P/N 68-023 HIGH LEVEL INTERFACE (HLI) VESDAnet Interface





P/N 06-158, Rev. 5 February 2015

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TABLE OF CONTENTS

Section	Page
1.0 About This Manual 1.1 Document History 1.2 Product Support 1.3 Related Documentation 1.4 Terms Used in this Manual 1.5 Symbols Used in this Manual 1.6 Safety Notices	3 3 4 6 6
 2.0 Product Overview 2.1 Ordering Information 2.2 Physical Specifications 2.3 Electrical Specifications 	7 7 7 8
 3.0 Installation	
4.0 Configuration	14 14 16
 5.0 Operation 5.1 Silence and Acknowledge Switches 5.2 Reset Switch 5.3 Trouble Interactions 5.4 Graphic Annunciator 5.5 Operation - Cheetah 5.6 Operation - CyberCat / Cheetah Xi 5.7 Cheetah / VESDA Alarm Levels 5.8 CyberCat / Cheetah Xi / VESDA Alarm Levels 	19 19 20 20 20 20 22 24 24 26
6.0 Trouble Reporting / Diagnostics6.1 Cheetah / VESDA Link6.2 CyberCat / Cheetah Xi / VESDA Link	31 31 32
7.0 Service. 7.1 Cheetah	34 34 36
Appendix 1 Cheetah Event Messages	38
Appendix 2 CyberCat / Cheetah Xi Event Messages	41

LIST OF EXHIBITS

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Exhibit	Pa	age
1	Circuit Board Assembly	7
2	Ordering Information	7
3	Circuit Board Wiring Connections	8
4	Terminal Block Specifications	8
5	Enclosure Installation	9
6	Cheetah HLI Wiring Diagram	. 10
7	Cheetah Xi and CyberCat HLI Wiring Diagram	. 11
8	Cheetah Xi 50 and CyberCat 50 HLI Wiring Diagram	. 12
9	VESDAnet Interface Example	. 13
10	VESDA Laser Plus Configuration	. 14
11	Laser Scanner Configuration	. 15
12	Laser Compact Configuration	. 15
13	Configuration Menu 4	. 16
14	VESDA Configuration Menu	. 16
15	VESDA Alarm Menu	. 16
16	VESDA Sector Zone Menu	. 17
17	VESDA Loop/Addr Menu	. 17
18	VESDA Release Menu	. 18
19	Cheetah – Alert Level	. 24
20	Cheetah – Alert Restored	. 24
21	Cheetah – Action Level	. 25
22	Cheetah – Action Restored	. 25
23	Cheetah – Fire 1 Level	. 25
24	Cheetah – Fire 2 Level	. 26
25	CyberCat/Cheetah Xi – Alert Level	. 26
26	CyberCat/Cheetah Xi – Alert Level Details	. 27
27	CyberCat/Cheetah Xi – Alert Clear	. 27
28	CyberCat/Cheetah Xi – Action Level	. 28
29	CyberCat/Cheetah Xi – Action Level Details	. 28
30	CyberCat/Cheetah Xi – Action Clear	. 28
31	CyberCat/Cheetah Xi – Fire 1 Level	. 29
32	CyberCat/Cheetah Xi – Fire 1 Level Details	. 29
33	CyberCat/Cheetah Xi – Fire 2 Level	. 29
34	CyberCat/Cheetah Xi – Fire 2 Level Details	. 30
35	Cheetah – Event Trouble	. 31
36	Cheetah – Event Restored	. 31
37	Cheetah – Event Trouble	. 32
38	Cheetah – Event Restored	. 32
39	CyberCat/Cheetan XI – Event Trouble	. 32
40	CyberCat/Cheetan XI – Trouble Restore	. 33
41	CyberCat/Cheetan XI – Trouble Restore	. 33
42	CyberCat/Cheetan XI – Trouble Restore	.33
43	Cheetan – VESDA Levels	. 34
44 15	Cheetah – Alam Theshold	. 35 25
40 46	Diagnostic Monu 2	. 30 26
40 17	Viagnostic Menu	. 30 26
4/ /Q	VESDA Diagnostic Menu	20
40 10	VLOUA Diagnostic IVICITU CyberCat/Chaetah Xi V/ESDA Isolatad	. 30
	CyberCat/Cheetah Xi - Isolate Clear	. 37
50		. 57

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1.0 ABOUT THIS MANUAL

This manual is intended to be a reference for the installation and operation of the VESDA High Level Interface (HLI) Module. The information contained in this manual must be utilized by the factory trained Fike distributor in order to properly install and test the device to ensure proper operation. This manual is not designed to be a full Operations Manual for the end user.

Before you refer to any section in this manual, and before you attempt to install or use, be sure to read the important safety notices in Section 1.6.

This manual is divided into sections for easy reference. The first-time installer and/or user should thoroughly read and understand the instructions contained within this manual before using this device. These instructions must be followed to avoid possible damage or adverse operating conditions caused by improper installation, wiring and/or programming.

1.1 DOCUMENT HISTORY

Document Title: VESDA Network Interface – Product Manual

Document Reorder Number: 06-158

Revision	Section	Date	Reason for Change
0	All Sections	10/2003	Initial Release
1	All Sections	09/2004	Updates to Firmware & Manual Format Corrections
2	All Sections	03/2007	Include Operation with CyberCat and Cheetah Xi
3	All Sections	10/2008	Changed the number of VESDA units that can be connected to HLI if used for primary detection to 10 maximum
4	All Sections	04/2010	Changed the number of VESDA units that can be connected to HLI if used for primary detection to 40 maximum
5	Section 2.3	02/2015	Updated HLI current draw.

1.2 PRODUCT SUPPORT

If you have a question or encounter a problem not covered in this manual, you should first try to contact the distributor that installed the protection system. Fike has a worldwide distribution network. Each distributor sells, installs, and services Fike equipment. Look on the inside of the door, left side, there should be a sticker with an indication of the distributor who sold the system. If you can not locate the distributor, please call Fike Customer Service for locating your nearest distributor, or go to our web-site at <u>www.fike.com</u>. 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 a.m. to 4:30 p.m. CST.



1.3 RELATED DOCUMENTATION

To obtain a complete understanding of the specific features of the VESDA HLI or to become familiar with related functions and networking to Fike panels, refer to the documentation listed below. Please reference the most current version or the version noted on the label located on the product.

Document Title	Part Number
Cheetah Installation, Operation and Maintenance Manual	06-148
CyberCat (254/1016) Addressable Fire Alarm Product Manual	06-326
Cheetah Xi Addressable Fire Suppression Product Manual	06-356
CyberCat 50 Addressable Fire Alarm Product Manual	06-368
Cheetah Xi 50 Addressable Fire Suppression Product Manual	06-369
VESDA LaserCOMPACT Product Guide - Xtralis Part No.	18938
VESDA LaserPLUS Product Guide – Xtralis Part No.	19145
VESDA LaserSCANNER Product Guide – Xtralis Part No.	19147
VESDA LaserFocus Product Guide (VLF250) – Xtralis Part No.	20295
VESDA LaserFocus Product Guide (VLF 500) – Xtralis Part No.	20297



1.4 TERMS USED IN THIS MANUAL

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

 Ω - Symbol for "ohm". Unit of resistance.

AC Normal State

("AC Normal" Green LED ON) The system is in the AC Normal state when appropriate AC power is being applied to the system.

Alarm State

("Alarm" Red LED ON, Piezo pulsing) The alarm occurs when an input circuit configured for alarm operation has been activated. Activation typically initiated by a detector or contact device. The system leaves the alarm state upon entry into the pre-discharge or release state.

Class A wiring

Input circuits capable of transmitting an alarm signal during a single open or a non-simultaneous single ground fault on a circuit conductor shall be designated as Style D or Class A. Similarly, output circuits capable of activating during a single open or a non-simultaneous ground fault on a circuit conductor shall be designated as Style Z or Class A. Commonly referred to as redundant or 4-wire connection; this manual refers to 4-wire connections as Class A wiring.

Class B wiring

Input circuits incapable of transmitting and alarm signal beyond the location of the fault condition (listed for Class A wiring above) shall be designated as Style B or Class B. Similarly, output circuits incapable of operating beyond the location of the fault condition shall be designated as Style Y or Class B. This manual refers to 2-wire connections as Class B wiring.

Initiating Device

A system component that originates transmission of a change-of-state condition, such as a smoke detector, manual fire alarm box, or supervisory switch. This manual interchanges the terms initiating device and input device.

Initiating Device Circuit

A circuit to which automatic or manual initiating devices are connected where the signal received does not identify the individual device operated. This manual interchanges the terms initiating device circuit and input circuit.

Normal State

("Trouble" Yellow LED OFF) The system is in the normal state when the power supply and all circuits are configured properly, connected, and responding properly. The system remains in normal state until a trouble condition occurs.

Non Power-Limited

A circuit designation given for wiring purposes. The amount of current flowing through the circuit is unlimited vs. being limited, or power-limited. AC power and Battery wiring is Non Power-limited.

Power-Limited

A circuit designation given for wiring purposes. The amount of current flowing through the circuit is limited (typically by fuse) vs. being unlimited, or non-power-limited. The SHP Pro input and output circuits are power-limited. The circuit has a maximum power that flows through it or it current limits and opens the circuit.

Pre-discharge State

("Alarm" Red LED ON, Piezo chirping) The pre-discharge state occurs when the zone's detection type input conditions are satisfied (Cross Zone Detection, Sequential Alarm Detection, or Single Detector Release). Upon time delay countdown completion (unless delayed by a pertinent activated abort input), the system leaves the predischarge state and enters the release state.

Release State

("Alarm" Red LED ON, Piezo chirping) The release state occurs upon completion of the pre-discharge state or upon activation of a manual release input. At the start of the release state, output circuits configured for releasing shall operate. (Does not apply to CyberCat)



1.5 SYMBOLS USED IN THIS MANUAL

The following cautions and warnings appear in this manual. Be certain to read all of the following warning and cautions before attempting to install or use this device. Personal injury or accidental release of the suppression system may result if these warnings and cautions are not followed.

STOP WARNING

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

Caution

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.

Note: Provides information on installation, operation, maintenance, performance or general tips that are important but not hazardous to anything or anyone.

1.6 SAFETY NOTICES

Be certain to read all the following warnings and cautions before installing or using this device. Accidental damage to the device could result if these warnings and cautions are not heeded!

STOP WARNING

Failure to disconnect power to the releasing circuit(s) and completely disarm the solenoid(s) or any other "critical operation" contacts prior to system testing may cause accidental activation of the system.

ACaution

To ensure proper system operation after installation of the VESDA HLI, this device must be tested in accordance with NFPA 72. Re-acceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

ACaution

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

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2.0 PRODUCT OVERVIEW

The VESDA Open Protocol High Level Interface (HLI) is used to link VESDA detectors, displays and programmers connected to the "VESDAnet" with compatible Fike control panels (i.e., Cheetah, Cheetah Xi and CyberCat). The host control panel will poll the HLI which will then transmit all VESDAnet detector information intelligently into the control panel. Refer to the VESDA System Design Manual for a detailed description of connecting to a VESDAnet system.

The HLI (P/N 68-023) is sold as an assembly that consists of the following components:

- 16 gauge, painted steel enclosure with cover, painted gray
- Printed circuit board with HLI attached
- Communication cable, HLI to host panel



Exhibit 1: Circuit Board Assembly

The number of VESDA detectors that can be connected to a single HLI varies depending upon the firmware version of both the HLI and host control panel. If using an HLI with firmware V3.08.0.0 or higher in conjunction with a host control panel with firmware V4.20 or higher; up to 40 VESDA detectors can be connected to the HLI. If using a VESDA HLI with firmware older than V3.08.0.0 or a host control panel with firmware older than V4.20; up to 10 VESDA detectors can be connected to the HLI. These limitations must be adhered to in order to allow the VESDAnet detectors to meet the device response time requirements set forth by UL standard 864 (ninth edition) and NFPA 72.

Part Number	Description
68-023	High Level Interface (HLI) Assembly
10-2277	HLI Printed Circuit Board Assembly (included in 68-023)
68-037	Open Protocol HLI (included in 10-2277)
02-4551	HLI Enclosure, Gray (included in 68-023)
02-3053	RS232 Serial Cable (included in 68-023), 4 conductor, 14 ft. (4.26 m)

2.1 ORDERING INFORMATION

Exhibit 2: Ordering Information

2.2 PHYSICAL SPECIFICATIONS

Environmental:	All electronics are rated 32° - 120°F (0° - 49°C) 93% relative humidity
Enclosure Dims (HxWxD):	Backbox - 6" (15.24 cm) x 12" (30.5 cm) x 4" (10 cm) Cover - 7" (17.8 cm) x 13" (33 cm) x 1/8" (.32 cm)
Enclosure Mounting:	Surface mount only using four holes provided in enclosure back box 10 inch (25.4 cm) horizontal centers, 4 inch (10 cm) vertical centers



2.3 ELECTRICAL SPECIFICATIONS

The HLI provides two terminal blocks which allow connection of the 24VDC power input and VESDAnet wiring. A RJ11 jack is provided to allow connection of the interconnection cable between the HLI and the host control panel (See Exhibit 3).



Exhibit of oncore board winning connections	Exhibit 3:	Circuit	Board	Wiring	Connections
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TERMINAL	DESCRIPTION	TION NOMINAL RANGE SPECIFICATION DETAILS					
P10 Term: 24 VDC 0 VDC 24 VDC	24VDC Power input	Power-limited Supervised	245 mA @ 24VDC (standby and alarm) Power for VESDA High Level Interface must come from Power Supply on Fike Control Panel or Ground fault could result. Wiring 16AWG minimum, THHN				
0 VDC	Outgoing		Terminal block accepts 12 AWG–16 AWG				
P9 A+ A- Shield B+ B- Shield	VESDAnet Incoming Outgoing	RS485 Non-power-limited Supervised	 120Ω impedance shielded twisted pair cable (Belden 9841 wiring or equivalent) 4265 ft. (1300 m) maximum between two VESDAnet devices Maximum 40 VESDA detectors connected to HLI if used for primary detection 				
Panel	RS232 data	RS232 Supervised Non-power limited	Serial communication cable 20 ft. (6.1 m) maximum cable length in conduit to Fike Control Panel located in same room Cable shipped with assembly is 14 ft. (4.26 m) in length				

Exhibit 4: Term	linal Block Specificati	ons

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3.0 INSTALLATION

The HLI should not be installed until after all construction cleanup has been completed in order to avoid any potential damage to the electronics due to dust and debris. Before installing the HLI assembly into the enclosure, thoroughly clean the enclosure to remove any dirt, dust and debris.

3.1 MOUNTING LOCATION

The mounting location for the HLI is very important. The HLI must be located in the same room and within 50 feet (15 m) of the host control panel. The following guidelines shall be considered when selecting the mounting location for the HLI:

- 1. Locate the HLI enclosure in an area that is readily accessible with sufficient room to allow easy installation and maintenance.
- 2. The room shall be capable of maintaining a nominal temperature of 32° 120°F (0° 49°C) with a relative humidity of 93%.
- 3. Additional items to consider when selecting the mounting location shall include: vibration, dust, moisture, electromagnetic interference, and radio frequency interference.

All of the items listed above could adversely effect the successful operation and useful life of the HLI electronic components and should be avoided if possible.

3.2 ENCLOSURE INSTALLATION

The HLI enclosure is equipped with four mounting holes in the back box that allows surface mounting of the box to the wall surface (See Exhibit 5). The mounting holes are spaced at 10 inch (25.4 cm) horizontal centers and 4 inch (10 cm) vertical centers.



Exhibit 5: Enclosure Installation

The back-box is equipped with conduit knockouts on all four sides that allows easy access into the box for electrical connections to the HLI.



3.3 HLI WIRING

The HLI connects to the Cheetah, Cheetah Xi and CyberCat control panels via an RS232 cable connection. The HLI must be located within 50 feet (15 m) of the panel and must be powered from the host control panel's 24VDC continuous auxiliary output. Refer to Exhibits 6, 7 and 8 for wiring diagrams showing how to wire the HLI to each control panel.



Exhibit 6: Cheetah HLI Wiring Diagram

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Exhibit 8: Cheetah Xi 50 and CyberCat 50 HLI Wiring Diagram

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3.4 VESDANET WIRING

The HLI can be connected at any point on the VESDAnet network within 4265 ft. (1300 m) of the VESDA devices it is wired to (See Exhibit 9).





()Note: When connecting nodes in the VESDA network, always connect network A+ to B+, A- to B-.



4.0 CONFIGURATION

This section outlines the process used to configure the VESDA units into the system using the host control panel's configuration menus. For a detailed description of the Fike Control Panels, refer to Section 1.3 for a listing of related documentation.

Each VESDA detector must be programmed with a VESDA programmer or by using the VESDA configuration software. Refer to the VESDA System Design Manual for details on how to set up the VESDA detectors.

4.1 CHEETAH CONFIGURATION OF VESDA UNITS

When connecting to a Cheetah, each VESDA unit is configured in the same way as any addressable device. In this way the VESDA becomes a "virtual" addressable device. The VESDAnet detector occupies an address location even though it does not physically attach to the loop circuit.

4.1.1 VESDA ZONES

Each VESDA detector is configured with a "ZONE NUMBER". In order to avoid confusion between Cheetah zones with VESDA zones, the zone number configured at the VESDA is referenced in Cheetah with the word "UNIT".

4.1.2 CONFIGURATION SCREENS

The LCD screen to configure a VESDA is accessed via the same path as with any other addressable device. This screen is shown in the following Exhibits 10, 11 and 12:

4.1.2.1 VESDA LASER PLUS

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	2	-	0	1	1		V	Е	S	D	Α		L	Ρ	L	U	S	:	0	1
В	D	Е	V	I	С	Е		С	U	S	Т	0	Μ		Μ	Е	S	S	А	G
С																	F	2		Е
D																	А	L		Е

Exhibit 10: VESDA Laser Plus Configuration

- A1: Loop number selection. Range is 1 to 4.
- A3-5: Address number selection. Range is 1 to 127.
- A6: Feedback character '*' is displayed when the ENTER switch is pressed to store the configuration.
- A7-11: Addressable device selection.
- A13-17: VESDA detector type Laser Plus, Laser Scanner, or Laser Compact
- A18-A20: VESDA unit number. Range is 1 to 50.
- B1-B20: Custom message for this device.
- C17-18: Description for line D entry of the Fire 2 (F2) Interface
- C20: Description for line D entry of the Enable (E) status
- D17-D18: Pre-discharge participation for the Fire-2 Alarm level. Select 'AL' for alarm only, 'SU' for Supervisory, TR for Trouble or 'PD' to participate in predischarge event.
- D20: Enable 'E' or disable 'D' this device.

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4.1.2.2 VESDA LASER SCANNER

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	2	-	0	1	1		V	E	S	D	Α		S	С	Α	Ν	R	:	0	1
В	D	Е	V	L	С	Е		С	υ	S	Т	0	Μ		Μ	Е	s	S	А	G
С	s	1			S	2			S	3			S	4			F	2		Е
D	-	-	-		-	-	-		-	-	-		-	-	-		А	L		Е

Exhibit 11: Laser Scanner Configuration

- A1: Loop number selection. Range is 1 to 4.
- A3-5: Address number selection. Range is 1 to 127.
- A6: Feedback character '*' is displayed when the ENTER switch is pressed to store the configuration.
- A7-11: Addressable device selection.
- A13-17: VESDA detector type Laser Plus, Laser Scanner, or Laser Compact
- A18-A20: VESDA unit number. Range is 1 to 50.
- B1-B20: Custom message for this device.
- D1-3: Cheetah zone assigned to pipe sector 1
- D5-7: Cheetah zone assigned to pipe sector 2
- D9-11: Cheetah zone assigned to pipe sector 3
- D13-15: Cheetah zone assigned to pipe sector 4
- D17-D18: Pre-discharge participation for the Fire-2 alarm level. Select 'AL' for alarm only, 'SU' for Supervisory, TR for Trouble, or 'PD' to participate in predischarge detection.
- D20: Enable 'E' or disable 'D' this device.

4.1.2.3 VESDA Laser Compact



Exhibit 12: Laser Compact Configuration

- A1: Loop number selection. Range is 1 to 4.
- A3-5: Address number selection. Range is 1 to 127.
- A6: Feedback character '*' is displayed when the ENTER switch is pressed to store the configuration.
- A7-11: Addressable device selection.
- A13-17: VESDA detector type Laser Plus, Laser Scanner, or Laser Compact
- A18-A20: VESDA unit number. Range is 1 to 50.
- B1-B20: Custom message for this device.
- D20: Enable 'E' or disable 'D' this device.

()Note: Fire 2 level is not available on the VESDA Compact detector, so the detector can NOT participate in pre-discharge operation on the Cheetah panel.

4.2 CYBERCAT/CHEETAH XI CONFIGURATION OF VESDA UNITS

4.2.1 CONFIGURATION MENU 4

С	0	Ν	F	Ι	Gυ	R	А	Т	I	0	Ν		Μ	Е	Ν	U		4
F	1	-	А	С	D	Е	L			F	4-	Ρ	С		Μ	0	D	Е
F	2	-	V	Е	SD	А				F	5-	Ρ	1	2	/	Ρ	1	3
F	3	-	А	U	ХS	U	Ρ			F	6-	Μ	Е	Ν	U		5	

Exhibit 13: Configuration Menu 4

4.2.2 VESDA CONFIGURATION

From the CyberCat/Cheetah Xi Configuration Menu 4, Press F2 for VESDA Config.

V	Е	S	D	А		С	0	Ν	F	Ι	Gι	J	R	Α	Т	Ι	0	Ν	
F	1	-	А	L	А	R	Μ		F	Е	ΑT	-	U	R	Е	S			
F	2	-	S	Е	С	Т	0	R		Ζ	٥N	١	E-	S					
F	3	-	Е	V	A	Х				F	4 -		R	Е	L	Е	Α	S	Е

Exhibit 14: VESDA Configuration Menu

4.2.3 VESDA ALARM FEATURES

From the VESDA configuration menu, press F1

V	Е	S	D	А	Z	0	Ν	Е		Ν	U	Μ	:		0	0	1	
Т	Y	Ρ	Е	:								А	L	Μ		Е	Ν	А
С	U	S	Т	0	Μ	Μ	Е	S	S	А	G	E-	V	Ζ		0	0	1
Ζ	0	Ν	E:		00	0		0	0	0		0	0	0		0	0	0

Exhibit 15: VESDA Alarm Menu

- Line 1 VESDA Detector Zone number. Position the cursor under any of the 3 fields and use the +/buttons to change to a different zone number.
- Line 2 Detector type. Select the type by positioning the cursor under that area and using the +/- keys until the type detector installed is shown. Then arrow over to the right using the right arrow button until under the STATE field and use +/- to select the state of operation for that detector. The available States are ALM (Alarm), SUP (Supervisory) and TRB (Trouble)

Then use the right arrow button again to move over under the ENA field. Use the +/- keys to enable or disable that detector

- Line 3 Custom Message field for detector. Move the cursor to the field; use the +/- button to cycle through all ASCII characters and display the desired character. Arrow to next character and repeat until custom message is completed.
- Line 4 Zone assignment. This allows you to select up to 4 CyberCat/Cheetah Xi zones that this detector will participate in. Arrow until you get to each field, then use the +/- button to change zones to that desired. Repeat for each of 4 zones required. Remember, Zone 255 is ANY Zone.

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4.2.4 VESDA SECTOR ZONES

From the VESDA configuration menu, press F2 (for VESDA Scanner ONLY):

VESDA ZONE NUM 001 S1:000ALM S2:000ALM S3:000ALM S4:000ALM

	Exhibit 16:	VESDA	Sector	Zone	Menu
--	-------------	-------	--------	------	------

- Line 1 VESDA detector Zone Number. Arrow under the field, and use the +/- button to change to VESDA detector zone number.
- Line 2 Sector 1 & 2 CyberCat/Cheetah Xi Zone number for the sector event and state. Arrow to the zone field and use the +/- button to change to desired zone. Then arrow over under the state and use the +/- button to toggle through states of ALM, SUP or TRB.
- Line 3 Sector 3 & 4 CyberCat/Cheetah Xi Zone number for the sector event and state. Arrow to the zone field and use the +/- button to change to desired zone. Then arrow over under the state and use the +/- button to toggle through states of ALM, SUP or TRB.
- **()**Note: For LaserScanners, you can assign a separate zone for each of the 4 sectors. If you change the state of the detector in Section 4.1.3 to Supervisory or Trouble, in this section you must also change the state of each sector with a zone assigned to it for proper reporting, or you could create multiple zone states from the same event.

4.2.5 VESDA EVAX/GRAPHICS LOOP-ADDR

Unlike the Cheetah, the CyberCat and Cheetah XI do not require the VESDAs to be assigned a "Virtual Address" to properly report to the control panel. However, if you wish for the VESDA to be programmed to report as an individual device to a graphics panel, Voice Evacuation System, or point id DACT, they would then need to be assigned an address for reporting properly to those devices. This is shown as:

From the VESDA configuration menu, press F3

VESDA Z	ONE NU	M :	001
EVAX	LOOP:	0	
EVAX	A D D R:	000	

Exhibit 17:	VESDA	Loop/Addi	[.] Menu
-------------	-------	-----------	-------------------

- Line 1 VESDA Detector Zone number. Arrow under the field, and use the +/- button to change the VESDA detector zone number.
- Line 2 If using the VESDA to notify with Voice Evacuation or LED Graphic, you will need to tie this VESDA to a loop and address. Any unused address on available loops can be used for this reporting purpose. Do not select Loop 3 or 4 if you do not have the Supplemental Loop Module installed on panel. Select the desired loop number with the +/- button.
- Line 3 If using this VESDA to notify with Voice Evacuation or LED Graphic, you will need to tie this VESDA to an available loop and address. Any unused address on available loops can be used for this reporting purpose. Select the desired address number with the +/- button.



4.2.6 VESDA RELEASE FEATURES (NOT AVAILABLE IN CYBERCAT)

From the VESDA configuration menu, press F4

V	Е	S	D	А		Ζ	0	Ν	Е		Ν	U	Μ	:		0	0	1	
Ρ	R	Е	-	D	T	S	С	Н		Т	Y	Ρ	Е	:		А	-	А	L
Ρ	R	Е	-	D	I	S	С	Н		L	Е	V	:	F	T	R	Е		2
С	0	U	Ν	Т	D	0	W	Ν	:		А	U	Т	0	Μ	А	Т	I	С

Exhibit 18: VESDA Release Menu

- Line 1 VESDA Detector Zone number. Arrow under the field, and use the +/- button to change the VESDA detector zone number.
- Line 2 There are six (6) different Pre-Discharge types available for each addressable input device. This selection will tell the panel how this VESDA should participate with the Suppression zone. (See Cheetah Xi Product Manual, Appendix 4, for definition of each of these Pre-Discharge types, A-F).
- Line 3 Select the VESDA Fire level to participate in Pre-Discharge events, Fire 1 or Fire 2. (Only if Pre-Discharge type selected on Line 2 is not 'A' for an Alarm Only
- Line 4 Countdown time for the system to operate when this device is activated, automatic or manual. These countdown times are set up in the zone configuration.
- **()**Note: The VESDA Compact detector can participate in pre-discharge on the Cheetah Xi panel, since Fire 1 level may be selected to participate in pre-discharge operation.

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5.0 OPERATION

The High Level Interface receives communication from the Fike Control Panel via RS232 protocol, so the HLI assembly must be mounted within 50 feet (15.24 m) of the panel. It also requires continuous 24Vdc power from the control panel auxiliary power output. When that 24Vdc power is applied, a red LED will turn on to indicate power is active.

The VESDA can be programmed to either create an Alarm state, Supervisory state, or Trouble state at the control panel. If programmed as Alarm, the VESDA will create Pre-Alarm 1 when **Alert** level is reached and Pre-Alarm 2 when **Action** level is reached. The Pre-Alarm states are non-latching in the Fike panel and clear when the level of obscuration drops below the smoke threshold values set in the VESDA, (unless programmed as latching in the VESDA).

The VESDA will create the Alarm state when **Fire 1** or **Fire 2** level is reached, and those levels are latching in the control panel. If programmed for Supervisory, then **Fire 1** and **Fire 2** levels come into the control panel as a Supervisory state. If programmed for Trouble, then **Fire 1** and **Fire 2** levels come into the control panel as Trouble. **Alert** and **Action** always come into panel as Pre-Alarms.

FIRE 1 will activate the alarm state for the configured zones in the FIKE control panel. In the Cheetah, this will NOT participate in pre-discharge. In the Cheetah Xi, **FIRE 1** can be programmed to participate in pre-discharge.

FIRE 2 will also re-activate the alarm state for the configured zones in the FIKE control panel and will cause the device to participate in pre-discharge <u>if</u> configured to do so.

To see the actual VESDA Fault codes you must go into Diagnostics (For more information on VESDA Fault codes and diagnostics, See Section 6.0).

All latching events require the panel to be reset to clear the condition. Non latching events will self restore the panel to normal.

()Note: See Section 5.5 and 5.6 for specific operation sequence in all states programmed in the Cheetah or the CyberCat / Cheetah Xi

5.1 SILENCE & ACKNOWLEDGE SWITCHES

When the VESDA display goes into alarm it will turn on a pulsing audio alert (Alert and Action levels) or a steady audio alert (Fire-1 and Fire-2 levels). It will also flash the LEDs for the activated alarm levels. The Fike control panel will send a silence command to the VESDA when either the SILENCE or ACKNOWLEDGE switch is pressed. This action will take no more than 1 second. This VESDA display will acknowledge receipt of the silence command by turning off the audio alert and placing the LEDs in a steady on condition.

5.2 RESET SWITCH

Cheetah, Cheetah Xi or the CyberCat will send a single reset command to the HLI following its own reset. A command is sent for each VESDA unit configured within the control panel. If the VESDA is neither in alarm or trouble, the reset is not noticeable on the VESDA unit. If the VESDA is isolated, only a de-isolate command can take it out of the isolated condition.



5.3 TROUBLE INTERACTIONS

Certain trouble events will prevent the Fike Control Panel from activating an alarm (at any level) for the VESDA device. They are:

- **ISOLATE ACTIVE =** When the VESDA detector has been isolated either from the Fike Control Panel or a VESDA display unit.
- **DISABLED** = When the VESDA virtual address has been disabled from either the ENABLE menu or the CONFIG menu.
- **BAD CONFIGURATION =** When the checksum for the virtual address configuration calculates an error.
- **WRONG DEVICE** = When some other addressable device has been detected on a loop circuit at the virtual address.

5.4 GRAPHIC ANNUNCIATOR

The virtual address scheme allows a graphic annunciator to assign an LED to turn on for an alarm or trouble condition for the VESDA device occupying the address, or to program a voice evacuation system to recognize an individual VESDA point.

5.5 OPERATION - CHEETAH

5.5.1 ALARM OPERATION

If a VESDA is configured in the Cheetah control panel for **ALARM**, the following levels and states will be seen and activated on the panel:

- Alert Level = Pre-Alarm LED illuminates on panel, piezo sounds (constant), and Pre-Alarm 1 state entered for the configured panel zone. None of the onboard relays change states. Condition is nonlatching and will clear itself when obscuration level drops below the Alert Level in the VESDA. (Unless VESDA is set to latching on Alarms)
- Action Level = Pre-Alarm LED illuminates, on panel, and Pre-Alarm 2 state entered for the configured panel zone. None of the onboard relays change states. Since this is a new smoke level, Piezo will resound if they were silenced in Alert Level. Condition is non-latching and will clear itself when obscuration level drops below the Action Level in the VESDA. (Unless VESDA is set to latching on Alarms)
- Fire-1 Level = Alarm LED illuminates on panel, Piezo and alarm audibles sound, alarm state entered for the configured panel zone, and on board Alarm relay energizes. This state is latching and panel will need to be reset after obscuration drops.
- Fire-2 Level = Alarm LED re-illuminates on panel, alarm state active for the configured panel zone, and on board Alarm relay remains energized. Since this is a new Alarm Level, alarm audibles and Piezo will resound if they were silenced in Fire 1 Level. This state is latching and panel will need to be reset after obscuration drops.
- **()**Note: Pre-Alarm conditions are non-latching in the control panel. However, if the VESDA is configured to latch on alarm states, the VESDA will keep that level from clearing on the control panel. Alarm is always a latching event at the panel whether the VESDA is configured to latch on alarm or not.

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5.5.2 SUPERVISORY OPERATION

If a VESDA is configured in the Cheetah control panel for **SUPERVISORY**, the following levels and states will be seen and activated on the panel:

- Alert Level = Pre-Alarm LED illuminates on panel, piezo sounds (constant), and Pre-Alarm 1 state entered for the configured panel zone. None of the onboard relays change states. Condition is nonlatching and will clear itself when obscuration level drops below the Alert Level in the VESDA. (Unless VESDA is set to latching on Alarms)
- Action Level = Pre-Alarm LED illuminates, on panel, and Pre-Alarm 2 state entered for the configured panel zone. None of the onboard relays change states. Since this is a new smoke level, Piezo will resound if it was silenced in Alert Level. Condition is non-latching and will clear itself when obscuration level drops below the Action Level in the VESDA. (Unless VESDA is set to latching on Alarms)
- **Fire-1 Level** = Supervisory and Pre-Alarm LEDs illuminate on Panel, Piezo sounds and Supervisory State activates for the configured panel zone, and on board Supervisory relay energizes. This state is latching and panel will need to be reset after obscuration drops.
- Fire-2 Level = Supervisory and Pre-Alarm leds illuminated on Panel, and Supervisory State activated for the configured panel zone, and on board Supervisory relay remains energized. Since this is a new Alarm Level, Piezo will resound if it was silenced in Fire 1 Level This state is latching and panel will need to be reset after obscuration drops.
- **()**Note: Pre-Alarm conditions are non-latching in the control panel. However, if the VESDA is configured to latch on alarm states, the VESDA will keep that level from clearing on the control panel. Since this Supervisory State is caused by VESDA Fire 1 or Fire 2, it is a latching event at the panel whether the VESDA is configured to latch on alarm or not.

5.5.3 TROUBLE OPERATION

If a VESDA is configured in the Cheetah control panel for **TROUBLE**, the following levels and states will be seen and activated on the panel:

- Alert Level = Pre-Alarm LED illuminates on panel, piezo sounds (constant), and Pre-Alarm 1 state entered for the configured panel zone. None of the onboard relays change states. Condition is nonlatching and will clear itself when obscuration level drops below the Alert Level in the VESDA. (Unless VESDA is set to latching on Alarms)
- Action Level = Pre-Alarm LED illuminates, on panel, and Pre-Alarm 2 state entered for the configured panel zone. None of the onboard relays change states. Since this is a new smoke level, Piezo will resound if it was silenced in Alert Level. Condition is non-latching and will clear itself when obscuration level drops below the Action Level in the VESDA. (Unless VESDA is set to latching on Alarms)
- **Fire-1 Level =** Trouble condition on Panel, Trouble LED illuminates, Piezo sounds and on board Trouble relay changes states. This state is latching and panel will need to be reset after obscuration drops.
- Fire-2 Level = Trouble condition on Panel, and on board Trouble relay remains in the Trouble state. Since this is a new Alarm Level, Piezo will resound and Trouble Led will re-illuminate if it was silenced in Fire 1 Level. This state is latching and panel will need to be reset after obscuration drops.
- **()**Note: Pre-Alarm conditions are non-latching in the control panel. However, if the VESDA is configured to latch on alarm states, the VESDA will keep that level from clearing on the control panel. Since this Trouble State is caused by VESDA **Fire 1** and/or **Fire 2**, it is a latching event at the panel whether the VESDA is configured to latch on alarm or not.

5.6 OPERATION (CYBERCAT / CHEETAH XI)

5.6.1 ALARM OPERATION

If a VESDA is configured in the Cheetah Xi or CyberCat control panel for **ALARM**, the following levels and states will be seen and activated on the panel:

Alert Level = Trouble LED illuminates on panel, piezo on steady and Pre-Alarm 1 state entered for the configured panel zone. Piezo and Trouble LED only. None of the onboard relays change states. Condition is non-latching and will clear itself when obscuration level drops below the Alert Level in the VESDA. (Unless VESDA is set to latching on Alarms)

()Note: If panel has been silenced during the Alert, the panel LED and Piezo do NOT resound when **Action** Level is reached.

- Action Level = Trouble LED remains illuminated on panel, piezo remains on steady (if not silenced during Alert Level) and Pre-Alarm 2 state entered for the configured panel zone. Piezo and Trouble LED only. None of the onboard relays change states. Condition is non-latching and will clear itself when obscuration level drops below the Action Level in the VESDA. (Unless VESDA is set to latching on Alarms)
- Fire-1 Level = Alarm LED illuminates on panel, piezo comes on (Alarm) and Alarm state entered for the configured panel zone. The on board Alarm relay will energize. This state is latching and panel will need to be reset after obscuration drops. If configured for PreDischarge set to Fire 1 Level, the device now counts toward the configured state of release.

()Note: If panel has been silenced during the Fire 1 Level, the panel LED and Piezo do NOT resound when Fire 2 Level is reached.

Fire-2 Level = Alarm LED illuminates on panel, piezo on steady and Alarm state entered for the configured panel zone. The on board Alarm relay will energize. (Since this is a new Alarm Level, audibles will resound if they were silenced in Fire 1 Level). This state is latching and panel will need to be reset after obscuration drops. If configured for PreDischarge set to Fire 2 Level, the device now counts toward the configured state of release.

()Note: Pre-Alarm conditions are non-latching in the control panel. However, if the VESDA is configured to latch on alarm states, the VESDA will keep that level from clearing on the control panel. Alarm is always a latching event at the panel whether the VESDA is configured to latch on alarm or not.

5.6.2 SUPERVISORY OPERATION

If a VESDA is configured in the Cheetah Xi or CyberCat control panel for **SUPERVISORY**, the following levels and states will be seen and activated on the panel:

- Alert Level = Trouble LED illuminates on Panel, and piezo sounds. No onboard relay transfers during this state. This state is non-latching and will clear and silence when the obscuration level drops below the Alert Level in the VESDA. (Unless VESDA is set to latching on Alarms)
- Action Level = Trouble LED illuminates on Panel, and piezo sounds. No onboard relay transfers during this state. This state is non-latching and will clear and silence when the obscuration level drops below the Action Level in the VESDA. (Unless VESDA is set to latching on Alarms)

()Note: If panel has been silenced during the **Fire 1** Level, the panel LED and Piezo do NOT resound when Fire 2 Level is reached

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- Action Level = Supervisory and Trouble LEDs illuminate on Panel and piezo sounds supervisory pattern (warble) and Supervisory State entered for the configured panel zone. The onboard Supervisory Relay will energize and change states. On the CyberCat / Cheetah Xi this state is not latching and panel will clear after obscuration drops below the Fire 1 level. (Unless VESDA is set to latching on Alarms)
- Fire-2 Level = Supervisory and Trouble LEDs illuminate on Panel, piezo sounds supervisory pattern (warble) and Supervisory State activated for the configured panel zone. (This is a new smoke level but audibles will NOT resound if they were silenced in Fire 1 Level). The onboard Supervisory Relay will remain energized as it was in Fire 1 Level. On the CyberCat / Cheetah Xi this state is not latching and panel will clear after obscuration drops below the Fire 2 level. (Unless VESDA is set to latching on Alarms)
- **()**Note: Pre-Alarm conditions are non-latching in the control panel. However, if the VESDA is configured to latch on alarm states, the VESDA will keep that level from clearing on the control panel.

5.6.3 TROUBLE OPERATION

If a VESDA is configured in the Cheetah Xi or CyberCat control panel for **TROUBLE**, the following levels and states will be seen and activated on the panel:

- Alert Level = Trouble LED illuminates on Panel and piezo sounds trouble pattern (constant). No onboard relay transfers during this state. This condition is non-latching and will clear when the obscuration level drops below the Alert Level in the VESDA. (Unless VESDA is set to latching on Alarms)
- Action Level = Trouble LED illuminates on Panel and piezo sounds trouble pattern (constant). No
 onboard relay transfers during this state. This condition is non-latching and will clear when the
 obscuration level drops below the Action Level in the VESDA. (Unless VESDA is set to latching on
 Alarms)

()Note: If panel has been silenced during the Alert Level, the panel LED and Piezo do NOT resound when Action Level is reached.

- Fire-1 Level = Trouble LED illuminates on Panel and piezo sounds trouble pattern (constant). The onboard Trouble Relay will transfer at this point. On the CyberCat / Cheetah Xi this state is not latching and panel will clear after obscuration drops below the Fire 1 level. (Unless VESDA is set to latching on Alarms)
- Fire-2 Level = Trouble LED illuminates on Panel and piezo sounds trouble pattern (constant), and Trouble State activated for the configured panel zone. (This is a new smoke level but audibles will NOT resound if they were silenced in Fire 1 Level). The onboard Trouble Relay will transfer at this point. On the CyberCat / Cheetah Xi this state is not latching and will clear when the obscuration level drops below the Fire 2 level. (Unless VESDA is set to latching on Alarms)
- **()**Note: If panel has been silenced during the **Fire 1** Level, the panel LED and Piezo do NOT resound when **Fire 2** Level is reached.
- **()**Note: Pre-Alarm conditions are non-latching in the control panel. However, if the VESDA is configured to latch on alarm states, the VESDA will keep that level from clearing on the control panel.



5.7 CHEETAH / VESDA ALARM LEVELS

VESDA detectors have four alarm levels: ALERT, ACTION, FIRE-1, and FIRE-2. The levels convert from VESDA to Cheetah as follows:

VESDA	<u>Cheetah</u>
Alert	PreAlarm 1
Action	PreAlarm 2
Fire 1	Alarm
Fire 2	Alarm*

*Alarm can participate in Predischarge if Cheetah is programmed to do so.

The Cheetah PreAlarm states are non-latching. The Alarm state is latching. The VESDA may be configured for latching or non-latching alarm levels. If VESDA is configured for latching, all levels coming from VESDA will latch, including PreAlarms. If VESDA is configured for non-latching, then PreAlarms will restore when levels drop, but Alarm levels (Fire 1 and Fire 2) are latched by Cheetah panel.

5.7.1 CHEETAH - ALERT LEVEL

This history message appears when a VESDA reaches the **ALERT** level:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	А	L	Е	R	Т		0	•	0	3	5	%	/	0		0	4	6	%	
В	D	Е	V	L	С	Е		С	U	S	Т	0	Μ		Μ	Е	S	S	А	G
С	0	4	:	1	7	:	2	6	Ρ	М		1	2	/	3	0	/	9	7	
D	0	0	2	/	0	0	5		2	-	0	1	1		Ρ	0	0	R	0	0

Exhibit 19: Cheetah – ALERT Level

- A1-5: VESDA ALERT level activated.
- A8-13: VESDA threshold for the ALERT level in %/ft units. This number has been rounded from 4 digits to 3.
- A15-20: Current obscuration level reported by VESDA in %/ft units. This number has been rounded from 4 digits to 3.
- B1-20: Custom message for this device.
- C1-20: Time and date stamp for this event.
- D1-3: Event number in current history list.
- D5-7: Total number of current history events.
- D9-13: Virtual address of VESDA device.
- D16-17: Number of zones with active pre-discharge countdowns.
- D19-20: Number of zones with active release states.

NOTE: If the VESDA does not reach the **FIRE-1** level and is configured as non-latching for its pre-alarm levels, then the history message when the **ALERT** level clears is:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	А	L	Е	R	Т		R	Е	S	Т	0	R	Е							
В	D	Е	V	L	С	Е		С	U	S	Т	0	Μ		Μ	Е	S	S	А	G
С	0	4	:	2	0	:	0	0	Ρ	Μ		1	2	/	3	0	/	9	7	
D	0	0	2	1	0	0	5		2	-	0	1	1		Ρ	0	0	R	0	0

Exhibit 20: Cheetah – ALERT Restored

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5.7.2 CHEETAH - ACTION LEVEL

The following message appears when a VESDA reaches the ACTION level:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	А	С	Т	Ι	0	Ν		0		0	7	4	%	/	0	•	1	2	3	%
В	D	Е	V	L	С	Е		С	U	S	Т	0	Μ		Μ	Е	S	S	А	G
С	0	4	:	1	7	:	2	6	Ρ	Μ		1	2	/	3	0	/	9	7	
D	0	0	2	1	0	0	5		2	-	0	1	1		Ρ	0	0	R	0	0

Exhibit 21: Cheetah – ACTION Level

- A1-5: VESDA ACTION level activated.
- A8-13: VESDA threshold for the ACTION level in %/ft units. This number has been rounded from 4 digits to 3.
- A15-20: Current obscuration level reported by VESDA in %/ft units. This number has been rounded from 4 digits to 3.
- **()**Note: If the VESDA does not reach the **FIRE-1** level and is configured as non-latching for its alarm levels, then the history message when the **ACTION** level clears is:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	А	С	Т	Ι	0	Ν		L	Е	V	Е	L		R	Е	S	Т	0	R	Е
В	D	Е	۷	L	С	Е		С	U	S	Т	0	Μ		Μ	Е	S	S	А	G
С	0	4	:	2	0	:	0	0	Ρ	Μ		1	2	/	3	0	/	9	7	
D	0	0	2	1	0	0	5		2	-	0	1	1		Ρ	0	0	R	0	0

Exhibit 22: Cheetah – ACTION Restored

5.7.3 CHEETAH - FIRE-1 LEVEL

The following message appears when a VESDA reaches the **FIRE-1** level:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	F	Ι	R	Е	-	1		0		1	6	3	%	/	1	•	2	4	6	%
В	D	Е	V	L	С	Е		С	U	S	Т	0	Μ		Μ	Е	S	S	А	G
С	0	4	:	1	7	:	2	6	Ρ	Μ		1	2	/	3	0	/	9	7	
D	0	0	2	1	0	0	5		2	-	0	1	1		Ρ	0	0	R	0	0

Exhibit 23: Cheetah – FIRE 1 Level

- A1-5: VESDA FIRE-1 level activated.
- A8-13: VESDA threshold for the FIRE-1 level in %/ft units. This number has been rounded from 4 digits to 3.
- A15-20: Current obscuration level reported by VESDA in %/ft units. This number has been rounded from 4 digits to 3.
- **()**Note: If programmed for ALARM, since the **FIRE-1** level activates the alarm state in Cheetah, it is latching and no restoration message for this level can occur.



5.7.4 CHEETAH - FIRE-2 LEVEL

The following message appears when a VESDA reaches the FIRE-2 level:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	F	Ι	R	Е	-	2		0	•	6	2	5	%	/	1		2	4	6	%
В	D	Е	V	L	С	Е		С	U	S	Т	0	Μ		Μ	Е	S	S	А	G
С	0	4	:	1	7	:	2	6	Ρ	Μ		1	2	/	3	0	/	9	7	
D	0	0	2	/	0	0	5		2	-	0	1	1		Ρ	0	0	R	0	0

Exhibit 24: Cheetah – FIRE 2 Level

- A1-5: VESDA FIRE-2 level activated.
- A8-13: VESDA threshold for the FIRE-2 level in %/ft units. This number has been rounded from 4 digits to 3.
- A15-20: Current obscuration level reported by VESDA in %/ft units. This number has been rounded from 4 digits to 3.
- **()**Note: If programmed for ALARM, since the **FIRE-2** level activates the alarm state in Cheetah, it is latching and no restoration message for this level can occur.

5.8 CHEETAH XI / CYBERCAT / VESDA ALARM LEVELS

VESDA detectors have four alarm levels: ALERT, ACTION, FIRE-1, and FIRE-2. The levels convert from VESDA to /CyberCat/Cheetah Xi as follows:

VESDA	CyberCat/Cheetah Xi
Alert	PreAlarm 1
Action	PreAlarm 2
Fire 1	Alarm
Fire 2	Alarm

(i) Note: Either Fire Level 1 or 2 can be configured to participate in Predischarge w/Cheetah Xi.

The CyberCat/Cheetah Xi PreAlarm states are non-latching. The Alarm state is latching in the CyberCat/Cheetah Xi. The VESDA itself may be configured for latching or non-latching alarm levels.

5.8.1 CYBERCAT/CHEETAH XI – ALERT LEVEL

This event/history message appears when a VESDA reaches the **ALERT** level:

А	L	Е	R	Т		L	Е	V	Е	L	:				V	Ζ	0	0	1
С	U	S	Т	0	Μ		Μ	Е	S	S	A	G	Е		V	Ζ	0	0	1
0	2	:	1	4	:	3	7	Ρ		1	1 /	1	1	5	1	2	0	0	5
	Е	V	Е	Ν	Т		0	0	0	4	(С	F		0	0	0	4	

Exhibit 25: CyberCat/Cheetah Xi – ALERT Level

- Line 1 VESDA ALERT level activated / Unit #
- Line 2 Custom message programmed for this VESDA detector
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel



When the ALERT event is active and being viewed as in Exhibit 25, by pressing the F1 key on the panel, the level details of the VESDA will be shown on this screen:

 A L E R T
 L E V E L :
 V Z 0 0 1

 C U R R E N T
 : 0 . 0 01 5 % / F T

 0 2 : 1 4 : 3 7 P
 1 1/ 1 5 / 2 0 0 5

 E V E N T
 0 0 0 4
 O F
 0 0 0 4

Exhibit 26: CyberCat/Cheetah Xi – ALERT Level

- Line 1 VESDA ALERT level activated / Unit #
- Line 2 Current live obscuration level being sent from detector. This unit will update as obscuration changes at the VESDA
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel

If the obscuration of the VESDA drops back down below the ALERT threshold, the event will clear and the following event/history message will appear:

 ALERT CLEAR:
 VZ001

 CUSTOM MESSAGE
 VZ001

 02:16:07P
 11/15/2005

 EVENT
 0005
 0F
 0005

Exhibit 27: CyberCat/Cheetah Xi – ALERT Clear

- Line 1 VESDA ALERT level cleared
- Line 2 Custom message programmed for this VESDA detector
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel
- **()**Note: If VESDA is programmed for ALARM, reaching the Alert Level on the VESDA will cause a trouble only on the control panel as a Pre-Alarm Condition. Panel will self-restore to normal when the VESDA drops below the Alert Level.
- **()**Note: See Operations Section 5.6 for operation of all states when programmed as Alarm, Supervisory or Trouble on CyberCat / Cheetah Xi.

5.8.2 CYBERCAT/CHEETAH XI – ACTION LEVEL

This event/history message appears when a VESDA reaches the **ACTION** level:

А	С	Т	Ι	0	Ν		L	Е	V	Е	L	:			V	Ζ	0	0	1
С	U	S	Т	0	Μ		Μ	Е	S	S	А	G	Е		V	Ζ	0	0	1
0	2	:	1	7	: 5	5	2	Ρ		1	1	/	1	5	/	2	0	0	5
	Е	V	Е	Ν	Т		0	0	0	6		0	F		0	0	0	6	

Exhibit 28: CyberCat/Cheetah Xi – ACTION Level

- Line 1 VESDA ACTION level activated / Unit #
- Line 2 Custom message programmed for this VESDA detector
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel

When the ACTION event is active and being viewed as in Exhibit 28, by pressing the F1 key on the panel, the level details of the VESDA will be shown on this screen:

A	СТ	I	0	Ν	L	Е	V	Е	L	:			V	Ζ	0	0	1
С	U R	R	Е	ΝT	:	0		0	0	1	5	%	/	F	Т		
0	2 :	1	7	: 5	2	Ρ		1	1	/	1	5	/	2	0	0	5
	ΕV	Е	Ν	Т	0	0	0	6		0	F		0	0	0	6	

Exhibit 29: CyberCat/Cheetah Xi – ACTION Level

- Line 1 VESDA ACTION level activated / Unit #
- Line 2 Current live obscuration level being sent from detector. This unit will update as obscuration changes at the VESDA
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel

If the obscuration of the VESDA drops back down below the ACTION threshold, the event will clear and the following event/history message will appear:

A	С	Т	Ι	0	Ν	С	L	Е	Α	R	:			V	Ζ	0	0	1
С	U	S	Т	0	Μ	Μ	Е	S	S	А	G	Е		V	Ζ	0	0	1
0	2	:	1	8	: 2	2	Ρ		1	1	/	1	5	/	2	0	0	5
	Е	V	Е	Ν	Т	0	0	0	7		0	F		0	0	0	7	

Exhibit 30: CyberCat/Cheetah Xi – ACTION Clear

- Line 1 VESDA ACTION level cleared
- Line 2 Custom message programmed for this VESDA detector
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel
- **()**Note: If VESDA is programmed for ALARM, reaching the Alert Level on the VESDA will cause a trouble only on the control panel as a Pre-Alarm Condition. Panel will self-restore to normal when the VESDA drops below the Alert Level
- **()**Note: See Operations Section 5.6 for operation of all states when programmed as Alarm, Supervisory or Trouble on CyberCat / Cheetah Xi.



5.8.3 CYBERCAT/CHEETAH XI – FIRE-1 LEVEL

This event/history message appears when a VESDA reaches the FIRE-1 level:

F	Ι	R	Е	-	1		L	Е	V	Е	L	:			V	Ζ	0	0	1
С	U	S	Т	0	Μ		Μ	Е	S	S	А	G	Е		V	Ζ	0	0	1
0	2	:	1	5	:	1	9	Ρ		1	1	/	1	5	1	2	0	0	5
	А	L	А	R	Μ		0	0	0	9		0	F		0	0	0	9	

Exhibit 31: CyberCat/Cheetah Xi – FIRE-1 Level

- Line 1 VESDA FIRE-1 level activated / Unit #
- Line 2 Custom message programmed for this VESDA detector
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel
- **()**Note: If the FIRE-1 level activates as an alarm, it is latching and no restoration message for this level can occur.

When the FIRE-1 LEVEL event is active and being viewed as in Exhibit 31, by pressing the F1 key on the panel, the level details of the VESDA will be shown on this screen:

F	Ι	R	Е	-	1		L	Е	٧	Е	L	:			V	Ζ	0	0	1
С	U	R	R	Е	Ν	Т	:	0		0	0	1	5	%	/	F	Т		
0	2	:	1	5	:	1	9	Ρ		1	1	/	1	5	/	2	0	0	5
	Е	V	Е	Ν	Т		0	0	0	9		0	F		0	0	0	9	

Exhibit 32: CyberCat/Cheetah Xi – FIRE-1 Level

- Line 1 VESDA FIRE-1 level activated / Unit #
- Line 2 Current live obscuration level being sent from detector. This unit will update as obscuration changes at the VESDA
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel

5.8.4 CYBERCAT/CHEETAH XI – FIRE-2 LEVEL

This event/history message appears when a VESDA reaches the **FIRE-1** level:

F	I	R	Е	-	2	L	Е	V	Е	L :				V	Ζ	0	0	1
С	U	S	Т	0	Μ	Μ	Е	S	S	ΑG	ì	Е		V	Ζ	0	0	1
0	2	:	1	7	: 0	1	Ρ		1	1/		1	5	/	2	0	0	5
	А	L	А	R	Μ	0	0	1	0	С)	F		0	0	1	0	

Exhibit 33: CyberCat/Cheetah Xi – FIRE-2 Level

- Line 1 VESDA FIRE-2 level activated / Unit #
- Line 2 Custom message programmed for this VESDA detector
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel

()Note: If the FIRE-2 level activates as an alarm, it is latching and no restoration message for this level can occur.



When the FIRE-2 LEVEL event is active and being viewed as in Exhibit 33, by pressing the F1 key on the panel, the level details of the VESDA will be shown on this screen:

 FIRE - 2
 LEVEL:
 VZ001

 CURRENT:
 0.0015%/FT

 02:15:19P
 11/15/2005

 EVENT
 0010
 0F

Exhibit 34: CyberCat/Cheetah Xi – FIRE-2 Level

- Line 1 VESDA FIRE-2 level activated / Unit #
- Line 2 Current live obscuration level being sent from detector. This unit will update as obscuration changes at the VESDA
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel

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6.0 TROUBLE REPORTING / DIAGNOSTICS

VESDA troubles can be recorded for each unit attached to a VESDAnet or from the serial port link extending from the control panel to the HLI unit. See Appendix 1 and 2 for a complete listing of VESDA events.

6.1 CHEETAH / VESDA LINK

If the serial cable between the Cheetah and the HLI becomes disconnected, a trouble event is recorded within 10 seconds. A re-connect of the HLI-to-Cheetah results in a trouble clear event within 10 seconds as well. A break in this cable is a board level event. Only the trouble relay of the main board is affected. None of the zones assigned to VESDA devices are affected.

6.1.1 CURRENT HISTORY MESSAGES

Should the RS 232 cable connected to the HLI become disconnected, the following history message appears:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	٧	Е	S	D	А		С	0	Μ	Μ	U	Ν		Е	R	R	0	R		
В	В	0	А	R	D		L	Е	V	Е	L		Е	V	Е	Ν	Т			
С	0	4	:	1	7	:	2	6	Ρ	Μ		1	2	/	3	0	/	9	7	
D	0	0	2	1	0	0	2								Ρ	0	0	R	0	0

Exhibit 35: Cheetah – Event Trouble

- A1-20: Event message.
- B1-20: Custom message for a board level event.
- C1-20: Time and date stamp for this event.
- D1-3: Event number in current history list.
- D5-7: Total number of current history events.
- D16-17: Number of zones with active pre-discharge countdowns.
- D19-20: Number of zones with active release states.

The message on line A that appears when the trouble event clears is:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	V	Е	S	D	А		С	0	Μ	Μ	U	Ν	-	R	Е	S	Т	0	R	Е
В	В	0	А	R	D		L	Е	V	Е	L		Е	V	Е	Ν	Т			
С	0	4	:	1	7	:	2	6	Ρ	Μ		1	2	/	3	0	/	9	7	
D	0	0	3	/	0	0	3								Ρ	0	0	R	0	0

Exhibit 36: Cheetah – Event Restored

6.1.2 EVENT HISTORY MESSAGES

Should either cable connected to the HLI become disconnected, the following history message appears:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	V	Е	S	D	А		С	0	Μ	М	U	Ν		Е	R	R	0	R		
В	В	0	А	R	D		L	Е	V	Е	L		Е	V	Е	Ν	Т			
С	0	4	:	1	7	:	2	6	Ρ	Μ		1	2	/	3	0	/	9	7	
D	Е	۷	Т		0	0	2	/	0	0	2	С	U	R						

Exhibit 37: Cheetah – Event Trouble

- A1-20: Event message.
- B1-20: Custom message for a board level event.
- C1-20: Time and date stamp for this event.
- D5-7: Event number in event history list.
- D9-11: Total number of history events.
- D12-14: 'CUR' = Current event history list. 'HIS' = Complete event history list (600 Total).

The following message appears when the trouble event clears is:

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	V	Е	S	D	А		С	0	Μ	Μ	U	Ν		R	Е	S	Т	0	R	Ш
В	В	0	А	R	D		L	Е	V	Е	L		Е	V	Е	Ν	Т			
С	0	4	:	1	7	:	2	6	Ρ	Μ		1	2	/	3	0	/	9	7	
D	Е	V	Т		0	0	3	1	0	0	3	С	U	R						

Exhibit 38: Cheetah – Event Restored

LCD lines B, C, and D are of the same format as for Exhibit 9-2 above.

6.2 CYBERCAT/CHEETAH XI VESDA LINK

If the serial cable between the CyberCat or Cheetah Xi and the HLI becomes disconnected, a trouble event is recorded within 30 seconds. A re-connect of the HLI-to-Cheetah results in a trouble clear event. Only the trouble relay of the main board and any programmed for Zone 254 are affected. None of the zones assigned to VESDA devices are affected.

6.2.1 EVENT/HISTORY MESSAGES

V	Е	S	D	А		Μ	I	S	S	I	Ν	G	:		V	Ζ	0	0	1
С	U	S	Т	0	Μ		Μ	S	G		Ρ	А	Ν	Е	L		0	0	1
0	8	:	4	3	:	5	7	А		1	1	/	1	5	/	2	0	0	5
	Е	V	Е	Ν	Т		0	0	1	2		0	F		0	0	1	2	

Exhibit 39: CyberCat/Cheetah Xi– Event Trouble

- Line 1 VESDA Detector communication has been lost at panel
- Line 2 Custom Message of panel HLI is connected to.
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel



If wiring is reconnected or communication to HLI is restored, the following event will be displayed:

V	Е	S	D	А		R	Е	Т	U	R	Ν	:			V	Ζ	0	0	1
С	U	S	Т	0	Μ		Μ	S	G		Ρ	А	Ν	Е	L		0	0	1
0	8	:	4	5	:	2	2	А		1	1	/	1	5	/	2	0	0	5
	Е	V	Е	Ν	Т		0	0	1	3		0	F		0	0	1	3	

Exhibit 40: CyberCat/Cheetah Xi- Trouble Restored

- Line 1 VESDA Detector communicating with panel has been restored.
- Line 2 Custom Message of panel HLI is connected to.
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel

If the wiring from the HLI to the VESDANet is open, the following event description will be seen:

Ν	Е	Т	W	0	R	Κ		F	А	U	L	Т	:		V	Ζ	0	0	1
С	U	S	Т	0	Μ		Μ	Е	S	S	А	G	Е		V	Ζ	0	0	1
0	9	:	2	5	:	2	2	А		1	1	/	1	5	/	2	0	0	5
	Е	V	Е	Ν	Т		0	0	1	5		0	F		0	0	1	5	

Exhibit 41: CyberCat/Cheetah Xi– Trouble Restore

- Line 1 VESDA Detector no longer communicating with panel.
- Line 2 Custom Message of panel HLI is connected to.
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel

Once the trouble with the RS485 wiring between the HLI and the VESDA has been restored, the screen will display:

 NETWORK
 F
 CLR:
 VZ001

 CUSTOM
 MESSAGE
 VZ001

 09:26:38A
 11/15/2005

 EVENT
 0016
 OF

Exhibit 42: CyberCat/Cheetah Xi– Trouble Restore

- Line 1 VESDA Detector communicating with panel has been restored.
- Line 2 Custom Message of panel HLI is connected to.
- Line 3 Time and date stamp for this event
- Line 4 Event number and total events on panel

7.0 SERVICE

7.1 CHEETAH

The ADR LOC diagnostic screen has been modified to include the VESDA virtual address device. Line C of this screen will show a "V" for a configured and enabled VESDA device. A "v" (lower case) is shown for a disabled device. If the HLI is reporting the presence of this device it will appear as a "V" at the virtual address on line D. The ADR DAT diagnostic screen will show the word "VESDA" at the virtual address used by this device but this screen has no useful data. Any other screen which uses upper case letters to describe the device type at the address shown will show a "V" for addresses configured as VESDA devices.

7.1.1 LEVELS SCREEN

The following screens have been added for displaying data on VESDA devices.

The LEVELS menu is accessed from the SPECIALS selection of the main menu.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	2	-	0	1	1		V	Е	S	D	А	=	0		0	0	5	0	%	
В	U	Ν	I.	Т	:	0	0	1		L	Е	V	Е	L	=	Ν	0	R	Μ	
С	F	А	U	L	Т	S	:		Μ	Μ	T	S	Ζ	U	Ρ	Ν	А	F		
D									Ν	Ν	Y	Ν	Ν	Ν	Ν	Ν	Ν	Ν		

Exhibit 43: Cheetah – VESDA Levels

A1: Loop number selection. Range is 1 to 4.

A3-5: Address number selection. Range 1-127

A15-20: Current obscuration level reported by VESDA in %/ft units.

B6-8: VESDA unit number. Range is 1 to 50.

B16-18: Current alarm level reported by this VESDA device:

- "NORM" for normal, non-alarm level.
- "ALERT" when Alert is the highest active o alarm level.
- "ACTN" when Action is the highest active alarm level.
- "FIRE1" when Fire-1 is the highest active alarm level.
- "FIRE2" when Fire-2 is the highest active alarm level.

C1-20: VESDA fault LED descriptors:

- "M" for Major fault LED.
- "m" for minor fault LED.
- "I" for Isolated fault LED.
- "S" for System fault LED.
- "Z" for Zone fault LED.
- "U" for Urgent fault LED.
- "P" for Power fault LED.
- "N" for Network fault LED.
- "A" for Airflow fault LED.
 - "F" for Filter fault LED.
- D9-18: Status of the VESDA fault LED, "N" = off, "Y" = on.

KEYPAD SWITCH F2:

Toggle positions A3-5 to view selected address

(blank in position A6) or currently polled address ("C" shown in position A6).



KEYPAD SWITCH F6: Toggle between the Alarm threshold screen shown on the Screen below and the status screen on previous page.



Exhibit 44: Cheetah – Alarm Threshold

- A1: Loop number selection. Range is 1 to 4.
- A3-5: Address number selection. Range is 1 to 127.
- A15-20: Current obscuration level reported by VESDA in %/ft units.
- B4-10: Threshold, in %/ft units, for the Fire-2 alarm threshold.
- B14-20: Threshold, in %/ft units, for the Fire-1 alarm threshold.
- C8-14: Threshold, in %/ft units, for the Action alarm threshold.
- D8-14: Threshold, in %/ft units, for the Alert alarm threshold

7.1.2 ISOLATE SCREEN

The following screen has been added to the Diagnostics menu. Access this screen via the VESDA menu selection. The purpose of this screen is to emulate the function of the Isolate switch of the VESDA display unit. When a VESDA is placed in the Isolated condition, a trouble event for every zone assigned to the selected VESDA device is recorded.

Only a de-isolate command, and not a reset, can take the VESDA device out of the isolated condition. The isolate switch on the VESDA display works in parallel with this screen.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Α	V	Е	S	D	А		U	Ν	Ι	Т	:	0	1							
В	R	Е	Q	U	Е	S	Т	:	L	S	0	L	А	Т	Е					
С	I	S	0	L		Ρ	1			Ρ	2	-		Ρ	3	-		Ρ	4	-
D		0	F	F		-	-	-		-	-	-		-	-	-		-	-	-

Exhibit 45: Cheetah – Isolate Function

A12-14: VESDA unit number selection. Range is 1 to 50.

B9-17: Command request to send to VESDA device. Selections are:

"ISOLATE", "DE-ISOLATE", "START SCAN", "RESET" and "AIRFLOW STAT".

D2-4: Current status reported by VESDA device. Isolated condition is either "OFF" or "ON".

D6-20. Status of pipes: ON = Open OFF=Closed (Applies to Scanner Only)

KEYPAD SWITCH ENTER: Sends the selected command to the VESDA unit shown

()Note: For complete list of possible messages that could display on CHEETAH screen, as well as possible causes and solutions, refer to Appendix 1 of this manual, and the Cheetah Product Manual.

7.2 CHEETAH XI / CYBERCAT

7.2.1 F6 - DIAGNOSTIC MENU #2

	D	I	AGNOSTI	С		Μ	Е	Ν	U		2	
F	1	-		F	4	-	V	Е	S	D	А	1
F	2	-		F	5	-	V	Е	S	D	А	2
F	3	-		F	6	-						

Exhibit 46: Diagnostic Menu 2

7.2.2 F4 - VESDA 1

V	Е	S	D	А		Ζ	0	Ν	Ε		Ν	U	М	:		0	0	1	۷
С	U	R	R	Е	Ν	Т	:	0		0	0	0	0	%	/	F	Т		
А	L	:	-		-	-	-	-		А	С	:	-		-	-	-	-	
F	1	:	-		-	-	-	-		F	2	:	-		-	-	-	-	

Exhibit 47: VESDA Diagnostics Menu

Line 1 VESDA zone number for diagnosis. Position cursor in ones, tens, or hundreds field for zone number. Press + or – to change value at cursor.

Arrow/carrot at far right moves back and forth to display active communication between panel and VESDA. If not toggling, then VESDA is not communicating with Control Panel.

- Line 2 Displays current obscuration being seen at the detector (for zone number in top line). This updates upon each press of ENTER button (noted in %/ft value)
- Line 3 **AL**arm setting for Detector located in the zone displayed in line 1.

ACtion setting for Detector located in the zone displayed in line 1.

Line 4 **F1**, Fire 1 setting for Detector located in the zone displayed in line 1. **F2**, Fire 2 setting for Detector located in the zone displayed in line 1.

7.2.3 F5 - VESDA 2

VESDA ZONE NUM: 001> ENTER FOR FAULT LIST

Exhibit 48: VESDA Diagnostics Menu

- Line 1 VESDA zone number for diagnosis. Position cursor in ones, tens, or hundreds field for zone number. Press + or – to change value at cursor. Arrow/carrot at far right moves back and forth to display communication is active between panel and VESDA.
- Line 2 Press enter to list the VESDA status for the VESDA zone number displayed in line 1.
- **()**Note: For complete list of possible messages that could display on CyberCat or Cheetah Xi screen, as well as possible causes and solutions, refer to Appendix 2 (Event Messages) of this manual, and the CyberCat or Cheetah Xi Product Manual

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7.2.4 ISOLATE SCREEN

The following screen is not part of the Diagnostics menu, but an event that will show Isolation Status of the VESDA. The purpose of this screen is to annunciate the function of the Isolate switch of the VESDA display unit. When a VESDA is placed in the Isolated condition, a trouble event for every zone assigned to the selected VESDA device is recorded.

Only a de-isolate command on the VESDA, and not a reset, can take the VESDA device out of the isolated condition

 I SOLATE
 FAULT:
 VZ001

 C USTOM
 MESSAGE
 VZ001

 0 2:27:4
 P
 11/15/2005

 E VENT
 0041
 OF
 0041

Exhibit 49: CyberCat/Cheetah Xi– VESDA Isolated

When a VESDA that has been Isolated is restored to the normal condition (un-isolated) the following event will be shown, and the panel will start receiving pre-alarm/alarm status levels again.

Ι	S	0	L	А	Т	Е		F		С	L	R	:		V	Ζ	0	0	1
С	U	S	Т	0	Μ		Μ	Е	S	S	А	G	Е		V	Ζ	0	0	1
0	2	:	4	4	:	1	1	Ρ		1	1	/	1	5	/	2	0	0	5
	Е	V	Е	Ν	Т		0	0	4	2		0	F		0	0	4	2	

Exhibit 50:	CyberCat/Cheetah	Xi– Isolate	Clear
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APPENDIX 1 - CHEETAH EVENT MESSAGES

FIRE 1 X.XXX%/Y.YYY%	Intelligently interfaced VESDA detector has reached the FIRE 1 level (3 rd level). The FIRE 1 threshold is xxx. The current obscuration is yyy.	Locate the detector by using the address and the custom message on the 2nd line and the address on the 4th line of the display. Determine cause for elevated obscuration
FIRE-1 SECT-n X.XXX%	Intelligently interfaced VESDA Scanner detector pipe 1 has reached the Fire 1 Level.	Locate the Scanner detector by using the address and the custom message on the 2nd line and the address on the 4th line of the display. Determine cause for elevated obscuration
FIRE 2 X.XXX%/Y.YYY%	Intelligently interfaced VESDA detector has reached the FIRE 2 level (4 th level). The FIRE 2 threshold is xxx. The current obscuration is yyy.	Locate the detector by using the address and the custom message on the 2nd line and the address on the 4th line of the display. Determine cause for elevated obscuration
FIRE-2 SECT-n X.XXX%	Intelligently interfaced VESDA detector has reached the Fire 2 level.	Locate the Scanner C221detector by using the address and the custom message on the 2nd line and the address on the 4th line of the display. Determine cause for elevated obscuration
ACTION X.XXX%/Y.YYY%	Intelligently interfaced VESDA detector has reached the ACTION level (2 nd level). The ACTION threshold is xxx. The current obscuration is yyy.	Locate the detector by using the address and the custom message on the 2nd line and the address on the 4th line of the display. Determine cause for elevated obscuration
ACTION SECT-n X.XXX%	Intelligently interfaced VESDA Scanner detector has reached the Action level of alarm (2 nd level).	Locate the Scanner detector by using the address and the custom message on the 2nd line and the address on the 4th line of the display. Determine cause for elevated obscuration
ACTION LEVEL RESTORE	Intelligently interfaced VESDA Smoke level has fallen below the Action level.	None.
ALERT X.XXX%/Y.YYY%	Intelligently interfaced VESDA detector has reached the ALERT level (1 st level). The ALERT threshold is xxx. The current obscuration is yyy.	Locate the VESDA unit with the elevated obscuration and determine cause.
ALERT SECT-n X.XXX%	Intelligently interfaced VESDA Scanner detector has reached the Action level of alarm (2 nd level).	Locate the VESDA Scanner unit with the elevated obscuration and determine cause.
ALERT LEVEL RESTORED	Intelligently interfaced VESDA Smoke level has fallen below the Alert level.	None.
INVALID VESDA FAULT	Fault Code 201 from VESDA	Call Fike for Assistance.
INVALID FAULT CLEAR	Fault Clear.	None.
INVALID VESDA ZONE	VESDA unit configured but no similar zone found present on the VESDAnet.	Check the Cheetah configuration and make sure that the VESDA programmed has a UNIT # that matches the VESDA detector ZONE. Check the VESDAnet and make sure that the VESDA zone matches (01-50).

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INVALID V-ZONE CLEAR	Fault Clear.	None.
ISOLATE ACTIVE	Intelligently interfaced VESDA detector has been isolated.	Determine where ISOLATE was performed (Display or software). Press ISOLATE again to re-enable.
ISOLATE RESTORE	Older Firmware	None.
PALARM1 ACTIVE	Addressable sensor, input, or VESDA is above the PreAlarm 1 threshold will show analog data.	Locate device and determine cause for elevated obscuration or activation.
PALARM1 RESTORE	Device obscuration has returned below the PreAlarm 1 threshold.	None.
PRE-ALARM1 PRESENT	This zone has an active PreAlarm 1 state.	Locate the source of the PreAlarm 1 using previous events.
PRE-ALARM1 RESTORED	The PreAlarm 1 level has cleared in the zone.	None.
PALARM2 ACTIVE	Addressable sensor, input, or VESDA is above the PreAlarm 2 threshold will show analog data.	Locate device and determine cause for elevated obscuration or activation.
PALARM2 RESTORE	Device obscuration has returned below the PreAlarm 2 threshold.	None.
VESDA COMMUN ERROR	Intelligently interfaced VESDA High Level Interface (HLI) has become disconnected.	Check the HLI. Is power present? Are cables properly connected? Is RS232 Cable connected to Cheetah P3 Jack 3? Make sure the cable is connected and the HLI is powered.
VESDA COMMUN RESTORE	Intelligently interfaced VESDA High Level Interface (HLI) has become re-connected.	None.
VESDA FAULT ID =	VESDA detector TROUBLESHOOTING fault ID.	Use VESDA manual section Troubleshooting for fault assistance.
VESDA FAULT CLEAR ID = 	This VESDA fault has cleared.	None.
VESDA FAULT: AIRFLOW	VESDA Detector Trouble. Corresponds with the VESDA Display fault LED.	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides troubleshooting for the specific Fault ID.
VESDA CLEAR: AIRFLOW	Fault Clear.	None.
VESDA FAULT: FILTER	VESDA Detector Trouble. Corresponds with the VESDA Display fault LED.	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides troubleshooting for the specific Fault ID.
VESDA CLEAR: FILTER	Fault Clear.	None.
VESDA FAULT: ISOLATE	VESDA Detector Trouble. Corresponds with the VESDA Display fault LED.	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides troubleshooting for the specific Fault ID.
VESDA CLEAR: ISOLATE	Fault Clear.	None.
VESDA FAULT: MAJOR	VESDA Detector Trouble. Corresponds with the VESDA Display fault LED.	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides troubleshooting for the specific Fault ID.
VESDA CLEAR: MAJOR	Fault Clear.	None.

VESDA FAULT: MINOR	VESDA Detector Trouble. Corresponds with the VESDA	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides
	Display lault LED.	Nono
VESDA CLEAR: MIINOR	Fault Clear.	
VESDA FAULT: NETWORK	Corresponds with the VESDA Display fault LED.	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides troubleshooting for the specific Fault ID.
VESDA CLEAR: NETWORK	Fault Clear.	None.
VESDA FAULT: POWER	VESDA Detector Trouble. Corresponds with the VESDA Display fault LED.	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides troubleshooting for the specific Fault ID.
VESDA CLEAR: POWER	Fault Clear.	None.
VESDA FAULT: SYSTEM	VESDA Detector Trouble. Corresponds with the VESDA Display fault LED.	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides troubleshooting for the specific Fault ID.
VESDA CLEAR: SYSTEM	Fault Clear.	None.
VESDA FAULT: URGENT	VESDA Detector Trouble. Corresponds with the VESDA Display fault LED.	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides troubleshooting for the specific Fault ID.
VESDA CLEAR: URGENT	Fault Clear.	None.
VESDA FAULT: ZONE	VESDA Detector Trouble. Corresponds with the VESDA Display fault LED.	Most VESDA faults will also be followed by a Fault ID. The VESDA manual provides troubleshooting for the specific Fault ID.
VESDA CLEAR: ZONE	Fault Clear.	None.
VESDA NOT CONFIGURED	Trouble event stored when the HLI is present but no VESDA is configured.	Configure the VESDA into the Cheetah matching VESDA zone to Cheetah unit #.
VESDA CONFIGUR CLEAR	VESDA configured and present through HLI, trouble corrected.	None.



APPENDIX 2 - CYBERCAT / CHEETAH Xi EVENT MESSAGES

ACTION LEVEL: VZ nnn	The VESDA detector programmed as Zone nnn has reached the Action Level (Level 2).	Locate the detector by using the custom message on the 2nd line and the address and obscuration of the device by pressing F1 on the display. Determine cause for elevated obscuration.
ACTION CLEAR: VZ nnn	The VESDA detector programmed as Zone nnn has dropped below the previously reached Action Level.	None
ALERT LEVEL: VZ nnn	The VESDA detector programmed as Zone nnn has reached the Alert Level (Level 1).	Locate the detector by using the custom message on the 2nd line and the address and obscuration of the device by pressing F1 on the display. Determine cause for elevated obscuration.
ALERT CLEAR: VZ nnn	The VESDA detector programmed as Zone nnn has dropped below the previously reached Alert Level.	None
FIRE-1 LEVEL: VZ nnn	The VESDA detector programmed as Zone nnn has reached the Fire-1 Level (Level 3).	Locate the detector by using the custom message on the 2nd line and the address and obscuration of the device by pressing F1 on the display. Determine cause for elevated obscuration.
FIRE-2 LEVEL: VZ nnn	The VESDA detector programmed as Zone nnn has reached the Fire-2 Level (Level 4).	Locate the detector by using the custom message on the 2nd line and the address and obscuration of the device by pressing F1 on the display. Determine cause for elevated obscuration.
ISOLATE FAULT: VZ nnn	The VESDA detector programmed as Zone nnn is isolated/disabled.	Locate VESDA Zone nnn and de- isolate or determine reason it is currently isolated.
ISOLATE F CLR: VZ nnn	The VESDA detector, Zone nnn, which previously reported ISOLATE FAULT, has cleared.	This is an expected event if the detector is de-isolated. Note events if desired.
MAJOR FAULT: VZ nnn	The VESDA detector programmed as Zone nnn has a major fault.	Locate VESDA Zone nnn and connect with software or programmer to diagnose fault.
MAJOR FLT CLR: VZ nnn	The VESDA detector, Zone nnn, which previously reported MAJOR FAULT, has cleared.	This is an expected event if the VESDA fault is cleared. Note events if desired.
MINOR FAULT: VZ nnn	The VESDA detector programmed as Zone nnn has a MINOR FAULT.	Locate VESDA Zone nnn and connect with software or programmer to diagnose fault.



MINOR FLT CLR: VZnnn	The VESDA detector, Zone nnn, which previously reported MINOR FAULT has cleared.	This is an expected event if the VESDA fault is cleared. Note events if desired.
NETWORK FAULT: VZ nnn	The VESDAnet has reported a fault on the VESDA detector programmed for Zone nnn.	Locate VESDA programmed for Zone nnn. Use Vision System software or Programmer to diagnose VESDAnet fault.
NETWORK F CLR: VZ nnn	The previously reported NETWORK FAULT on the VESDA detector programmed for Zone nnn has cleared.	This is an expected response when the trouble clears. Make note of the event, if necessary or problem persists.
POWER FAULT: VZ nnn	The VESDA programmed for Zone nnn is reporting a power fault.	Locate VESDA Zone nnn and check the power connections.
POWER FLT CLR: VZ nnn	The VESDA detector, Zone nnn, which previously reported POWER FAULT, has power restored to normal.	This is an expected event if the power is restored to the VESDA detector. Note event if desired.
SECTOR ACTION Vnnn-x	The VESDA detector's sector x on Zone nnn has reached the ACTION level.	Locate VESDA nnn determine area for sector x. Look for obvious signs of obscuration/smoke.
SECTOR ALERT CLEAR	The VESDA detector that previously reported a SECTOR ALERT event has cleared below the ALERT level.	This is an expected event if the obscuration falls below the ALERT setting. Note event if desired.
SECTOR ALERT Vnnn-x	The VESDA detector's sector x on Zone nnn has reached the ALERT level.	Locate VESDA nnn determine area for sector x. Look for obvious signs of obscuration/smoke.
SECTOR FIRE-1 CLEAR	The VESDA detector that previously reported a FIRE-1 event has cleared below the FIRE-1 level.	This is an expected event if the obscuration falls below the FIRE-1 setting. Note event if desired.
SECTOR FIRE-1 Vnnn-x	The VESDA detector's sector x on Zone nnn has reached the FIRE-1 level.	Locate VESDA nnn determine area for sector x. Look for obvious signs of obscuration/smoke.
SECTOR FIRE-2 CLEAR	The VESDA detector that previously reported a FIRE-2 event has cleared below the FIRE-2 level.	This is an expected event if the obscuration falls below the FIRE-2 setting. Note event if desired.
SECTOR FIRE-2 Vnnn-x	The VESDA detector's sector x on Zone nnn has reached the FIRE-2 level.	Locate VESDA nnn determine area for sector x. Look for obvious signs of obscuration/smoke.



VESDA CFG ERR: VZ nnn	VESDA detector Zone nnn has a configuration error.	Locate VESDA detector nnn and connect with software or programmer to diagnose configuration error.
VESDA MISSING: VZ nnn	VESDA detector Zone nnn is programmed in the CyberCat but not reporting through VESDAnet attached to HLI/through P4.	Locate VESDA nnn and determine why it is not reporting through VESDAnet HLI or remove this detector from the CyberCat.
VESDA RETURN: VZ nnn	VESDA detector Zone nnn that previously reported as MISSING is now responding again.	This event is expected if the VESDA communication is restored. Note events if desired.

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