Battery Circuit: Normal = 31-255
- Row D (A4) = Voltage Regulator on SPS for AC power: 120VAC = 200-255, 240VAC = 206-255
- Row D (N2) = Notification output #2: Open = 171-255, Short = 49-0

Note: While trouble shooting a ground fault on panels with firmware Versions 3.0 or later, go into the Diagnostic screen and the levels are alternating between level 1 (<) and level 2 (>). Find the Level that is causing the ground and press the ENTER button to lock the level where you are getting the ground fault. The < or > will flash while it is locked in that level. Press the ENTER button again and the < or > will stay on steady and begin ground fault detection at both levels again. Pressing RESET will also restore the Cheetah Xi to auto detect from both levels.

5.4.3 VALUE 2 DIAGNOSTIC

The Value 2 Diagnostic screen allows you to view the panel's signaling line circuit (SLC) monitoring data (displayed in an analog-to-digital reference data). From the Diagnostic Menu 1, press the F3 button to display the Loop Monitoring Data screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	C	1	+	2	2	5		C	1	-	0	0	3		L	3	:	0	4	1
B	C	2	+	2	2	5		C	2	-	0	0	1		L	4	:	0	4	1
C	C	3	+	1	9	9		C	3	-	0	0	0		F	A	N			
D	C	4	+	1	9	9		C	4	-	0	0	0		0	0	0	0		

Exhibit 5-6: Value 2 Diagnostic Screen

- Row A (C1+) = Loop 1 ++ supervision trouble < 100
- Row A (C1-) = Loop 1 – supervision trouble >100
- Row A (L3) = Loop 3 short circuit detect: Normal = 10-255
- Row B (C2+) = Loop 2 ++ supervision trouble < 100
- Row B (C2-) = Loop 2 – supervision trouble >100
- Row B (L4) = Loop 4 short circuit detect: Normal = 10-255
- Row C (C3+) = Loop 3 ++ supervision trouble < 100
- Row C (C3-) = Loop 3 – supervision trouble >100
- Row D (C4+) = Loop 4 ++ supervision trouble < 100
- Row D (C4-) = Loop 4 – supervision trouble >100

If the supplement power supply is installed, its integral fan is monitored by the Cheetah Xi for functionality. Row D (FAN) provides a counter that will increment once a fan trouble is detected. The counter will increment to 1000 with the trouble threshold set at 500.

5.4.4 LED TEST

From the Diagnostic Menu 1, press the F4 button to briefly illuminate all LEDs on the Cheetah Xi display for approximately 10 seconds. The message "SENDING LED TEST" appears briefly to indicate the command has been sent. In addition, an LED test command is sent to all devices connected to the panel's peripheral bus causing them to briefly illuminate all device LEDs. During the LED test, all characters on the LCD display will go solid, as shown below.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
C	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
D	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Exhibit 5-7: LED Test Screen

5.4.5 CRC (CYCLIC REDUNDANCY COUNT)

The CRC screen allows you to view the current firmware version of the Cheetah Xi controllers main processor, main loop processor (loops 1 and 2), and auxiliary loop processor (loops 3 and 4). From the Diagnostic Menu 1, press the F5 button to view the Cyclic Redundancy Count screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			P	R	O	G	R	A	M		C	R	C	:	X	X	X	X		
B		M	A	I	N		P	I	C		V	E	R	:	X	.	X	X		
C		A	U	X	L		P	I	C		V	E	R	:	X	.	X	X		
D		P	R	E	S	S		E	N	T	E	R		T	O		C	A	L	C

Exhibit 5-8: CRC Diagnostic Screen

- Row A - Displays the main system processor CRC value.
- Row B - Displays the main loop (SLC 1 & 2) processor firmware version.
- Row C - Displays the auxiliary loop (SLC 3 & 4) processor firmware version (if installed).
- Row D - Press ENTER button to calc. The newly calculated CRC will be displayed on Row A.

Note: If installed, the SLM firmware version must match the MAIN PIC firmware version.

5.5 DIAGNOSTIC MENU 2

From the Diagnostic Menu 1 screen, press the F6 button to view the Diagnostic Menu 2 screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		D	I	A	G	N	O	S	T	I	C		M	E	N	U		2		
B	F	1	-	K	E	Y	P	A	D			F	4	-	P	E	R	I	P	H
C	F	2	-	V	E	S	D	A		1		F	5	-	V	E		C	O	M
D	F	3	-	V	E	S	D	A		2		F	6	-	M	E	N	U		3

Exhibit 5-9: Diagnostic Menu 2

Press the corresponding function button to display the selected diagnostic screen:

F1 = Keypad Diagnostics
F2 = VESDA 1 Diagnostics
F3 = VESDA 2 Diagnostics
F4 = Peripheral Diagnostics
F5 = VESDAnet Communications
F6 = Diagnostics Menu 3

5.5.1 KEYPAD DIAGNOSTICS

The Keypad Diagnostics screen allows you to test the operation of the keypad, including LEDs. From Diagnostic Menu 2 screen, press the F1 button to view the Keypad Diagnostic screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		K	E	Y	P	A	D		D	I	A	G	N	O	S	T	I	C		
B					K	E	Y		P	R	E	S	S	E	D	:				
C												C	O	U	N	T	:			
D																				

Exhibit 5-10: Keypad Diagnostics Screen

- Row C - Displays the button currently pressed and how many times it has been pressed.

  To test the front panel LEDs, press the right arrow ► button to turn on each LED one at a time. Keep pressing the right arrow button ► to cycle through all LEDs.

  To exit the Keypad Diagnostic screen, press the ESCAPE button three times.

5.5.2 VESDA 1 DIAGNOSTICS

The VESDA 1 Diagnostics screen allows you to view the current status of the selected VESDA detector. From Diagnostic Menu 2 screen, press the F2 button to view the VESDA 1 Diagnostic screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	V	E	S	D	A		Z	O	N	E		N	U	M	:		0	0	1	
B	S	T	A	T	U	S	:	-		-	-		-	-		-	-	-	-	-
C	C	U	R	R	E	N	T	:	0	.	0	0	0	0	%	/	F	T		
D	A	L	A	R	M		L	E	V	E	L	:	0	0	0	%			S	

Exhibit 5-11: VESDA 1 Diagnostics Screen

- Row A - Allows you to select the VESDA zone number to read. Use the ◄► arrow buttons to position the cursor in ones, tens, or hundreds field; then press the +/– buttons to change the value at cursor. Press ENTER button to read the detector.
- Row B (STATUS) - Displays all "-" if no VESDA is present at the VESDA zone number selected in Row A or if the detector has not be read by pressing the ENTER button. After detector is read, the "-" will be replaced with the following detector information:
  - The first "-" indicates the enabled or disabled state of the detector. "E" = enabled and "D" = disabled. "D" occurs when the user presses the ISOLATE switch on the VESDA detector itself.
  - The next "- -" will display "UF" if an urgent fault is present on the detector.
  - The next "- -" will display "mF" if a minor fault is present on the detectors.
  - The next "- - - - -" will display the current activation level for the detector: "NORML" or "ALERT" or "ACTON" or "FIRE1" or "FIRE2".
- Row C – Displays the current obscuration level being seen by the VESDA detector selected in Row A. This updates upon each press of ENTER button (noted in %/ft value).
- Row D – Displays the current percentage of alarm level for the detector selected in Row A.
- Row D (S) – Displays an "S" if the VESDA detector (VLS, VFT-15, VEA) is in scanning mode. Blank otherwise.

5.5.3 VESDA 2 DIAGNOSTICS

The VESDA 2 Diagnostics screen allows you to view the current fault list for the selected VESDA unit. From Diagnostic Menu 2 screen, press the F3 button to view the VESDA 2 Diagnostic screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**V**	**E**	**S**	**D**	**A**		**Z**	**O**	**N**	**E**		**N**	**U**	**M**	**:**		**0**	**0**	**1**	
B	**T**	**Y**	**P**	**E**	**:**	**-**	**-**	**-**	**-**	**-**	**-**	**/**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
C	**-**	**-**		**-**	**-**		**-**	**-**		**-**	**-**		**-**	**-**		**-**	**-**		**-**	**-**
D	**-**	**-**		**-**	**-**		**-**	**-**		**-**	**-**		**-**	**-**		**-**	**-**		**-**	**-**

Exhibit 5-12: VESDA 2 Diagnostics Screen

- Row A - Allows you to select the VESDA zone number to view. Use the ◄► arrow buttons to position the cursor in ones, tens, or hundreds field; then press the +/– buttons to change the value at cursor. Press ENTER button to read the detector.
- Row B (TYPE) - Dashes on the left display the VESDA detector type (i.e., VLC, VLP, VLS, VLF, VLI, VFT-15, VEP, VEP-1, VEP-2, VEU and VEA-40) for the zone number selected in Row A. Dashes on the right display the VESDA detector type read from the HLI.

  Note: When the HLI zone number is selected (zone 247), the word “SYSTEM” will appear on the left side. Press the ENTER button will display system level fault codes in Rows C & D. The type dashes on the right remain unchanged.

- Rows C & D - Displays the active faults transmitted by the VESDA HLI. Refer to VESDA product documentation and programming software (VSC & VSC-E) for a detailed description of VESDA faults and resolutions. Fault codes displayed by the Cheetah Xi panel for VESDA E-series detectors (VEU, VEA, VEP) and VFT detectors do not reflect the actual faults occurring at the VESDA detector. The VESDA VSC software must be used to identify the actual detector fault codes and potential resolutions.

5.5.4 PERIPHERAL DIAGNOSTICS

The Peripheral Diagnostics screen allows you to view the status of the communication between the Cheetah Xi controller and the devices connected to its peripheral bus. From the Diagnostic Menu 2 screen, press the F4 button to view the Peripheral Diagnostic screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**A**	**D**	**R**	**:**	**0**	**2**		**S**	**U**	**P**	**:**	**0**	**0**		**M**	**A**	**X**	**:**	**0**	**0**
B	**T**	**Y**	**P**	**E**	**:**		**B**	**O**	**S**	**C**	**H**		**D**	**A**	**C**	**T**				
C	**C**	**O**	**M**	**M**	**A**	**N**	**D**	**S**		**S**	**E**	**N**	**T**	**:**		**0**	**0**	**0**	**0**	**0**
D	**C**	**O**	**M**	**M**	**A**	**N**	**D**	**S**		**R**	**C**	**V**	**D**	**:**		**0**	**0**	**0**	**0**	**0**

Exhibit 5-13: Peripheral Diagnostics Screen

- Row A (ADR) - Allows you to select the peripheral address to view. Use the +/- buttons to select the Peripheral ID to diagnose.
- Row A (SUP) - Displays the number of times the panel sent a supervision message without a response.
- Row A (MAX) - Counts the number of times a supervision message was sent without response from peripheral. After a count of 12 times without a response, a peripheral trouble will occur.
- Row B - Displays the TYPE of peripheral device configured at the selected peripheral address shown in Row A (See device list below).
- Row C - Displays the number of supervision commands sent to the peripheral device selected.
- Row D - Displays the number of supervision commands received from the peripheral device selected.

Available Peripheral Devices:

Rem Disp 14 Key	Print+Gateway (MIM)	Annunc 20-Zone
256 LED Graphic	Gateway Only (MIM)	Computer (MIM)
Zone Graphic	Ethernet Port	Amplifier*
Print Serial (MIM)	Rem Disp 10 Key	Relay Control
Bosch DACT	Rem Disp 2 Key	Class A Module
Print Parallel (MIM)	Switch 20-Zone*	Remote MIC*

**Not compatible with Cheetah Xi*

Press the F4 button to display the firmware version of the selected peripheral device on Rows C & D.

5.5.5 VESDANET COMMUNICATIONS

The VESDAnet Communications screen allows you to view the communication status between the Cheetah Xi controller and the VESDA high level interface (HLI). From the Diagnostic Menu 2 screen, press the F5 button to view the VESDAnet Communications screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	V	E	S	D	A		Z	O	N	E		N	U	M	:		0	0	1	
B	P	O	L	L		T	X	:	0	0	0	0		R	X	:	0	0	0	0
C	N	E	T	W		T	X	:	0	0	0	0		R	X	:	0	0	0	0
D	C	O	M	M		I	N	T	E	R	V	A	L	:	1	0	0	0	M	S

Exhibit 5-14: VESDAnet Communication Screen

- Row A – Allows you to select the VESDA zone (device) number to display.
- Row B (Poll TX) – Displays the number of polling transmissions sent to the VESDA zone selected on Row A.
- Row B (Poll RX) – Displays the number of polling receptions received from the VESDA zone selected in Row A.
- Row C (Netw TX) – Displays the number of network alarm requests sent from the panel to the HLI.
- Row C (Netw RX) – Displays the number of network alarms sent from the HLI to the panel.
- Row D (COMM INTERVAL) - Allows you to adjust the communication rate between the Cheetah Xi and the VESDA HLI. Configurable from 250msec (fastest) to 2000msec (slowest). Default value is 1000msec (1 second). A Level 4 (Factory) password is required to change this setting. Use the +/- buttons to increment or decrement the field value.

Pressing the ENTER button while in this screen will clear the TX and RX counters.

Pressing the F1 key while in this screen will prompt you to “PRESS ENTER TO REFRESH HLI”. This will reset the HLI without having to reset the control panel.

5.6 DIAGNOSTIC MENU 3

From the Diagnostic Menu 2 screen, press the F6 button to view the Diagnostic Menu 3 screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		D	I	A	G	N	O	S	T	I	C		M	E	N	U		3		
B	F	1	-	N	E	T	W		1		F	4	-	H	I	S	T	O	R	Y
C	F	2	-	N	E	T	W		2		F	5	-	B	R	D		C	O	M
D	F	3	-	N	E	T	W		3		F	6	-	M	E	N	U		4	

Exhibit 5-15: Diagnostic Menu 3

Press the corresponding function button to display the selected diagnostic screen:

F1 = Network 1

F2 = Network 2

F3 = Network 3

F4 = History

F5 = Board Communication

F6 = Diagnostic Menu 4

Note: Network Diagnostic menus F1, F2 and F3 are system administrator (Level 3) password protected.

5.6.1 NETWORK DIAGNOSTICS 1

The Network Diagnostics 1 screen allows you to view the status of the network communication between the Cheetah Xi controller and networked panels being monitored by this panel. From the Diagnostic Menu 3 screen, press the F1 button to view the Network Diagnostic 1 screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	P	A	N	E	L		I	D	:	0	0	1		N	O	N	E			
B	N	E	T		I	D	‘	S	:	0	0	1	-	0	2	0		T	X	0
C	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
D																				

Exhibit 5-16: Network Diagnostics 1 Screen

- Row A - Displays the network Panel ID (1 – 128) and the location of the panel with respect to other panels on the network (None, First, Middle or Last).
- Row B (NET ID) - Allows you to select the address range to display in groups of 20. Use the +/- buttons to increment or decrement the address range.
- Row B (TX) – Displays the number of supervision requests transmitted by the panel.
- Row C - These numbers act as placeholders for the range of addresses selected in Row B.
- Row D - Displays the number of supervision commands received from the networked panel being supervised. The field will increment from 0 to F when data is being received from that panel. If no commands are being received, the field will be blank.

5.6.2 NETWORK DIAGNOSTICS 2

The Network Diagnostics 2 screen allows you to view the status of communication between the Cheetah Xi controller and installed network module, as well as network wiring troubles between panels. From the Diagnostic Menu 3 screen, press the F2 button to view the Network Diagnostic 2 screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	N	O		R	E	S	P	O	N	S	E	:		0	0	0	/	1	2	0
B	W	I	R	E		T	R	O	U	B	L	:		0	0	0	/	0	0	9
C	C	L	A	S	S	-	A		T	R	B	:		0	0	0	/	0	1	0
D	I	S	O	L	A	T		R	D	Y	:	Y		T	:	0	0	0	0	

Exhibit 5-17: Network Diagnostics 2 Screen

- Row A – Displays the number of trouble events recorded when the installed network module fails to respond to commands from the panel. The numbers **000/120** show a counter on the left which increments each time a command is sent to the network module and is cleared when the module sends back a response. The number on the right is a configurable threshold for trouble initiation. The factory default is 120.
- Row B – Displays the number of trouble events recorded for network wire troubles. Network modules are configured as First, Middle, or Last. If the network module reports a different position or “isolated”; then the counter on the left side of “**000/009**” increments. The number on the right is the configurable threshold for trouble initiation. The factory default is 9.
- Row C – Displays the number of trouble events recorded for Class-A network wiring troubles. This only applies to network modules configured as First. When the module reports an open Class-A wire trouble, the counter on the left of “**000/010**” increments. The number on the right is the configurable threshold for trouble initiation. The factory default is 10.

- Row D (Isolat Rdy) – Displays the current network module position: "**ISOLAT**" for isolated, "**FIRST**", "**MIDDLE**" or "**LAST**" on the left side of the display. The **RDY:** field indicates if the network module is ready for a panel command: **Y** = ready and **N** = not ready.
- Row D (T) – Displays the number of test events that have been sent onto the network or have been received from the network. Press ENTER to start the network test. A '*' will appear to the right of the test count to indicate that the panel is sending the test event onto the network. Panels receiving the test event will be blank at this position. Once started, the test will transmit a history event every 10 seconds. A "Network Test" event will be stored in panel history. By comparing test counts between panels, the reliability of the network can be determined.

5.6.3 NETWORK DIAGNOSTICS 3

The Network Diagnostics 3 screen allows you to set the communication interval between the panel and the network module. To utilize any of the features on this screen, you must enter a Factory Level password. From the Diagnostic Menu 3 screen, press the F3 button to view the Network Diagnostic 3 screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	N	E	T		I	N	T	E	R	V	A	L	:	0	1	0	0	0	m	S
B	P	A	N	E	L		M	I	S	S	I	N	G		C	N	T	:	0	3
C	N	E	T	W		S	U	P	V		I	:	1	0	/	0	0	0	9	S
D	N	E	T	W		T	X		T	O		R	X	:	1		O	F		2

Exhibit 5-18: Network Diagnostics 3 Screen

- Row A – Allows you to adjust the communication interval between the panel and the network module in increments of 1ms. The factory default is 980ms to 1200ms. On reset, if the interval is less than 100ms or greater than 10,000ms, the value is automatically set to 980ms. Use the ◄► arrow buttons to position the cursor over the field; then press the +/– buttons to change the value at cursor.
- Row B – Displays the number of consecutive "panel missing" responses (2 – 6) from the Network PIC that must be reached before a trouble condition is annunciated. The default value is 3. All panel id's that are supervised have their own counters for this variable. Use the ◄► arrow buttons to position the cursor over the field; then press the +/– buttons to change the value at cursor.
- Row C – Allows you to adjust the number of normal network supervision commands containing history data (10 – 50) that must be sent to the Network PIC before the next panel missing command can be verified. The factory default is 10. Use the ◄► arrow buttons to position the cursor over the field; then press the +/– buttons to change the value at cursor.
- Row D – Allows you to change the ratio of network history transmission/reception commands to history reception only commands to the network module. The value of the field on the far right of Row D can be adjusted from 1 – 9, with a factory default of 2. A value of 2 indicates there is one history transmit/receive command from the XA for every two commands sent to the network module.

Note: To make changes to any of the settings on this screen, you must enter a Level 3 user password.

5.6.4 NETWORK RESET

The Network Reset screen allows you to reset the system network module(s) in order to provide a means to help the network repair itself when wiring faults have been detected and/or repaired. The panel itself will not reset. From any of the Network Diagnostic screens, press the F1 button to view the Network Reset screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	P	R	E	S	S		E	N	T	E	R		T	O		R	E	S	E	T
B				N	E	T	W	O	R	K		M	O	D	U	L	E			
C	X	M	I	T		T	O		N	E	T	W	O	R	K	:	N	O		
D						*	*	R	E	S	E	T	*	*						

Exhibit 5-19: Network Reset Screen

From this screen, press the ENTER button to send a reset pulse to the panel's network module. Row D will briefly show "**RESET**".

- Row C – Allows you to select to send the network module reset pulse to all networked panels. Panels that receive the pulse will reset their network module. Use the ◄► arrow buttons to position the cursor over the field; then press the +/– buttons to change the value at cursor to 'YES'.

5.6.5 HISTORY DIAGNOSTICS

The History Diagnostics screen allows you to transmit history messages onto the peripheral bus for test purposes only. To utilize any of the features on this screen, you must enter a Level 3 password. From the Diagnostic Menu 3 screen, press the F4 button to view the History Diagnostic screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			T	R	A	N	S	M	I	T		H	I	S	T	O	R	Y		
B			T	E	S	T		M	E	S	S	A	G	E	S	:	O	F	F	
C			C	U	R	R	E	N	T		E	V	E	N	T	:	0	3	3	
D			0	0		0	0		0	0	0	0		0	1	0	0			

Exhibit 5-20: History Diagnostics Screen

- Row B – Allows you to turn ON/**OFF** automatic transmission of pre-set history messages for testing purposes, starting with the event number shown on Row C. When "ON", the panel will transmit an event every 10 seconds. Use the +/- buttons to change the value at cursor. The default value is OFF. The event number shown on Row C will increment after each transmission.
- Row C – Allow you to select a specific event number (e.g., **CURRENT EVENT:033**). If automatic transmission is OFF, pressing ENTER will transmit the selected event onto the peripheral bus. The message "****SENDING****" will show briefly to confirm the event transmission. Use the ◄► arrow buttons to position the cursor over the field; then press the +/– buttons to change the value at cursor.
- Row D – Allows selection of the history transmission variables when ENTER is pressed for a specific event. Consult with Fike Product Support for further details. Use the ◄► arrow buttons to position the cursor over the field; then press the +/– buttons to change the value at cursor.

5.6.6 BOARD COMMUNICATION DIAGNOSTICS

The Board Communication Diagnostic screen allows you to view the status of the Cheetah Xi's microprocessor. This information is used can be used by Fike to diagnose potential problems with the control board itself. From the Diagnostic Menu 3, press the F5 button to view the Board Communication Diagnostic screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**M**	**A**	**I**	**N**		**P**	**I**	**C**			**A**	**U**	**X**		**P**	**I**	**C**			
B	**R**	**X**	**D**	**:**		**2**	**5**				**R**	**X**	**D**	**:**		**0**	**0**			
C	**E**	**R**	**R**	**:**		**0**	**0**				**E**	**R**	**R**	**:**		**0**	**0**			
D	**T**	**X**	**D**	**:**	**0**	**0**	**0**	**0**	**0**			**E**	**R**	**R**	**:**	**0**	**0**	**0**	**0**	**0**

Exhibit 5-21: Board Comm Diagnostic Screen

	MAIN PIC (Microprocessor that Controls loop 1 & 2)	**AUX PIC** (Microprocessor that Controls loop 3 & 4 – SLM)
• Row B	**RXD** = total data received by the main processor from the Main PIC	**RXD** = total data received by the main processor from the Aux PIC
• Row C	**ERR** = # of checksum errors noted by system processor from the Main PIC	**ERR** = # of checksum errors noted by system processor from the Aux PIC
• Row D	**TXD** = # of commands received by system processor from Main and Aux pics since last reset (will rollover).	**ERR** = # of TXD checksum errors

Note: 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.

5.7 DIAGNOSTIC MENU 4

From the Diagnostic Menu 3 screen, press the F6 button to view the Diagnostic Menu 4 screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		**D**	**I**	**A**	**G**	**N**	**O**	**S**	**T**	**I**	**C**		**M**	**E**	**N**	**U**		**4**		
B	**F**	**1**	**-**	**A**	**M**	**P**		**S**	**T**	**A**		**F**	**4**	**-**	**P**	**E**	**R**		**F**	**V**
C	**F**	**2**	**-**	**P**	**E**	**R**		**D**	**A**	**T**		**F**	**5**	**-**						
D	**F**	**3**	**-**	**V**	**O**	**I**	**C**	**E**		**Z**		**F**	**6**	**-**	**M**	**E**	**N**	**U**		**5**

Exhibit 5-22: Diagnostic Menu 4

Press the corresponding function button to display the selected diagnostic screen:

F1 = Amplifier Status (operation)

F2 = Peripheral Data (supervision)

F3 = Voice Zones (status)

F4 = Peripheral FV (firmware version)

F5 = Not Used

F6 = Menu 5

Note: Selections F1, F2 and F3 pertain to Voice Operations and are Not applicable to the Cheetah Xi.

5.7.1 AMPLIFIER STATUS *(Not applicable to the Cheetah Xi)*

The Amplifier Status screen allows you to view the status of the communication between the Cheetah Xi controller and all amplifiers being monitored by this panel. From the Diagnostic Menu 4 screen, press the F1 button to view the Amplifier Status screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	A	M	P	L	I	F	I	E	R		A	T		A	D	D	R	:	0	2
B	S	T	A	T	U	S	:		A	U	T	O	M	A	T	I	C			
C	A	U	T	O		S	T	A	T	E	:		N	O	N	E				
D	M	S	G	:	0	0	0	/	0	0	0		S	P	K	:	-	-	-	-

Exhibit 5-23: Amplifier Operation Status Screen

- Row A - Allows you to select the peripheral address of the amplifier to display its operational status. Use the +/- buttons to increment or decrement the address. Rows B, C & D will display the status of the selected amplifier. If selected peripheral address is not an amplifier, screen will display “NOT AN AMP”.
- Row B – Displays the operational status of the selected amplifier. The possible conditions are:
  - “STATUS: AUTOMATIC” – The status of the Cheetah Xi panel combined with the amp configuration is controlling which message (if any) is being played.
  - “STATUS: DRILL” – A DRILL switch on the Cheetah Xi system has been pressed.
  - “STATUS: ALERT” – An ALERT switch on a voice evacuation card has been pressed for a zone assigned to this amp.
  - “STATUS: EVACUATE” – An EVACUATE switch on a voice evacuation card has been pressed for a zone assigned to this amp.
  - “STATUS: PAGE” – A PAGE switch on a voice evacuation card has been pressed for a zone assigned to this amp.
  - “STATUS: PAGE W RR” – A PAGE WITH RECORD AND REPEAT switch on a voice evacuation card has been pressed for a zone assigned to this amp.
  - “STATUS: FIRE MESSAGE” – A PLAY FIRE MESSAGE switch is active.
  - “STATUS: MNS MESSAGE” – A PLAY MNS MESSAGE switch is active.
  - “STATUS: MNS PAGE” – An MNS PAGE switch is active.
  - “STATUS: MNS PAGE RR” – A MNS PAGE with RECORD AND REPEAT switch is active.
- Row C – Displays the highest “automatic” state for the amplifier. This is determined from the configuration of zone assignments to the amp as compared to which zones of the same state are active in the panel. The possible automatic states, displayed in order of lower priority to higher priority are:
  - “AUTO STATE: NONE” – no automatic state is active for this amp.
  - “AUTO STATE: PROCESS” – Amp will send the process message numbers (if status is Automatic).
  - “AUTO STATE: SUPERVI” – Amp will send the supervisory message numbers (if status is Automatic).
  - “AUTO STATE: TEST ALM” – Amp will send the test alarm message numbers (these come during walk-test).
  - “AUTO STATE: ALARM” – Amp will send the alarm message numbers (if status is Automatic).
  - “AUTO STATE: ALERT” – Amp will send the alert message numbers (status is either Alert or Auto).
  - “AUTO STATE: EVACUATE” – Amp will send the evacuation message numbers (status EVAC or Auto).
- Row D – Displays the message numbers being sent to the amp as “MSG: aa/bb” and the speaker circuits being commanded to play these messages as “SPKRS: 1 - 3” (This is an example of speaker circuits 1 and 3).

5.7.2 PERIPHERAL SUPERVISION DATA *(Not applicable to the Cheetah Xi)*

The Peripheral Supervision Data screen allows you to view the analog-to-digital conversion values for the peripheral device selected on Row A. From the Diagnostic Menu 4 screen, press the F2 button to view the Peripheral Supervision Data screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**A**	**M**	**P**		**A**	**T**	**:**	**0**	**2**		**G**	**#**	**#**		**K**	**#**	**#**		**O**	**#**
B	**A**	**#**	**#**	**#**		**D**	**#**	**#**	**#**		**H**	**#**	**#**		**L**	**#**	**#**		**P**	**#**
C	**B**	**#**	**#**	**#**		**E**	**#**	**#**	**#**		**I**	**#**	**#**		**M**	**#**	**#**		**Q**	**#**
D	**C**	**#**	**#**	**#**		**F**	**#**	**#**	**#**		**J**	**#**	**#**		**N**	**#**	**#**		**R**	**#**

Exhibit 5-24: Peripheral Supervision Data Screen

Note: At present, only the amplifier card (AMP), digital paging module (DPM) and remote paging card (MIC) will display supervision data on this screen.

- Row A (1 through 9) - Displays the device type and peripheral address of the selected device.
- Rows A-D (A through R) - Displays the current supervision data of the selected peripheral device. If there is not a device configured for the selected peripheral address or if the device is not an amplifier, digital paging module or remote paging card, the screen will display “NO DATA”. A description of each data field for each peripheral device type is provided below:

1. <u>Amplifier Card Values</u>

- A### - Message ID1 (Fire message = 1-16, MNS message = 101-116, MNS Page = 251, MNS R&R = 252, Fire Page = 253, Fire R&R = 254)
- B### - Message ID2 (Fire message = 1-16, MNS message = 101-116, MNS Page = 251, MNS R&R = 252, Fire Page = 253, Fire R&R = 254)
- C### - Active speaker circuit and audio source (See table below for description of values).
- D### - Audio bus troubleshooting (Increments periodically if the amplifier does not receive any valid packets on the audio bus. Once the counter reaches max value of 255, it stays at 255 until the fault clears. Once the amp starts receiving valid packets, the counter is decremented periodically.
- E### - A-D value (0 – 255) for power-limited supervision on speaker circuit. Threshold for short on a 25 V amp >= 216 (~2.79 V), threshold for short on a 70 V amp >= 120 (~1.55 V).
- F### - Amplifier input voltage configuration (120 V = 0, 240 V = 1)
- G## - Amplifier output voltage configuration (25 V = 25, 70 V = 70)
- H## - Manual activation state (Automatic Operation = 0, Drill = 1, Alert = 2, Evac = 3, Page = 4)
- I## - Automatic activation state (Normal = 0, Process = 1, Supervisory = 2, Test Alarm = 3, Alarm = 4, Alert = 5, Evac = 6)
- J## - City Code (Standard = 0, Boston Alarm Active = 1, Chicago = 2, NYC Evac = 3, NYC Inquiry = 4, NYC Alarm Acknowledge = 5)
- K## - NAC circuit active or not active (Not active = 0, Active = 1)
- L## - NAC protocol configuration (Constant ON = 0, Gentex = 1, System Sensor = 2, Wheelock = 3)
- M## - Contact monitor circuit state (No Active = 0, Active = 1)
- N## - Contact monitor configuration (Disabled = 0, Enabled = 1)
- O# - Battery charging configuration (Disabled = 0, Enabled = 1)
- P# - Local page configuration (Disabled = 0, Enabled = 1)
- Q# - Dual-channel mode configuration (Disabled = 0, Enabled = 1)
- R# - Audio bus configuration (Disabled = 0, Enabled = 1)

Speaker circuit and audio source information (C###):

Value	Active Speaker Circuits	Audio Source Selected	Value	Active Speaker Circuits	Audio Source Selected	Value	Active Speaker Circuits	Audio Source Selected	Value	Active Speaker Circuits	Audio Source Selected
0	None	-	**32**	2	External	**96**	2 3	External External	**192**	3 4	External External
1	1	Internal	**33**	1 2	Internal External	**97**	1 2 3	Internal External External	**193**	1 3 4	Internal External External
2	2	Internal	**36**	2 3	External Internal	**104**	2 3 4	External External Internal	**194**	2 3 4	Internal External External
3	1 2	Internal Internal	**37**	1 2 3	Internal External Internal	**105**	1 2 3 4	Internal External External Internal	**195**	1 2 3 4	Internal Internal External External
4	3	Internal	**40**	2 4	External Internal	**112**	1 2 3	External External External	**208**	1 3 4	External External External
5	1 3	Internal Internal	**41**	1 2 4	Internal External Internal	**120**	1 2 3 4	External External External Internal	**210**	1 2 3 4	External Internal External External
6	2 3	Internal Internal	**44**	2 3 4	External Internal Internal	**128**	4	External	**224**	2 3 4	External External External
7	1 2 3	Internal Internal Internal	**45**	1 2 3 4	Internal External Internal Internal	**129**	1 4	Internal External	**225**	1 2 3 4	Internal External External External
8	4	Internal	**48**	1 2	External External	**130**	2 4	Internal External	**240**	1 2 3 4	External External External External
9	1 4	Internal Internal	**52**	1 2 3	External External Internal	**131**	1 2 4	Internal Internal External			
10	2 4	Internal Internal	**56**	1 2 4	External External Internal	**132**	3 4	Internal External			
11	1 2 4	Internal Internal Internal	**60**	1 2 3 4	External External Internal Internal	**133**	1 3 4	Internal Internal External			
12	3 4	Internal Internal	**64**	3	External	**134**	2 3 4	Internal Internal External			
13	1 3 4	Internal Internal Internal	**65**	1 3	Internal External	**135**	1 2 3 4	Internal Internal Internal External			
14	2 3 4	Internal Internal Internal	**66**	2 3	Internal External	**144**	1 4	External External			
15	1 2 3 4	Internal Internal Internal Internal	**67**	1 2 3	Internal Internal External	**146**	1 2 4	External Internal External			
16	1	External	**72**	3 4	External Internal	**148**	1 3 4	External Internal External			
18	1 2	External Internal	**73**	1 3 4	Internal External Internal	**150**	1 2 3 4	External Internal Internal External			
20	1 3	External Internal	**74**	2 3 4	Internal External Internal	**160**	2 4	External External			
22	1 2 3	External Internal Internal	**75**	1 2 3 4	Internal Internal External Internal	**161**	1 2 4	Internal External External			
24	1 4	External Internal	**80**	1 3	External External	**164**	2 3 4	External Internal External			
26	1 2 4	External Internal Internal	**82**	1 2 3	External Internal External	**165**	1 2 3 4	Internal External Internal External			
28	1 3 4	External Internal Internal	**88**	1 3 4	External External Internal	**176**	1 2 4	External External External			
30	1 2 3 4	External Internal Internal Internal	**90**	1 2 3 4	External Internal External Internal	**180**	1 2 3 4	External External Internal External			

2. Digital Paging Card Values

- A### - A-D value (0 – 255) for contact monitor supervision (Short range = 180 – 255, Open range = 0 – 50, Normal range = 51 – 179)
- B### - A-D value (0 – 255) for local/master fire-phone trouble supervision when not used for paging or party line (Short range = 155 – 255, Open range = 0 – 78, Normal range = 79 – 154)
- C### - A-D value (0 – 255) for local/master fire-phone off hook supervision (Off hook range = 176 – 255, Open range = 0 – 100, On hook range = 101 – 175)
- D### - Audio bus troubleshooting (Increments periodically if the amplifier does not receive any valid packets on the audio bus. Once the counter reaches max value of 255, it stays at 255 until the fault clears. Once the amp starts receiving valid packets, the counter is decremented periodically.
- E### - A-D value (0 – 255) for fire-phone riser trouble supervision when not used for paging or party line (Short range = 193 – 255, Open range = 0 – 7, Normal range = 8 – 192)
- E### - A-D value (0 – 255) for fire-phone riser trouble supervision when used for paging or party line (Short range = 193 - 255, Open range = 0 – 89, Normal range = 90 – 192)
- F## through J## – NOT USED
- K## - Audio bus master or slave (Slave = 0, Master = 1)
- L## - Contact monitor (Not active = 0, Active = 1)
- M## - Paging control card switch priority level (0 = highest, 8 = lowest)
- N## - Contact monitor priority level (0 = highest, 8 = lowest)
- O# - Microphone trouble
  - No trouble = 0
  - Not connected = 1 (check pin #3 on P8)
  - Wiring trouble 1 = 2 (check pin #2 & 8 on P8)
  - Wiring trouble 2 = 4 (check pin #1 & 7 on P8)
  - Wiring trouble 3 = 6 (check pin #1, 2, 7 & 8 on P8)
- P# - Fire-phone Class-A configuration (Disabled = 0, Enabled = 1)
- Q# - Contact monitor latching/non-latching configuration (Non-latching = 0, Latching = 1)
- R# - Contact monitor normally open/closed configuration (Normally open = 0, Normally closed = 1)

3. Remote Paging Card Values

- A##, B##, C## – NOT USED
- D### - Audio bus troubleshooting (Increments periodically if the amplifier does not receive any valid packets on the audio bus. Once the counter reaches max value of 255, it stays at 255 until the fault clears. Once the amp starts receiving valid packets, the counter is decremented periodically.
- E## through J## – NOT USED
- K## - Audio bus master or slave (Slave = 0, Master = 1)
- L## - NOT USED
- M## - Paging control card switch priority level (0 = highest, 8 = lowest)
- N## - NOT USED
- O# - Microphone trouble
  - No trouble = 0
  - Not connected = 1 (check pin #3 on P8)
  - Wiring trouble 1 = 2 (check pin #2 & 8 on P8)
  - Wiring trouble 2 = 4 (check pin #1 & 7 on P8)
  - Wiring trouble 3 = 6 (check pin #1, 2, 7 & 8 on P8)
- P# through R# - NOT USED

5.7.3 VOICE ZONES *(Not applicable to the Cheetah Xi)*

The Voice Zones screen allows you to view the status of system zones with respect to voice conditions. From the Diagnostic Menu 4 screen, press the F3 button to view the Voice Zones screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	Z	O	N	E		R	A	N	G	E	:		0	0	1	-	0	2	0	
B	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	Z	:	0	0	1		S	T	A	T	:	A	U	T	0	-	N	O	N	E

Exhibit 5-25: Voice Zones Screen

- Row A - Allows you to select the range of zones in groups of 20 that will be displayed in Row C. Use the +/- buttons to increment or decrement the zone range.
- Row B – These numbers act as placeholders for the range of zones selected in Row A.
- Row C – Displays a single letter description of the voice condition for the zone that aligns with the zone number on Row B.

  - = No voice condition is active
  C = Zone is in "Automatic" operation and Process is the highest voice priority state in that zone.
  S = Zone is in "Automatic" operation and Supervisory is the highest voice priority state in that zone.
  T = Zone is in "Automatic" operation and Test Alarm (walk-test mode) is active in that zone.
  L = Zone is in "Automatic" operation and Alarm is the highest voice priority state in that zone.
  A = Zone is in "Alert" condition. Use line 4 to determine if this is from "Automatic" or a manual switch.
  E = Zone is in "Evacuate" condition. Use line 4 to determine if this is from "Automatic" or a manual switch.
  D = Zone is in "Drill" condition. The drill switch has been pressed.
  P = Zone is in "Page" condition. A page switch for this zone has been pressed.
  R = Zone is in "Page with Record and Repeat" condition. A page with record and repeat switch for this zone has been pressed.
  F = Zone is in "Play Fire Message" condition. A play fire message switch for this zone has been pressed.
  M = Zone is in "Play Mass Notify Message" condition. A play MNS message switch for this zone has been pressed.
  G = Zone is in ""Page" condition. A page switch for this zone has been pressed.
  O = Zone is in "Page with R&R" condition. A page with R&R switch for this zone has been pressed.

  Use the ◄► arrow keys to scroll through the 254 available zones.
- Row D (Z:) – Displays the zone number at the cursor position.
- Row D (STAT:) – Displays the status of the zone as:

  "AUTO-NONE" – No voice condition is active in this zone.
  "AUTO-PROC" – Zone is in "Automatic" operation with Process state active.
  "AUTO-SUPV" – Zone is in "Automatic" operation with Supervisory state active.
  "AUTO-TEST" – Zone is in "Automatic" operation with Test Alarm state active.
  "AUTO-ALRM" – Zone is in "Automatic" operation with Alarm state active.
  "AUTO-ALRT" – Zone is in "Automatic" operation with Alert condition active.
  "AUTO-EVAC" – Zone is in "Automatic" operation with Evacuate condition active.
  "DRILL" – Zone is in Drill condition.
  "ALERT" – Zone is in Alert condition via a manual switch.
  "EVACUATE" – Zone is in Evacuate condition via a manual switch.
  "PAGE" – Zone is in Page condition.
  "PAGE W RR" – Zone is in Page with record and repeat condition.
  "FIRE MSG" – Zone is in Play Fire Message condition.
  "MNS MESSG" – Zone is in Play MNS Message condition.
  "MNS PAGE" – Zone is in MNS PAGE condition.
  "MNS W R&R" – Zone is in MNW PAGE WITH RECORD AND REPEAT condition.

5.7.3.1 VOICE ZONES STATUS

The Voice Zones Status screen allows you to view the enabled/disabled status of individual voice zones. From the Voice Zones screen, press the F1 button to view the Voice Zones Status screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**A**	**L**	**E**	**R**	**T**	**:**		**D**					**Z**	**O**	**N**	**E**	**:**	**0**	**0**	**1**
B	**E**	**V**	**A**	**C**	**:**			**D**			**A**	**L**	**L**		**P**	**A**	**G**	**E**	**:**	**E**
C	**F**		**P**	**A**	**G**	**E**	**:**	**D**			**M**	**N**	**S**		**P**	**A**	**G**	**E**	**:**	**D**
D	**F**		**M**	**S**	**G**	**:**		**D**			**M**	**N**	**S**		**M**	**S**	**G**	**:**		**D**

Exhibit 5-26: Voice Zones Status Screen

- Row A (Zone:) - Allows you to select the zone that will be displayed. Use the ◄► arrow keys to position the cursor under the appropriate field; then use the +/- buttons to increment or decrement the field value.
- Rows A-D – Displays the **E**nabled/**D**isabled status of the selected zone's output messages for each of the following states:

  "ALERT"
  "EVACUATE"
  "FIRE PAGE" (includes Page with Record and Repeat)
  "FIRE MESSAGE" (per zone)
  "ALL PAGE" (Page to Alert, Page to EVAC, Page All, and Page All with Record and Repeat)
  "MNS PAGE" (per zone)
  "MNS MESSAGE" (per zone)

5.7.3.2 VOICE ZONES PRIORITIES

The Voice Zones Priorities screen allows you to view the current priority and status of the selected zone number. From the Voice Zones screen, press the F2 button to view the Voice Zones Priorities screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**Z**	**O**	**N**	**E**	**:**	**0**	**0**	**1**		**C**	**U**	**R**	**E**	**N**	**T**	**/**	**P**	**R**	**E**	**V**
B	**P**	**R**	**I**	**O**	**R**	**I**	**T**	**Y**	**:**	**0**	**0**	**0**	**/**	**0**	**0**	**0**				
C	**S**	**T**	**A**	**T**	**U**	**S**	**:**			**0**	**/**	**0**								
D		**A**	**U**	**T**	**O**	**-**	**N**	**O**	**N**	**E**	**/**	**A**	**U**	**T**	**O**	**-**	**N**	**O**	**N**	**E**

Exhibit 5-27: Voice Zones Priorities Screen

- Row A (Zone) - Allows you to select the zone that will be displayed. Use the ◄► arrow keys to position the cursor under the appropriate field; then use the +/- buttons to increment or decrement the field value.
- Row B (Priority) – Displays the current/previous priority levels for the zone selected in Row A.
- Row C (Status) – Displays the zone status numbers for the current/previous conditions of the zone selected in Row A.

- Row D – Displays a description of the status numbers indicated in Row C. The numbers align with the following voice status conditions:

  0 = Panel automatic conditions are active (see below).
  "AUTO-NONE" (no automatic voice condition is active)
  "AUTO-PROC" (automatic process condition is active)
  "AUTO-SUPV" (automatic supervisory condition is active)
  "AUTO-TEST" (walk-test condition is active)
  "AUTO-ALRM" (automatic alarm condition is active)
  "AUTO-ALRT" (automatic alert condition is active)
  "AUTO-EVAC" (automatic evacuate condition is active)

  2 = **"DRILL"** (drill condition is active)

  3 = **"ALERT"** (alert condition is active)

  4 = **"EVACUATE"** (evacuate condition is active)

  5 = **"PAGE"** (page condition is active)

  6 = **"PAGE W RR"** (page with record and repeat condition is active)

  7 = **"FIRE MSG"** (fire alarm messaging condition is active)

  8 = **"MNS PAGE"** (mass notify paging condition is active)

  9 = **"MNS W RR"** (mass notify paging with record and repeat condition is active)

  10 = **"MNS MESSG"** (mass notify messaging condition is active)

Note: Previous is the level that was active in the zone before the current level became active. When the current level clears, the previous level will be returned as the current priority level.

5.7.4 PERIPHERAL FIRMWARE VERSION

The Peripheral Firmware Version screen allows you to view the firmware version of the selected peripheral bus device. From the Diagnostic Menu 4 screen, press the F4 button to view the Firmware Version screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	P	E	R	I	P	H	E	R	A	L		A	D	D	R	:		0	2	
B	T	Y	P	E	:		D	I	G	I	T	A	L		P	A	G	I	N	G
C			F	I	R	M	W	A	R	E		V	E	R	S	I	O	N		
D								X	X	.	X	X								

Exhibit 5-28: Firmware Version Screen

- Row A - Allows you to select the address of the peripheral device (1 – 32) that will be displayed in Rows C and D. Use the +/- buttons to increment or decrement the peripheral address.
- Row B – Displays the type of peripheral device currently configured at the peripheral address selected in Row A.

Available Peripheral Devices:

Rem Disp 14 Key	Print+Gateway (MIM)	Annunc 20-Zone
256 LED Graphic	Gateway Only (MIM)	Computer (MIM)
Zone Graphic	Ethernet Port	Amplifier*
Print Serial (MIM)	Rem Disp 10 Key	Relay Control
Bosch DACT	Rem Disp 2 Key	Class A Module
Print Parallel (MIM)	Switch 20-Zone*	Remote MIC*

**Not compatible with Cheetah Xi*

- Row C – Displays "FIRMWARE VERSION" unless the selected device is an amplifier card; then this row will display "DS PIC" and its firmware version.
- Row D – Displays "FIRMWARE VERSION" unless the selected device is an amplifier card; then this row will display "NAC PIC" and its firmware version.

5.8 DIAGNOSTIC MENU 5

From the Diagnostic Menu 4 screen, press the F6 button to view the Diagnostic Menu 5 screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		D	I	A	G	N	O	S	T	I	C		M	E	N	U		5		
B	F	1	-	P	A	G	E		S			F	4	-	F	A	A	S	T	
C	F	2	-	A	U	D		P	R	I		F	5	-						
D	F	3	-	M	S	G		I	D			F	6	-	M	E	N	U		1

Exhibit 5-29: Diagnostic Menu 5

Press the corresponding function button to display the selected diagnostic screen:

F1 = Page Status

F2 = Audio Priority Status

F3 = Play Message ID Status

F4 = FAAST Detector Status

F5 = Not Used

F6 = Menu 1

Note: Selections F1, F2 and F3 pertain to Voice Operations and are Not applicable to the Cheetah Xi.

5.8.1 PAGE STATUS *(Not applicable to the Cheetah Xi.)*

The Page Status screen allows you to view the general "paging" status of the panel. There are no selectable items on this screen. From the Diagnostic Menu 5 screen, press the F1 button to view the Page Status screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		A	L	E	R	T		T	O		P	A	G	E	:		O	F	F	
B		E	V	A	C		T	O		P	A	G	E	:			O	F	F	
C																				
D																				

Exhibit 5-30: Page Status Screen

- Row A – When a Page-to-Alert switch is pressed and zones that were in Alert are now in page mode, this line shows "ALERT TO PAGE: ON"; otherwise, "ALERT TO PAGE: OFF" is displayed.
- Row B – When a Page-to-Evac switch is pressed and zones that were in EVAC are now in page mode, this line shows "EVAC TO PAGE: ON"; otherwise, "EVAC TO PAGE: OFF" is displayed.

5.8.2 AUDIO PRIORITY STATUS *(Not applicable to the Cheetah Xi.)*

The Audio Priority Status screen allows you to view which paging microphone has the "master" status in the voice system and the priority status of the active voice switch. There are no selectable items on this screen. From the Diagnostic Menu 5 screen, press the F2 button to view the Audio Priority Status screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**A**	**U**	**D**		**P**	**R**	**I**	**O**	**R**	**I**	**T**	**Y**		**A**	**T**	**:**		**n**	**n**	**n**
B	**A**	**C**	**T**	**I**	**V**	**E**		**S**	**W**		**a**	**a**	**a**	**-**	**b**	**b**	**-**	**c**	**c**	
C	**P**	**A**	**G**	**E**		**M**	**A**	**S**	**T**	**E**	**R**		**A**	**T**	**:**					
D	**P**	**N**	**L**	**a**	**a**	**a**		**A**	**D**	**R**	**b**	**b**		**c**	**c**	**c**	**c**	**c**	**c**	**c**

Exhibit 5-31: Audio Priority Status Screen

Note: Each switch card and input module configured for voice operation on the voice system is configured with a priority level. These priority levels are used to resolve which switch has control priority over another switch that is programmed for the same operation. A switch with a lower priority setting cannot override a switch with a higher priority. Switch with the same priority setting can override another switch card with the same priority setting or a lower priority setting.

- Row A (nnn) – Displays the current priority level active (0 – 254) at the panel. "000" indicates that no priority is active. The control panel will accept switch activations from switches with higher or equal priority.
- Row B (aaa-bb-ccc) – Displays the most recent switch input that was accepted by the panel.

  "aaa" = panel ID or panel address of the switch

  "bb" = peripheral bus address or loop number of the switch card

  "cc" = switch number or device address
- Row D (aaa-bb-ccc) – Displays the location of the device that has control of the audio bus (i.e., digital paging card or remote paging card) for paging purposes.

  "aaa" = panel ID

  "bb" = peripheral bus address (2 - 32)

  "ccc" = displays "DPM" if digital paging module is in control or "REM MIC" if remote paging card is in control.

5.8.3 PLAY MESSAGE ID STATUS *(Not applicable to the Cheetah Xi.)*

The Play Message ID Status screen allows you to view the voice message numbers being transmitted by the panel to the amplifiers. From the Diagnostic Menu 5 screen, press the F3 button to view the Play Message ID Status screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		**A**	**C**	**T**	**I**	**V**	**E**		**M**	**E**	**S**	**S**	**A**	**G**	**E**		**I**	**D**		
B	**Z**	**O**	**N**	**E**	**:**	**0**	**0**	**0**		**P**	**:**	**n**	**n**	**n**		**S**	**:**	**x**	**x**	**x**
C	**S**	**I**	**L**	**E**	**N**	**C**	**E**	**:**	**O**	**F**	**F**				**C**	**I**	**T**	**Y**	**:**	**x**
D	**M**	**N**	**S**		**R**	**E**	**S**	**E**	**T**	**:**	**n**	**n**	**n**	**D**	**I**	**S**	**A**	**B**	**L**	**E**

Exhibit 5-32: Play Message ID Status Screen

- Row B (Zone) – Allows you to select the zone number (1 – 253) that will be displayed in Row B. Use the +/- buttons to increment or decrement the zone number. The primary and secondary message numbers for the selected zone will be shown as **P:nnn S:xxx**; where “nnn” and “xxx” indicates the primary and secondary message numbers being played (Fire message = 1-16, MNS message = 101-116).
- Row C (Silence) – Indicates the silence status of the emergency communication system (**ON/OFF**).
- Row C (City) – Indicates the active city code being used by the voice system (if applicable). Valid city code must be set in the panel’s configuration menus for this option to be visible.
- Row D (MNS Reset) – Displays the MNS RESET countdown time.
- Row D (Disable) – Displays the ENABLE or DISABLE status of the MNS RESET feature.

5.8.4 FAAST DETECTOR STATUS

The FAAST Detector Status screen allows you to view the current status levels transmitted by the detector to the panel. From the Diagnostic Menu 5 screen, press the F4 button to view the FAAST Detector Selection screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	1	-	0	0	1	:	F	A	A	S	T		D	E	T	E	C	T	O	R
B	P	R	E	S	S		E	N	T	E	R		T	O		V	I	E	W	
C					F	A	A	S	T		S	T	A	T	U	S				
D					*	*	R	E	A	D	I	N	G	*	*					

Exhibit 5-33: FAAST Detector Selection Screen

- Row A – Allows you to select the loop (1 – 4) and address number (1 – 253) of the FAAST detector that will be displayed. Use the ◄► arrow buttons to position the cursor over the field; then press the +/– buttons to change the value at cursor. Rows B, C, and D will be blank until a valid FAAST detector loop and address is selected in Row A; then Rows B and C will indicate "PRESS ENTER TO VIEW FAAST STATUS". Press the ENTER button to initiate the device read. Row D will indicate "**READING**" to confirm initiation of the device read operation. Once the device read is complete, the FAAST detector status screen will be displayed.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	L	-	A	D	D		S	F	:	*	L	V	:		T	I	M	:		
B	C	F	G	:		A	S	P	:		F	D	:		L	E	D	:	0	
C	D	I	S	:		D	I	R	:	*	F	U	:		A	:	0	0	0	%
D	C	O	M	:		D	B	L	:		F	M	:		0	.	0	0	0	0

Exhibit 5-34: FAAST Detector Status Screen #2

- Row A (L-ADD) – Displays the loop (1 – 4) and address number (1 – 253) of the FAAST device being displayed.
- An asterisk (*) will be displayed in each status field when the applicable fault is active:
  - SF (Sensor Fault) – Sensor fault has occurred.
  - LV (Low Voltage) – Voltage supplied to detector has dropped to minimum operating range.
  - TIM (Time) – Detectors internal time has not been set.
  - CFG (Configuration Fault) – Detector has not been configured.
  - ASP (Aspirator Fault) – Detector aspirator has stopped functioning.
  - FD (Filter Door Open) – Filter door has been removed and not replaced.
  - LED (N/A LED is on or off) – Press F1 to toggle this LED on (1) or off (0).
  - DIS (Disable) – Detector has been disabled.
  - DIR (Drift Fault – IR Laser) – The IR sensor has reached its allowable drift limit.
  - FU (Filter Urgent) – Detector filter has been clogged for more than 72 hours.
  - A – Detectors airflow percentage.
  - COM (Communication) – Peripheral communication has failed and device is not functioning properly.
  - DBL (Drift Fault – Blue LED) – The LED sensor has reached it allowable drift limit.
  - FM (Filter Minor) – Detector filter is clogged and needs to be changed.
  - OBSCRUATION LEVEL – Current detector obscuration level (%/ft.).

5.9 VOLTAGES

The main control board has two primary test points that are used when making voltage measurements on 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 bus (connect the voltmeter ground to TP1). Check this point if AC power is applied, but the system does not seem to operate properly.

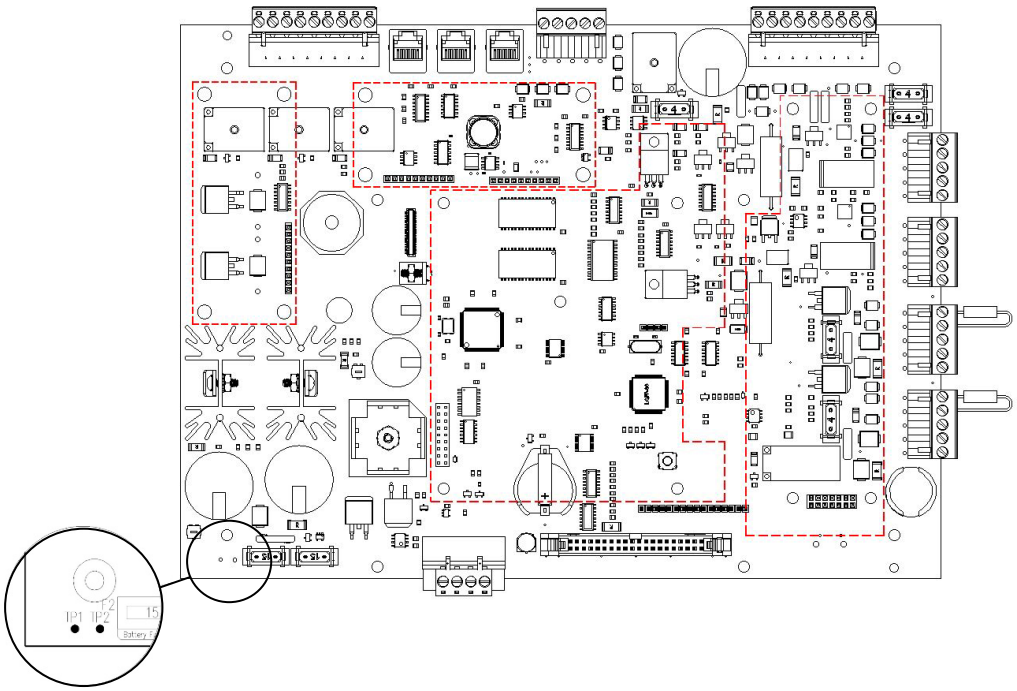


Exhibit 5-35: Control Board Test Points

LOOP VOLTAGE

Nominally 24 VDC, with a data communication pulse that drops down to a level between 0-5 VDC. During normal operation, a meter should measure anywhere from 0-24 VDC. It should not measure a constant 0 VDC.

GROUND FAULT, TP1 to Chassis

With a normal panel and no ground fault, this voltage is 2.17 VDC nominal (<) or 5.0 VDC nominal (>). 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 ohm between power ground and chassis ground or 1M ohm between main power and chassis ground.

Reserved for future use.

6.1 OVERVIEW

To ensure operational integrity, the Cheetah Xi system should be properly tested and inspected at prescribed intervals as required by NFPA 72, National Fire Alarm and Signaling Code and the local Authority Having Jurisdiction (AHJ). The property or building owner is responsible for testing and maintaining the system. The owner can designate a representative (often the building manager) to be responsible for ensuring that the system is properly tested and maintained.

If the owner or designated representative does not choose to perform the testing and maintenance of the system or is not allowed to due to licensing laws or certification requirements, the owner shall contract with a qualified contractor to perform these services. Qualified personnel can include those persons that are:

A. Factory Trained and Certified

B. Certified by a nationally recognized certification organization acceptable to the authority having jurisdiction.

C. Registered, licensed, or certified by State or Local Authority

D. Trained, qualified and employed by an organization listed by a national testing laboratory

Records of all testing and maintenance shall be kept on the protected premises for a period of at least five (5) years. System defects and malfunctions shall be corrected. If a defect or malfunction is not corrected at the conclusion of system inspection, testing, or maintenance, the system owner or owner's designated representative shall be informed of the impairment in writing.

6.2 ROUTINE MAINTENANCE

Certain components of the Cheetah Xi require replacement at regular intervals, 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 with Fike battery P/N 02-4040 only. Use of another battery may present a risk of fire or explosion.

The lithium battery is located on the front of the Cheetah Xi control board (bottom-center). To replace the lithium battery, use the following procedure:

1. Connect to the Cheetah Xi panel using C-Linx software and download the system configuration before attempting to replace the lithium battery. Failure to do so will result in loss of system configuration.
2. Remove power from panel (AC and batteries) and wait 60 seconds before proceeding.
3. Remove the lithium battery by using thumb and forefinger to slide the coin cell from the battery holder on the system controller.
4. Insert new battery (P/N 02-4040) making sure to observe polarity marking on the battery holder.
5. Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.
6. Reapply power to the panel (AC and batteries).
7. Connect to the Cheetah Xi panel using C-Linx software and upload the system configuration into the control board.
8. Verify proper operation of system.

6.3 FUSE REPLACEMENT

The Cheetah Xi controller has five replaceable fuses (standard automotive) as shown in Exhibit 6-1. These fuses provide over current protection for the controller and are rated as followed:
F1 – Primary AC Power input, 15 Amp (P/N 02-4174)
F2 – Battery Power input, 15 Amp (P/N 02-4174)
F3 – Auxiliary Power circuit #1, 4 Amp (P/N 02-11412)
F4 – Auxiliary Power circuit #2, 4 Amp (P/N 02-11412)
F5 – Auxiliary Power circuit #3, 4 Amp (P/N 02-11412)
F6 – NAC circuit #1, 4 Amp (P/N 02-11412)
F7 – NAC circuit #2, 4 Amp (P/N 02-11412)

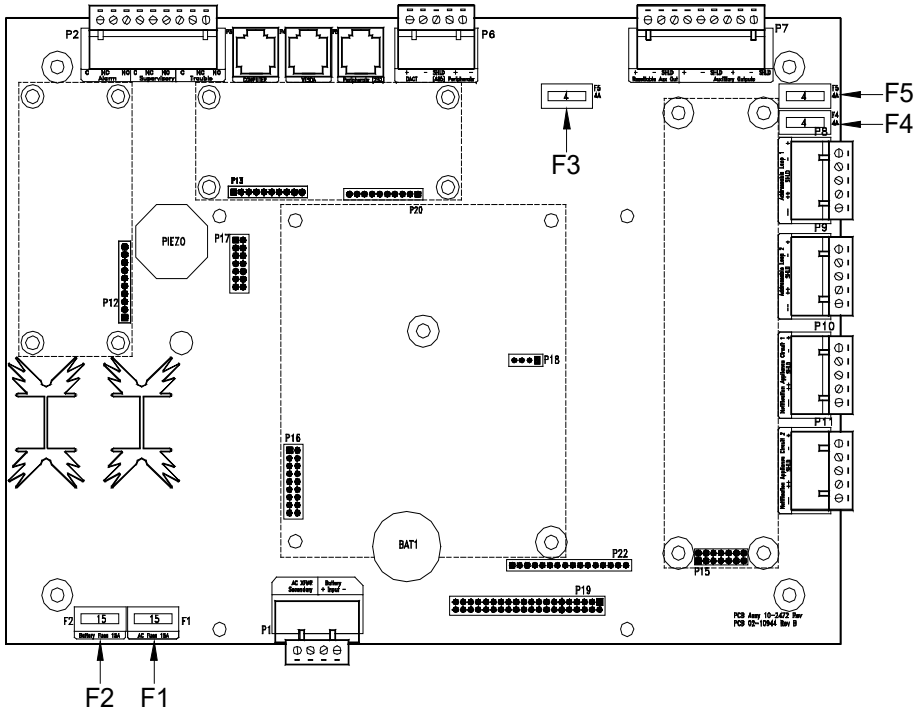


Exhibit 6-1: Controller Fuse Locations

If the Supplemental Power Supply is installed, it is equipped with five replaceable fuses (standard automotive) as shown in Exhibit 6-2. These fuses provide over current protection for the controller and are rated as follows:

F1 – Primary AC Power input, 15 Amp (P/N 02-4174)
F2 – Battery Power input, 15 Amp (P/N 02-4174)
F3 – Auxiliary Power circuit #1, 4 Amp (P/N 02-11412)
F4 – Auxiliary Power circuit #2, 4 Amp (P/N 02-11412)
F5 – Auxiliary Power circuit #3, 4 Amp (P/N 02-11412)

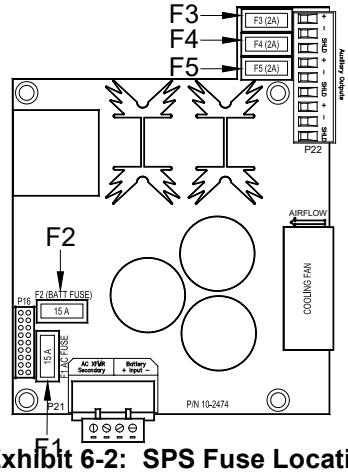


Exhibit 6-2: SPS Fuse Locations

6.4 PANEL MAINTENANCE MENUS

The Cheetah Xi's Maintenance Menu provides several features that can be used by service personnel to maintain and test the addressable devices connected to the panel's SLC circuits. It is intended for those who are trained and authorized to service Fike systems. Certain functions of the maintenance menus are password protected to prevent unauthorized access. To gain access to the password protected functions, you must enter a valid Level 2 or 3 password. See Section 2.2.1 for instructions on how to log onto the system. Entering a Level 2 password restricts the maintenance menu options that you are able to use (as noted).

6.4.1 MAINTENANCE MENU 1

From the Top Level Menu, press the F5 button to access the Maintenance menu:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			M	A	I	N	T	E	N	A	N	C	E		M	E	N	U		
B	F	1	-	D	E	V		R	D			F	4	-	W	A	L	K	T	S
C	F	2	-	D	E	V		A	D	R		F	5	-	B	U	Z	Z	E	R
D	F	3	-	D	E	V		R	P	L		F	6	-	M	E	N	U		2

Exhibit 6-3: Maintenance Menu

Press the corresponding function button to display the selected maintenance screen:

F1 = Read device loop/address

F2 = Assign loop/address to device

F3 = Replace device sequence

F4 = Select Walktest mode

F5 = Disable on-board buzzer

F6 = Maintenance Menu 2

6.4.1.1 DEVICE READ

The Device Read screen allows you to see the address and device type of the most recent device attached to the loop. From the Maintenance Menu, press the F1 button to access the Device Read screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		M	O	S	T		R	E	C	E	N	T		D	E	V	I	C	E	
B		A	T	T	A	C	H	E	D		T	O		P	A	N	E	L		
C		L	O	O	P	:	1		A	D	D	R	E	S	S	:	N	N	N	
D		T	Y	P	E	:	D	E	V	I	C	E		T	Y	P	E			

Exhibit 6-4: Device Read Screen

- Row C - Displays the ADDRESS of the most recent device attached to the loop. To read a device address, either add it to the loop while this screen is displayed, or temporarily remove and replace the device for panel to read the address.
- Row D - Displays the device type of the most recently identified address in Row C.

Note: Pressing the ENTER button will clear the loop and address to zeroes and the type message to blanks.

Note: If at any time during a DEVICE READ there is a communication error between the panel and the device the panel will display "DEVICE COMM ISSUES" then a re-read of the device MUST be performed.

6.4.1.2 DEVICE ADDRESS

The Device Address screen allows you to automatically assign an address to a new device or change the address of an existing device connected to the panel. From the Maintenance Menu, press the F2 button to access the Device Address screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				S	E	L	E	C	T		A	D	D	R	E	S	S			
B		L	O	O	P	:	1		A	D	D	R	E	S	S	:	0	0	1	
C																				
D	P	R	E	S	S		E	N	T	E	R		T	O		S	T	A	R	T

Exhibit 6-5: Device Address Screen

- Row B - Allows you to set the desired new address number to be used. Use the ◄► arrow buttons to move the cursor under the Loop and Address fields; then use the +/- buttons to increment/decrement the fields.
- Row D - Press the ENTER button to start the automatic address function. See Exhibit 6-6.

Note: Once ENTER is pressed, the panel needs to see a NEW DEVICE record for the device. Either add the new device 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 need to be completed for appropriate operation and supervision.

The screen will prompt you to connect a new device (or temporarily remove and replace the desire device to be addressed to the loop), then press ENTER:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		C	O	N	N	E	C	T		D	E	V	I	C	E		T	O		
B		A	D	D	R	E	S	S	A	B	L	E		L	O	O	P			
C		P	R	E	S	S		E	N	T	E	R		W	H	E	N			
D		C	O	M	P	L	E	T	E											

Exhibit 6-6: Device Address Process Screen

The panel will indicate that it has detected a new device and will record a new device message in the history buffer. Once the ENTER button is pressed, the panel will record the device with the new address (the panel will auto-increment the address number after each successful address write):

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		C	O	N	N	E	C	T		D	E	V	I	C	E		T	O		
B		A	D	D	R	E	S	S	A	B	L	E		L	O	O	P			
C					*	N	E	W		D	E	V	I	C	E	*				
D						*	D	E	T	E	C	T	E	D	*					

Exhibit 6-7: Device Address/New Device Screen

After each successful address write, the panel will indicate that the process has been completed and will prompt the user to press the ENTER button to address the next device. The panel will increment to the next device address automatically after the ENTER button has been pressed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		L	O	O	P	:	1		A	D	D	R	E	S	S	:	N	N	N	
B		D	E	V	I	C	E		A	D	D	R		C	H	A	N	G	E	
C						C	O	M	P	L	E	T	E	D						
D	E	N	T	E	R		F	O	R		N	E	X	T		D	E	V	I	C

Exhibit 6-8: Device Address/Change Screen

Note: Row C will display “FAILED” if an error occurred during the write process.

6.4.1.3 DEVICE REPLACE

The Device Replace screen allows you to replace a sensor type device already connected to the panel with a new (like) device and write the configuration of the original device into the new device. A successful Level 2 or higher password is required to access this feature. From the Maintenance Menu, press the F3 button to access the Device Replace screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A				S	E	L	E	C	T		A	D	D	R	E	S	S			
B		L	O	O	P	:	1		A	D	D	R	E	S	S	:	0	0	1	
C	T	Y	P	E	:		P	H	O	T	O		S	E	N	S	O	R		
D	P	R	E	S	S		E	N	T	E	R		T	O		S	T	A	R	T

Exhibit 6-9: Device Replace Menu

- Row B - Allows you to select the loop and address of the device to be replaced. Use the ◄► arrow buttons to move the cursor under the Loop and Address fields; then use the +/- buttons to increment/decrement the fields.
- Row C - Displays the type of device associated with the Loop and Address selected in Row B.
- Row D - Press the ENTER button to start the device replace function.

Note: The replacement device MUST be the same type of device as the device being replaced. Testing of the changed device is recommended after replacement.

Note: This process requires a device originally connected with a valid configuration. It is useful for fixing maintenance troubles, but not DEVICE MISSING or DEVICE ERROR: 2000 troubles. C-Linx should be used for sending configurations.

Once the source device loop/address has been selected and the ENTER button has been pressed, the panel will read the configuration from the selected device and store it in the panel. Retrieval of the configuration can take several seconds. Do not press any buttons or navigate away from this screen while the "Retrieving Config From Device" message is displayed. Doing so may cause loss of configuration data. If the device configuration is already stored in the panel, the screen shown in Exhibit 6-11 will be immediately displayed. The following screen will only be displayed if the panel memory does not already hold a configuration for the device:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		R	E	T	R	I	E	V	I	N	G		C	O	N	F	I	G		
B					F	R	O	M		D	E	V	I	C	E					
C					>	>	>	>	>	>	>	>	>	>	>	>	>	>	>	<
D					P	L	E	A	S	E		W	A	I	T					

Exhibit 6-10: Retrieving Configuration Screen

The panel will then prompt you to replace the device and press the ENTER button to proceed:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		R	E	P	L	A	C	E		D	E	V	I	C	E		O	N		
B		A	D	D	R	E	S	S	A	B	L	E		L	O	O	P			
C		P	R	E	S	S		E	N	T	E	R								
D		W	H	E	N		C	O	M	P	L	E	T	E						

Exhibit 6-11: Device Replace Screen

The panel will send the device configuration stored in the panel to the new device. The serial number stored in the panel for the replaced device will be replaced with the serial number from the new device. The following screen will be displayed to show that the process is proceeding:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A					C	O	N	F	I	G	U	R	I	N	G					
B					N	E	W		D	E	V	I	C	E						
C					>	>	>	>	>	>	>	>	>	>	>	>	>	>	<	<
D					P	L	E	A	S	E		W	A	I	T					

Exhibit 6-12: Device Configuration Screen

- Row D - Displays COMPLETED once the device has been configured.

The panel will record a DEVICE REPLACE OK (or FAIL, if there was a failure) event in the history buffer once the device replacement process is complete. The following screen will appear automatically to allow replacement of another device:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			R	E	P	L	A	C	E		S	U	C	C	E	E	D	E	D	
B		L	O	O	P	:	1		A	D	D	R	E	S	S	:	0	0	1	
C	T	Y	P	E	:		P	H	O	T	O		S	E	N	S	O	R		
D	E	N	T	E	R		F	O	R		N	E	X	T		D	E	V	I	C

Exhibit 6-13: Device Replace Success Screen

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.

6.4.1.4 WALK-TEST

The Walk-Test screen allows you to place the panel into the walk-test mode by selecting the mode of operation to be used by the panel during the walk-test. A successful Level 3 or higher password is required to access this feature. From the Maintenance Menu, press the F4 button to access the Walk-Test Mode screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	S	E	L	E	C	T		W	A	L	K	T	E	S	T		M	O	D	E
B							D	I	S	A	B	L	E	D						
C																				
D		T	I	M	E	O	U	T	:		1		H	O	U	R	(	S	)	

Exhibit 6-14: Walk-Test Mode Screen

- Row B – Displays DISABLED if the walk-test function has not been Enabled through the panel's Configuration Menu 3. Walk-test must be enabled before the features of this screen become available. Refer to Fike document 06-651, "Cheetah Xi Programming Manual" for instructions on how to ENABLE walk-testing.

Once the walk-test feature is Enabled, the mode of operation for walk-testing can be selected:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	S	E	L	E	C	T		W	A	L	K	T	E	S	T		M	O	D	E
B						N	O	T		A	C	T	I	V	E					
C			E	N	T	E	R		T	O		S	E	L	E	C	T			
D		T	I	M	E	O	U	T	:		1		H	O	U	R	(	S	)	

Exhibit 6-15: Walk-Test Mode Screen

- Row B - Allows you to select the walk-test mode to use. Will display "NOT ACTIVE" until the ENTER button is pressed to toggle between the two walk-test modes.

  Mode 1 – Buzzer ON - the local piezo will also sound with the activation of the alarm events.

  Mode 2 – Buzzer OFF - the local piezo will be silent with the activation of the alarm events.

  Once the proper walk-test mode has been selected, the panel is locked into the walk-test mode and all normal panel operations are suspended. The panel will remain in the walk-test mode until it is reset or the time-out feature set in Row D expires.

- Row D - Allows you to select how many hours should pass with no events before walk-test mode times out (1-4 hrs.). Use the ◄► arrow buttons to move the cursor under the field; then use the +/- buttons to increment/decrement the field.

Note: Devices programmed for walk-test with IR will immediately issue a "TEST ALARM" status upon entry into this menu.

Input Devices:

By default, all input devices (i.e., detectors and monitor modules) will participate in a system walk-test. Detector devices (i.e., photo, photo/heat, photo/duct, ionization and heat detectors) can be configured using the panel's configuration software C-Linx to allow for walk-testing using canned smoke or Fike's IR tool. The IR tool must be used for duct detector walk-testing. Devices may only be activated once during the walk-test mode. Detectors indicate that they are in the walk-test mode by blinking their LEDs green then red when tested. Detector LEDs will return to normal operation (flash green every 5 seconds) when alarm condition clears.

Output Devices:
Each output device (i.e., control module, relay module and NAC) can be individually programmed to participate in a system walk-test. Outputs will activate continuous (4 second duration) if programmed for the specific Zone and State of the activated input device. This allows you to get an audible feedback from system output devices each time a device is tested. By default, here is how the output devices come configured:

Control Module (P/N 55-042/55-047): Configured to respond to walk-test

Relay Module (P/N 55-043/55-048): Configured NOT to respond to walk-test

NAC1 (P10) and NAC2 (P11): Configured to respond to walk-test

A. PANEL WALK-TEST

When walk-test is executed from control panel, all devices programmed for walk-test will enter the walk-test mode. Utilize the following procedure to perform the walk-test:

1. Enable walk-test operation from the control panel's Maintenance Menu, F5-Maint > F4-WALKTS. If the screen indicates walk-test DISABLED, utilize the panel's Configuration menu F1-CONFIG > F6-MENU 2 > F6-MENU 3 > F2-WALK to ENABLE walk-test operation for the panel. This requires an administrator level password to change.

   Note: Detectors programmed for walk-test with IR will automatically issue a TEST ALARM message upon activation of the walk-test mode through the control panel. Detectors will indicate that they are in the walk-test mode by blinking their LEDs green then red continuously until the control panel is reset.

2. Proceed to the first device to be tested.
3. Activate the device using canned smoke (detectors) or manual activation (monitor modules) or DUCT detector Remote Test Station (DUCT detectors). Verify alternating red and green LEDs on device.
4. Device broadcasts a TEST ALARM message. Message displays on the control panel LCD and remote displays (if applicable).
5. Audible devices programmed to respond to this device's activation turn on for 4 seconds (continuous).
6. When test smoke clears from a detector or after a monitor module is deactivated, device being tested will exit the test mode and the device LED returns to normal operation (flash green every 5 seconds).
7. After all devices are tested, download the panel history for testing records.
8. Reset the control panel to return it to normal operation. Panel will be reset automatically after a maximum of 4 hours.

B. IR TOOL WALK-TEST

When walk-test is executed using the IR tool, only the selected device will enter the walk-test mode (excluding DUCT detectors with Remote Test Stations). All other devices will continue to operate normally. Utilize the following procedure to perform the walk-test:

1. Enable IR communication from the control panel's Top Level Menu, F6-IR COMM for the addressable loop being tested.
2. Proceed to the first device to be tested.
3. IR select the device with the IR tool. Verify selection with flashing green LEDs.
4. Send test alarm command with the IR tool. Verify alternating red and green LEDs on device.
5. Device broadcasts a test alarm message. Message displays on control panel LCD and remote displays (if applicable).
6. Audible devices programmed to respond to this device's activation turn on for 4 seconds (continuous).
7. IR de-select the device or select next device to be tested (if IR single select is enabled). Device being tested exits the test mode and the device LED returns to normal operation (flash green every 5 seconds).
8. After all devices are tested, download the panel history for testing records.
9. Disable IR communication for the respective addressable loop. Devices require significantly more power when their IR receivers are continually active.
10. Reset the control panel to return it to normal operation. Panel will be reset automatically after a maximum of 4 hours.

6.4.1.5 BUZZER

This menu allows the user to turn off the panel's on-board buzzer during service and testing. A successful Level 3 or higher password is required to access this feature. From the Maintenance Menu, press the F5 button to access the Buzzer screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A																				
B			**B**	**U**	**Z**	**Z**	**E**	**R**		**O**	**P**	**E**	**R**	**A**	**T**	**I**	**O**	**N**	**:**	
C								**N**	**O**	**R**	**M**	**A**	**L**							
D																				

Exhibit 6-16: Buzzer Screen

- Row C - Use the ◄► arrow buttons to move the cursor under the field; then use the +/- buttons to toggle the field between NORMAL/DISABLED.

Note: The buzzer will remain disabled until the panel is reset, at which point it will return to normal operation.

6.4.2 MAINTENANCE MENU 2

From the Maintenance Menu 1 screen, press the F6 button to access the Maintenance Menu 2 screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		**M**	**A**	**I**	**N**	**T**	**E**	**N**	**A**	**N**	**C**	**E**		**M**	**E**	**N**	**U**		**2**	
B	**F**	**1**	**-**	**M**	**N**	**S**		**R**	**S**	**T**		**F**	**4**	**-**	**C**	**F**	**G**		**R**	**D**
C	**F**	**2**	**-**	**M**	**N**	**S**		**S**	**I**	**L**		**F**	**5**	**-**	**F**	**A**	**A**	**S**	**T**	
D	**F**	**3**	**-**	S	W		T	I	M	E		**F**	**6**	**-**	**A**	**H**	**U**		**O**	**N**

Exhibit 6-17: Maintenance Menu 2

Press the corresponding function button to initiate the selected function or display the selected maintenance screen:

F1 = Mass Notification System Reset

F2 = Mass Notification System Silence

F3 = Switch Timeout (*blank unless panel is configured for City of Chicago Operation*)

F4 = Device Configuration Read

F5 = FAAST

F6 = AHU On

Note: Selections F1 and F2 pertain to Voice Operations and are NOT applicable to the Cheetah Xi.

6.4.2.1 MASS NOTIFICATION SYSTEM RESET *(Not applicable to the Cheetah Xi.)*

When the voice system amplifiers are activated for mass notification (MNS), they cannot be reset using the standard control panel reset switches. The MNS Reset function provides a means for the system operator to reset the MNS system from the control panel (local or network). Resetting the MNS system does not impact the operation of any active Fire Alarm inputs or outputs.

From the Maintenance Menu 2 screen, press the F1 button to reset the mass notification system.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		**M**	**A**	**I**	**N**	**T**	**E**	**N**	**A**	**N**	**C**	**E**		**M**	**E**	**N**	**U**		**2**	
B	**F**	**1**	**-**	*	*	*	*	*	*	*		**F**	**4**	**-**	**C**	**F**	**G**		**R**	**D**
C	**F**	**2**	**-**	**M**	**N**	**S**		**S**	**I**	**L**		**F**	**5**	**-**	**F**	**A**	**A**	**S**	**T**	
D	**F**	**3**	**-**	S	W		T	I	M	E		**F**	**6**	**-**	**A**	**H**	**U**		**O**	**N**

Exhibit 6-18: MNS Reset Screen

- Row B - Once F1 is pressed, the display will show "*******" for about one second. Any amplifiers activated for MNS operation and active MNS switches will return to normal operation. The MNS contact on the FCC digital paging card will deactivate unless configured for latching operation. A system administrator level password is required for this switch to function.

6.4.2.2 MASS NOTIFICATION SYSTEM SILENCE *(Not applicable to the Cheetah Xi.)*

When the voice system amplifiers are activated for mass notification (MNS), they cannot be silenced using the standard control panel silence switches. The MNS Silence function provides a means for the system operator to silence the MNS system from the control panel (local or network). Silencing the MNS system does not impact the operation of any active Fire Alarm inputs or outputs.

From the Maintenance Menu 2 screen, press the F2 button to silence the mass notification system.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		M	A	I	N	T	E	N	A	N	C	E		M	E	N	U		2	
B	F	1	-	M	N	S		R	S	T		F	4	-	C	F	G		R	D
C	F	2	-	*	*	*	*	*	*	*		F	5	-	F	A	A	S	T	
D	F	3	-	S	W		T	I	M	E		F	6	-	A	H	U		O	N

Exhibit 6-19: MNS Silence Screen

- Row C – Once F2 is pressed, the display will show "*******" for about one second. Any amplifiers activated for MNS operation will silence. A system administrator level password is required for this switch to function.

6.4.2.3 SWITCH OPERATION

When configured for City of Chicago operation, the Cheetah Xi panel's DRILL and SILENCE switches on the main display are disabled in order to comply with local code requirements. The Switch Timeout screen allows the user to temporarily enable the DRILL and SILENCE switches for a period of 0 – 24 hours for inspection and testing purposes. This menu option only becomes visible if the panel is configured for COC operation and a successful factory level password is entered. From the Maintenance Menu 2, press the F3 button to access the screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	E	N	A	B	L	E		D	R	I	L	L	/	S	I	L	E	N	C	E
B				S	W	I	T	C	H	E	S		F	O	R	:				
C						0	0		H	O	U	R	S							
D																				

Exhibit 6-20: Switch Timeout Screen

- Row C - Use the ◄► arrow buttons to move the cursor under the field; then use the +/- buttons to increment or decrement the field between 0 and 24 hours. The panel must be reset for the switches to become operable. The switch will return to their normal, disabled state after the countdown timer expires or the panel is reset.

Note: Other system switches configured for Drill and Silence operation are not affected by this operation.

6.4.2.4 DEVICE CONFIGURATION READ

This menu provides a means to read the configuration of all addressable devices connected to the panel. From the Maintenance Menu 2, press the F4 button to access the screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			R	E	A	D		A	L	L		D	E	V	I	C	E	S		
B			O	N		L	O	O	P	S	:	1	2	3	4					
C	P	R	E	S	S		E	N	T	E	R		T	O		S	T	A	R	T
D	D	E	V	I	C	E	S		T	O		R	E	A	D	:	N	N	N	N

Exhibit 6-21: Configuration Read Screen

- Row B - Use the ◄►arrow buttons to move the cursor under the loop number; then use the +/- buttons to select or deselect the loop for reading. Press ENTER to start the “Reading” process.
- Row D – ‘NNNN’ shows the total number of devices the panel will read. This number will decrement each time a device has been read.

For systems with a large number of devices to be read, the screen will return to the ‘System Normal’ display after a few minutes of inactivity. The ‘System Normal’ display will indicate the current status of the configuration read until completed.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A			C	H	E	E	T	A	H		X	i		V	7	.	2	X		
B		*	R	E	A	D	I	N	G		D	E	V	:	1	-	0	0	2	*
C		D	E	V		R	E	M	A	I	N	I	N	G	:	0	0	0	9	
D	A	L	:	0	0	0		S	U	:	0	0	0		T	R	:	0	0	0

Exhibit 6-22: System Normal Screen with Configuration Read Active

- Row B – Displays the loop and address of the device currently being read.
- Row C – Displays the number of devices remaining to be read.

  Once all devices have been read, the ‘System Normal’ screen will be displayed.

6.4.2.5 FAAST

This menu provides a means to read the diagnostic condition of the FAAST detector connected to the panel, as well as isolate and disable the detector. The isolate condition allows the unit to continue to operate and annunciate alarms without affecting outputs. The disable condition turns off the detector fan and prevents the device from detecting alarms. The disable condition will be maintained through panel reset. From the Maintenance Menu 2, press the F5 button to access the screen:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	**L**	**O**	**O**	**P**	**:**	**1**		**A**	**D**	**R**	**:**	**0**	**0**	**1**	**-**	**0**	**2**	**0**		
B	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**0**
C	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
D	**F**	**1**	**-**	**R**	**D**		**F**	**2**	**-**	**I**	**S**	**O**	**L**		**F**	**3**	**-**	**D**	**I**	**S**

Exhibit 6-23: FAAST Screen

- Row A - Use the ◄► arrow buttons to move the cursor under the loop number and address range fields; then use the +/- buttons to select the loop and address range.
- Row B – These numbers act as placeholders for the range of addresses selected in Row A.
- Row C – Shows the status letter for the FAAST detector that aligns with the address number on Row B. Only FAAST detectors are displayed. Non FAAST detectors are shown as "**-**".
  - **F** = indicates that the detector is not isolated or disabled.
  - **I** = indicates that the detector is isolated.
  - **D** = indicates that the detector is disabled.
- Row D – Displays the actions that are available for the FAAST detector selected in Row C.
  - **F1-RD** = forces a read of the diagnostic condition of the FAAST detector.
  - **F2-ISOL** = sends the isolate (if the letter is **F** in row C) or de-isolate (if the letter is **I** in row C) command to the FAAST detector.
  - **F3-DIS** = sends the disable (if the letter is **F** in row C) or enable (if the letter is **D** in row C) command to the FAAST detector.

6.4.2.6 AHU ON

This menu provides a means to manually turn off all addressable relays configured for AHU shutdown. From the Maintenance Menu 2, press the F6 button to initiate 'AHU RESTART".

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A		**M**	**A**	**I**	**N**	**T**	**E**	**N**	**A**	**N**	**C**	**E**		**M**	**E**	**N**	**U**		**2**	
B	**F**	**1**	**-**	**M**	**N**	**S**		**R**	**S**	**T**		**F**	**4**	**-**	**C**	**F**	**G**		**R**	**D**
C	**F**	**2**	**-**	**M**	**N**	**S**		**S**	**I**	**L**		**F**	**5**	**-**	**F**	**A**	**A**	**S**	**T**	
D	**F**	**3**	**-**	S	W		T	I	M	E		**F**	**6**	**-**	**A**	**H**	**U**		**O**	**N**

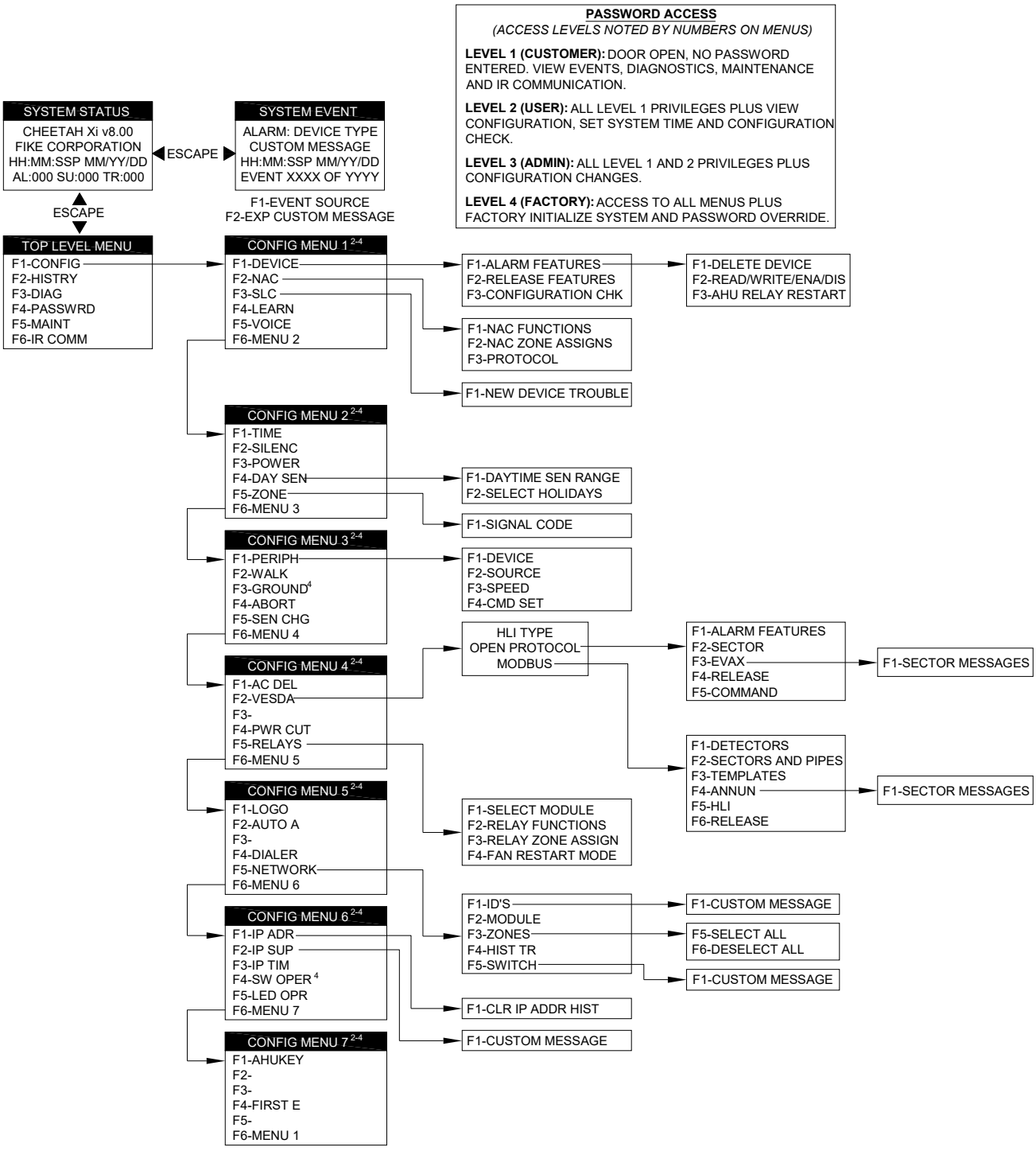
Exhibit 6-24: AHU ON Screen

- Row D – When F6 is pressed, the AHU ON is replaced with '******" while the panel sends the "AHU Restart" command to the addressable relays.

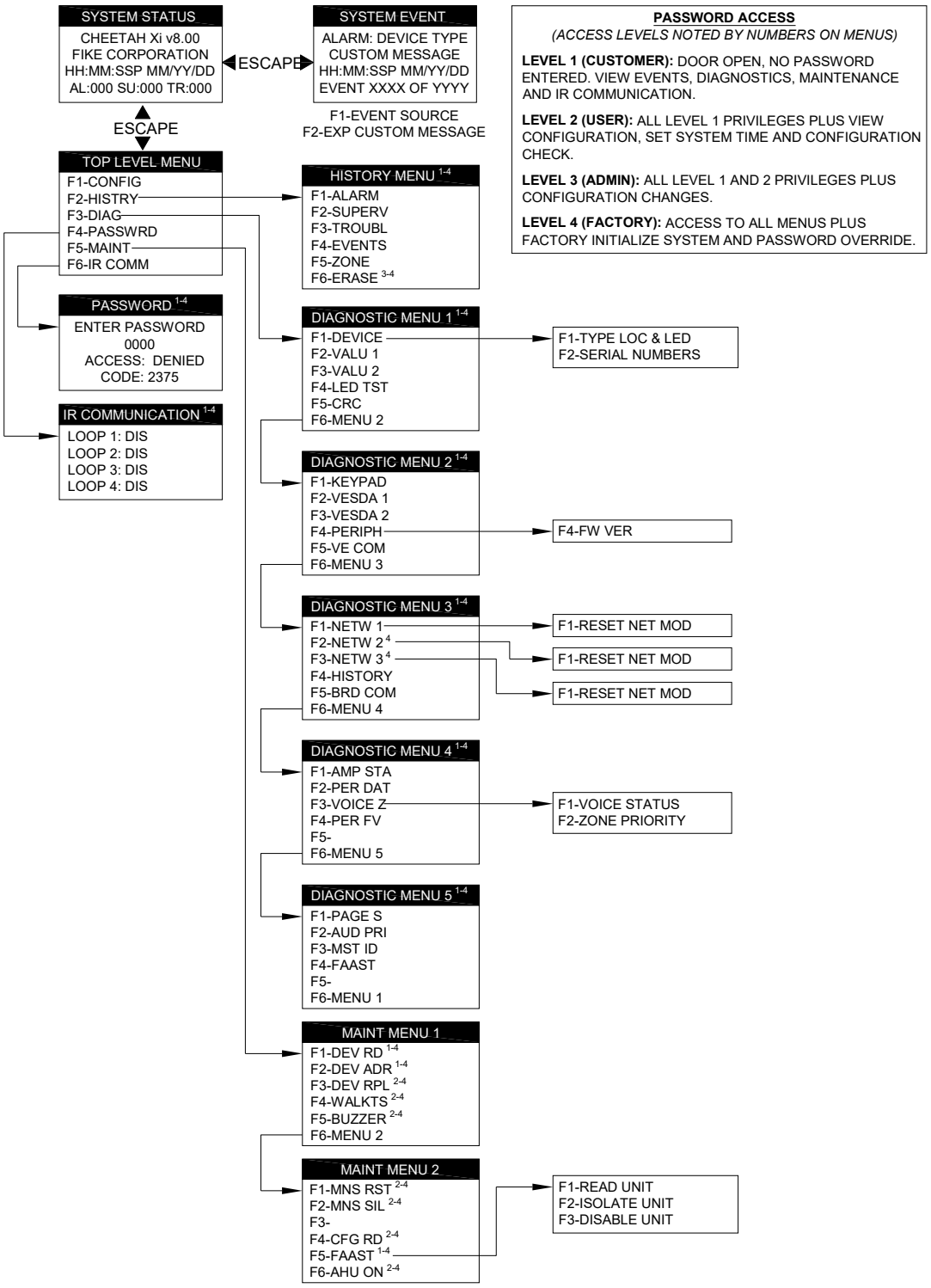
Note: This switch function only becomes active with a 'System Administrator' level password.

Reserved for future use.

A.1 CHEETAH Xi MENU STRUCTURE (V8.00)



A.2 CHEETAH Xi MENU STRUCTURE (V8.00)



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