Ethernet Module

Product Manual
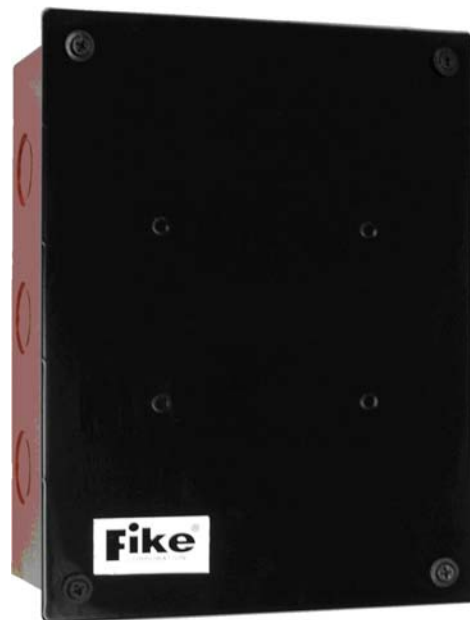
P/N 10-2627   P/N 10-074

Installation and Operating Instructions

Fike®

Fike®

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The information contained in this manual is as accurate as possible. Fike does not guarantee that this manual is technically correct, complete, or free from writing problems or that this product is free from minor flaws.

In accordance with our policy of continuing product and system improvement, Fike reserves the right to change designs or specifications without obligation and without further notice.

Reader Responses

Fike encourages input from our distributors and end users on how we can improve this manual and even the product itself. Please direct all calls of this nature to Fike's Systems Sales Department at (800)-979-FIKE (3453), option 21.

Any communication received becomes the property of Fike.

Warranties

Fike provides a one-year limited manufacturer's warranty on this product. The standard warranty is detailed at www.fike.com – Services - Customer Service. Contact Fike's Marketing Department for further warranty information. All warranty returns must be returned from an authorized Fike Distributor. Fike maintains a repair department that is available to repair and return existing electronic components or exchange/purchase previously repaired inventory component (advance replacement). All returns must be approved prior to return. A Material Return Authorization (MRA) number should be indicated on the box of the item being returned. Contact the appropriate Regional Sales Manager for further information regarding Material Return Procedures.

Limitation of Liability

Fike cannot be held liable for any damages resulting from the use or misuse of this product.

Quality Notice

Fike has maintained ISO 9001 certification since 1996. Prior to shipment, we thoroughly test our products and review our documentation to assure the highest quality in all respects.

Warnings, Cautions, Notes and Tips

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 activation of the system may result if these warnings and cautions are not followed!

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

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

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

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

TABLE OF CONTENTS

LIST OF EXHIBITS

1.0 PREFACE

1.1 ABOUT THIS MANUAL

This manual is intended to be a complete reference for the installation, operation, and service of the Fike Ethernet (EM) Module. The information contained in this manual must be utilized by the factory trained Fike distributor in order to properly install, test and service the Ethernet Module. This manual can also be used by the end user as an Operations Manual for the Ethernet Module.

Before you refer to any section in this manual, and before you attempt to install or use the Ethernet Module, be sure to read the important User Information that follows this explanation.

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 to the Ethernet Module itself or adverse operating conditions caused by improper installation and programming.

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 who installed the protection system. Fike has a worldwide distribution network.   Each distributor sells, installs, and services Fike equipment. Look on the inside 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 Technical Support at (800) 979-3453 Option 2 1, Monday through Friday, 8:00 a.m. to 4:30 p.m. CST.

1.3 REVISION HISTORY

Document Title: Fike Ethernet Module Installation and Operating Instructions

Document Reorder Number: 06-388

Revision	Section	Date	Reason for Change
0	All Sections	05/07	Initial Release
1	Sections 2, 3, and 5	03/08	Product Update
2	Sections 2.3, 2.5, 5.2, 5.3, 5.4, and 5.5	10/2013	Updated panel configuration options and clarified correct monitoring setup

1.4   TERMS USED IN THIS MANUAL

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

Acknowledge
To confirm that a message or signal has been received, such as by the pressing of a button or the selection of a software command.

Authority Having Jurisdiction
The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

Configure
Panel set-up to properly recognize and supervise a device as the design requires.

Fire Alarm Control Unit (Panel)
A system component that receives inputs from automatic and manual fire alarm devices and might supply power to detection devices and to a transponder(s) or off-premises transmitter(s). The control unit might also operate releasing circuits or solenoids, provide transfer of power to the notification appliances, or transfer of condition to relays or devices connected to the control unit. The fire alarm control unit can be a local fire alarm control unit or a master control unit.

Fire Alarm Signal
A signal initiated by a fire alarm-initiating device such as a manual fire alarm box, automatic fire detector, waterflow switch, or other device in which activation is indicative of the presence of a fire or fire signature.

Fire Alarm System
A system or portion of a combination system that consists of components and circuits arranged to monitor and annunciate the status of fire alarm or supervisory signal-initiating devices and to initiate the appropriate response to those signals.

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.

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

Record of Completion
A document that acknowledges the features of installation, operation (performance), service, and equipment with representation by the property owner, system installer, system supplier, service organization, and the authority having jurisdiction.

Reset
A control function that attempts to return a system or device to its normal, non-alarm state.

RS485
A data communication standard produced by the Electronics Industry Association (EIA). This standard was developed to allow for reasonable success in transferring data over specified distances and/or data rates. Maximum cable length is 4000 feet using Belden 9841 or equivalent twisted pair shielded low capacitance cable.

Zone
A defined area within the protected premises. A zone can define an area from which a signal can be received, an area to which a signal can be sent, or an area in which a form of control can be executed. A particular area being protected. This term is used to create the relationship between activation inputs to notification outputs and peripherals.

2.0 PRODUCT OVERVIEW

2.1 PRODUCT DESCRIPTION

The Fike Ethernet Module (P/N 10-2627) is an ancillary device that can be connected to the Fike Control System via RS485 connection. It allows networking amongst panels located in different buildings to provide annunciation at a central location (CyberCat to Cheetah Xi).

The module is wired to the RS485 Peripheral bus output (P6) of the CyberCat / Cheetah Xi family of control panels. The design of the Fike Ethernet Module allows it to be installed into the panel's enclosure in the location of the 2nd transformer (this assumes the 2nd transformer is not installed).   The module can optionally be located in a separate box as required (p/n 10-074).

2.2 AGENCY STANDARDS AND COMPLIANCE

2.2.1 This Fire Alarm Control Panel Complies With the Following Standards

NFPA 70   - NEC, Article 300, Wiring Methods
NFPA 70   - NEC, Article 760, Fire Protective Signaling Systems
NFPA 72   - National Fire Alarm Code
UL 864   - Control Units and Accessories for Fire Alarm Systems

2.2.2 Related Fire Alarm Standards

The installer should also be familiar with the following standards.

National Fire Protection Association

NFPA 1   - Fire Prevention Code
NFPA 13   - Sprinkler Systems
NFPA 77   - Static Electricity
NFPA 90A - Air Conditioning Systems
NFPA 101 - Life Safety Code
NFPA 110 - Emergency Standby Power Systems

Applicable Local and State Building Codes

Requirements of the Local Authority Having Jurisdiction
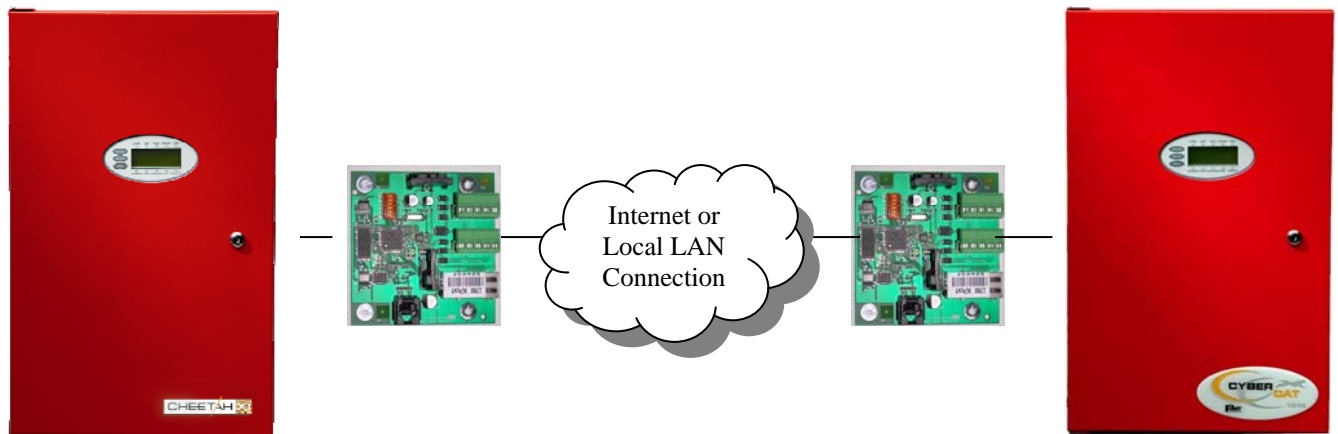
Exhibit 2-1 Ethernet Block Diagram

2.3   LISTINGS AND APPROVALS

Approval Agency	File Number
Underwriters Laboratories	S3217
Factory Mutual (FM)	3029147
California State Fire Marshal (CSFM)	7165-0900:137 CyberCat (Non High-Rise)
	7165-0900:149 Cheetah Xi
	7170-0900:148 CyberCat (High Rise)
COA	6001; 6002; 6003; 6004

2.4   RELATED DOCUMENTATION

To obtain a complete understanding of the specific features of the Fike Control System or to become familiar with related functions in general, refer to the documentation listed in Table below.

Document Title	Part Number
CyberCat Product Manual	06-326
Cheetah Xi Product Manual	06-356
Cheetah Product Manual	06-148
Cheetah Xi 50	06-369
CyberCat 50	06-368

2.5 FIKE ETHERNET MODULE FEATURES

Hardware features

- Can be located up to 4000 feet (1,219 m) from the host control panel when installed in 10-074 assembly.

- Powered from Fike control panel, or battery backed 24VDC, Regulated, Power Limited power supply listed for fire protective signaling use

- Communicates on the RS-485 Peripheral Bus

- Status LED to provide instant indication of Module communication

Operational Features

- Transmits all network data to a monitoring location either on or off premises

- Allows multiple Fike building fire alarms systems to be monitored from one location, either on or off premises

- Allows a single DACT connected to the monitoring panel to provide communication to the Central or Remote Station for all panels networked together

3.0   EQUIPMENT/PRODUCTS

3.1   PART NUMBERS

Part Number	Description
10-074	Ethernet(MI) Module Assembly with Enclosure
10-2627	Ethernet Printed Circuit Board (incl. in 10-074)
10-2666	Surge Suppressor (Ditek p/n DTK-MRJ45C5E)
Spare Parts (Items included in the 10-074 Multi-Interface Assembly)	
70-2043	Mounting Plate (Black)
02-4494	Back Box Enclosure (Red)
02-11633	Fike Label for Mounting plate
02-1361	Nut, 6-32 Hex (4 each required)
02-3846	Standoff, 1 ¼" M/F (4 each required)
02-4558	Screw, #6 x ½" Phillips, black (4 each required)

3.2   SPECIFICATIONS

3.2.1   Environmental

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

3.2.2   10-074 Ethernet Assembly

The 10-074 Ethernet Assembly includes the 10-2627 Circuit Board assembly, Mounting Plate with Fike logo, Back-box, and hardware. The Mounting Plate is a painted approximately 1/16" thick plate. It is 8.5"H x 6.5"L. It is ½" longer and wider to facilitate surface or flush mounting options. This plate contains 4 threaded press studs for attaching standoffs/mounting hardware for affixing the Ethernet Module circuit card. The back-box is an 8"H x 6"W x 3.5"D enclosure with electrical knock-outs for housing the Ethernet Module circuitry.

Exhibit 3-1 10-074 Ethernet Assembly

3.2.3   10-2627 Ethernet Module Assembly

The 10-2627 FIKE Ethernet Module consists of a Printed Circuit Board and mounting hardware. This would be ordered without the enclosure if intended for mounting in a Cheetah Xi 50 or CyberCat 50 enclosure; or in the spare SPS transformer location of the Cheetah Xi 1016, CyberCat 1016, or CyberCat 254 main fire panel enclosure.

Exhibit 3-2 10-2627 FIKE Ethernet Module
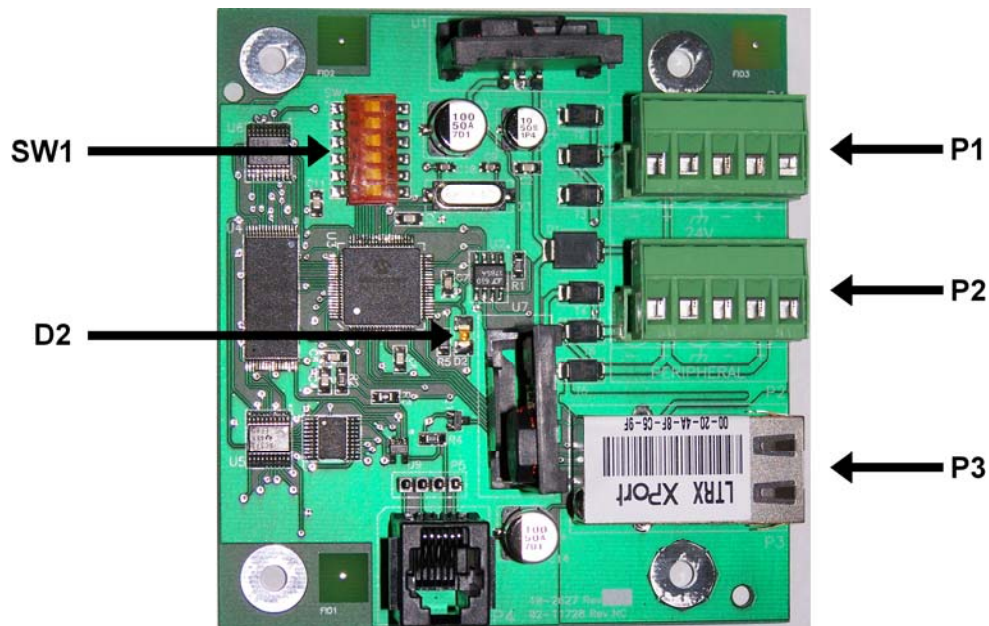
Exhibit 3-3 10-2627 Board Layout

P1 TERMINAL	DESCRIPTION	WIRING	SPECIFICATION DETAILS
POWER INPUT (1-5)	24VDC Power		Regulated 24VDC
			15VDC – 30VDC
+ **−**	IN or OUT	24VDC nominal Power-limited NOT Supervised	Powered from Fike control panel, or battery backed 24VDC, Regulated, Power Limited power supply listed for fire protective signaling use
⏚	Drain wire (if used)		**NOTE:** Powering module from any source other than the Cheetah Xi/CyberCat could result in Ground Fault.
+ **−**	IN or OUT		Terminal block accepts 12 AWG–24 AWG
			Module pulls 97mA of current in standby and 134mA in alarm.
P2 TERMINAL	**DESCRIPTION**	**WIRING**	**SPECIFICATION DETAILS**
PERIPHERAL BUSS (8-12)	From Cheetah Xi or CyberCat		Cheetah Xi/CyberCat RS485 Peripheral connection. Spec's from Cheetah Xi and CyberCat manuals:
+ **−**	IN or OUT	Power Limited Supervised Belden 9841 or equivalent. For plenum applications use Belden 82841, 82842, or 89841. No t-tapping	4000 feet, 31 devices maximum, 9600 bps
			5VDC, 1mA
			Maximum wire impedance 110 ohms, Maximum capacitance 0.05uF
⏚	Drain wire		100Ω termination (supplied) is required on the last device – (p/n 02-2519)
+ **−**	IN or OUT		Typical voltage will be varying between 0-1VDC. It should never be a constant voltage or 0VDC.

P3 TERMINAL	DESCRIPTION
Ethernet Connection	RJ45 Jack - 10Base-T LAN Connection Provides connection to any Ethernet Router, Switch, or Hub listed for Fire Signaling Use so long as the Router, Switch, or Hub is within the same room as the Ethernet Module. **OR** Provides connection to any Ethernet Router, Switch, or Hub listed as Information Technology Equipment (ITE) so long as a 10-2666 (Ditek DTK-MRJ45C5E) is connected between the ITE and Ethernet Module and the 10-2666 is within the same room as the Ethernet Module.

SW1 SWITCH	This is used to address the module on the peripheral buss. Refer to step 4.6 for details.

D2	Communications Status LED – Blinks every 3 to 5 seconds under normal conditions. Blinks rapidly if peripheral communications is lost.

4.0 INSTALLATION

The following are the recommended steps for installing the Ethernet Module:

1. Install backbox/enclosure

2. Pull field wiring

3. Check field wiring with ohmmeter

4. Connect field wiring to internal electronics

5. Install the electronics

6. Apply Power and load the Ethernet Module with a Static IP address

7. Check-out system

8. Train pertinent personnel on the operation of their new Fire Alarm System

CAUTION: All Fike Control Systems contain static sensitive components. Handle the module by the edges only and avoid touching the integrated components. Keep the module(s) in the protective static bag(s) 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 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.

4.1 INSTALL BACKBOX/ENCLOSURE

If using the Control Panel as backbox, mount the control panel using the control panel manual details. If using the 10-074, the backbox can be surface or flush mounted as desired. For surface mounting, utilize the openings in the back of the box. For flush mounting, cut the opening in the wall to fit the 8" tall x 6" long x 3-1/2" deep backbox. The cover has ½" over-lap on all side of the enclosure. Secure the box to the wall by again utilizing the openings in the back of the enclosure.

4.2 PULL FIELD WIRING

Determine the maximum number of conductors needed from the design. Wire is to be brought to the Ethernet Module via knock-out openings. Conduit is not required, but is recommended, especially for an electrically noisy environment. Conduit knock-outs are provided for two distinct conduit sizes. Half-inch (1/2") conduit can be used by breaking just the inside hole. Three-quarter inch (3/4") conduit can be used by removing all of the opening.

NOTE: Do not install the electronic assemblies into the backbox until the environment is free from construction dust.

Unless otherwise detailed in this manual or in other documents relating to this module, the designer, installation and service technician, shall utilize published standards and references such as NFPA 70 National Electrical Code, NFPA 72 National Fire Alarm Code and other standards which may be relevant to the Local Authority Having Jurisdiction where the module will be installed.

All incoming wiring for the Ethernet Module is power-limited. No separation of wiring due to power limitations is required.

4.3 CHECK FIELD WIRING WITH AN OHMMETER

Short the conductors at the end and measure the total wire resistance for the particular circuit at the panel. Note the obtained readings on as-built drawings. Compare the obtained values with the requirements listed in the specifications of Section 3 – Equipment/Products. If any resistance reading exceeds the maximum specifications, notify the designer to consider modifications. Remove the short at the end and leave both conductors open, or install End of Line Resistor as needed.

Note: This section is referring to connecting only the field devices. Do not make the connections at the Main Control Panel at this time. Connect peripheral RS485 devices to the communication loop and program termination and addresses as required in each product manual. Utilize common colors for + and – wiring and note actual wiring colors used for each terminal on the as-built drawings.

WARNING:

Some installation procedures call for using a megohmeter (megger) to test all wiring. In this low voltage application it should not be necessary to use a megger for testing wire insulation unless there is a suspected problem or trying to test wiring in troubleshooting a ground fault condition. Proper use and setting of the megger is essential. The voltage being generated by the megger onto the wiring must not be greater than the voltage rating of the wire itself. Refer to the wire manufacturer for maximum testing voltage. **If using a megger, ALL field devices must be removed or not connected to circuit when the megger test is performed. Electronic devices are not rated for the type of voltage the megger will generate. Damage to these components could result**.

CAUTION:
To ensure proper system operation after installation of the EthernetModule, 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.

4.4 CONNECT FIELD WIRING TO INTERNAL ELECTRONICS

While wearing grounding strap, remove terminal blocks and observe board markings for installation wiring polarities. Attach the wiring to the terminal blocks as indicated below. Insert the terminal blocks into the Ethernet Module board.
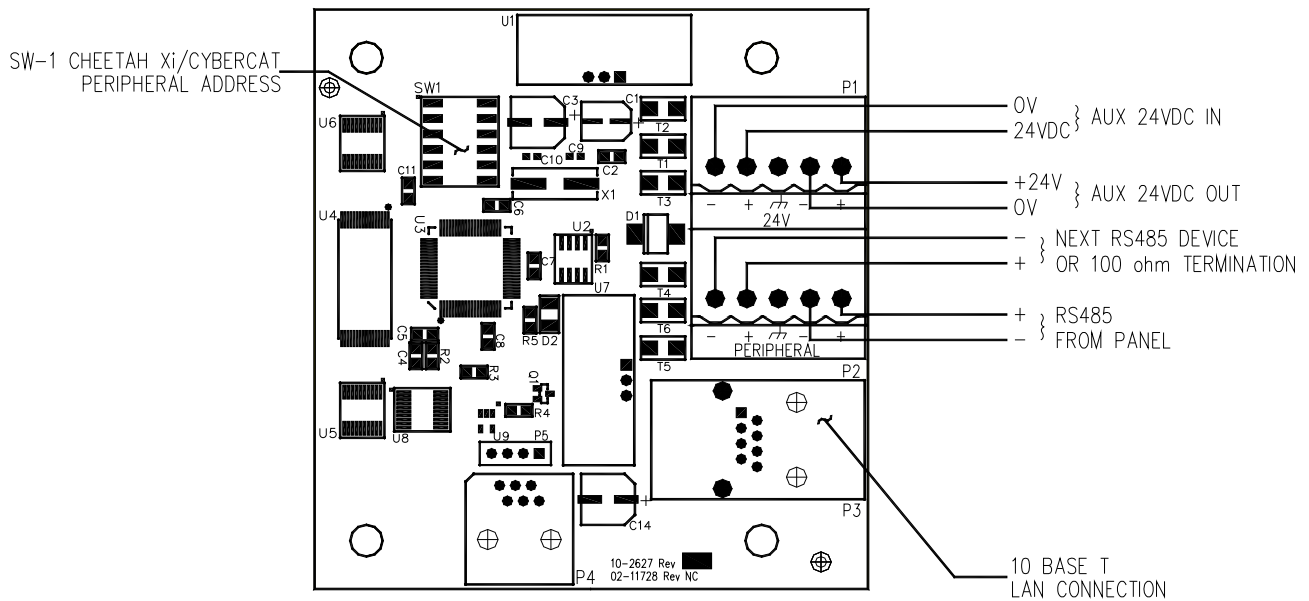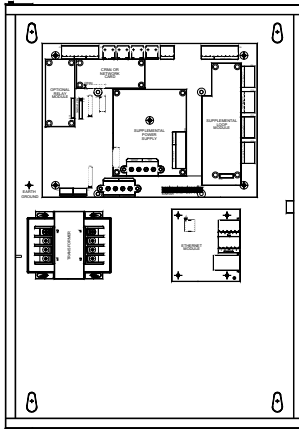

Exhibit 4-1 Ethernet Module Wiring Diagram

4.5 INSTALL ETHERNET MODULE ONTO BACKBOX

a. <u>If using the Fire Alarm Control Panel</u> spare SPS transformer location, install the four mounting standoffs then attach the Ethernet Module to the standoffs with four mounting screws.

Locate in the right SPS transformer location if not in use.

Exhibit 4-2 Spare SPS Mounting

b. <u>If using the 10-074</u>, install the Circuit board to the mounting plate using the included mounting hardware. Attach the four standoffs to the threaded press studs on the cover. Attach the circuit board to the standoffs using the four mounting screws.
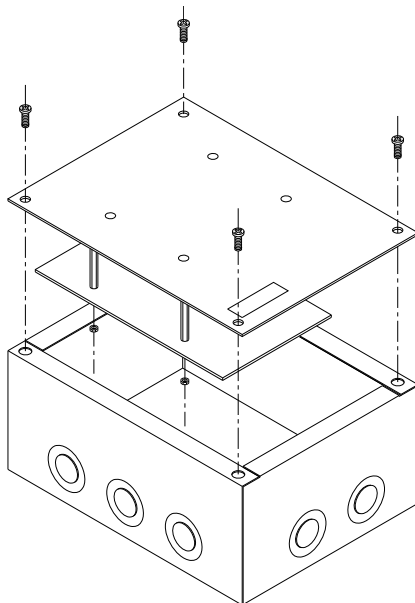
Exhibit 4-3 Enclosure Mounting

4.6 SET THE DIP-SWITCHES THEN APPLY POWER

Set the Ethernet Module's peripheral address using dip-switch SW1 and the table below. Match the module's address to that of the peripheral configuration in the control panel, detailed in Section 5, Programming.   Apply power to the Ethernet Module.

SW1 DIPSWITCH ADDRESS TABLE						
1 = ON, 0 = OFF						
ADDR	DIPSWITCH POSITION					
	1	2	3	4	5	6
1	1	0	0	0	0	0
2	0	1	0	0	0	0
3	1	1	0	0	0	0
4	0	0	1	0	0	0
5	1	0	1	0	0	0
6	0	1	1	0	0	0
7	1	1	1	0	0	0
8	0	0	0	1	0	0
9	1	0	0	1	0	0
10	0	1	0	1	0	0
11	1	1	0	1	0	0
12	0	0	1	1	0	0
13	1	0	1	1	0	0
14	0	1	1	1	0	0
15	1	1	1	1	0	0
16	0	0	0	0	1	0
17	1	0	0	0	1	0
18	0	1	0	0	1	0
19	1	1	0	0	1	0
20	0	0	1	0	1	0
21	1	0	1	0	1	0
22	0	1	1	0	1	0
23	1	1	1	0	1	0
24	0	0	0	1	1	0
25	1	0	0	1	1	0
26	0	1	0	1	1	0
27	1	1	0	1	1	0
28	0	0	1	1	1	0
29	1	0	1	1	1	0
30	0	1	1	1	1	0
31	1	1	1	1	1	0
32	0	0	0	0	0	1

Exhibit 4-4 Dip-Switch Address Table

4.7   CHECK-OUT SYSTEM

Notify building and other necessary authorities that system testing is being performed. Check-out the system as recommended in NFPA 72. Activate each device and test full operation of control panel.

Utilize one of the Walk-Test features, if desired. Refer to Control Panel Operations Manual for detailed description of each Walk-Test Modes.

CAUTION: To ensure proper system operation after installation of the Control System, 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.

4.8   TRAIN PERTINENT PERSONNEL ON THE OPERATION OF THEIR NEW FIRE PROTECTION CONTROL SYSTEM

Provide the building owner with a copy of the as-built drawings for the Fire System, a copy of this manual, and a training class detailed to the operation of their Fire Protection System. Indicate the name and address of your company in the section provided on the label inside the Panel door. Request the owner to maintain a service contract with your company. A properly serviced control system will more likely operate successfully when required to do so vs. an improperly serviced control system. Review the goals for the design of the Fire Protection System and detail how this system is providing these goals with proper service.

5.0 PROGRAMMING

The Fike Ethernet Module Unit, P/N 10-2627, provides the ability to send history events for the CyberCat or Cheetah Xi to a monitoring panel, located either on or off of the protected premises, via local Ethernet LAN or through internet.

5.1 LOAD A STATIC IP ADDRESS INTO THE ETHERNET MODULE

The Ethernet Module requires the use of a Static IP address to be loaded into the Ethernet Module. Due to the supervision requirements for fire alarm systems, a Dynamic IP address cannot be used.

There are several methods that Lantronix provides to configure the Xport® Ethernet component that is utilized on the Fike Ethernet Module. Refer to the Lantronix website (www.lantronix.com) to download the latest Device Installer™ configuration software.

Fike preloads all of the critical operating settings during production test. However, the IP address, Subnet Mask, and Default Gateway must be provided by the Information Technology personnel responsible for the protected premises. These settings must be configured into the Ethernet Module.

The following lists the settings preloaded by Fike:

NETWORK / IP CONFIGURATION

- IP Address – Customer Provided; factory defaulted to 10.10.10.10

- Subnet Mask – Customer Provided; factory defaulted to 255.255.255.0

- Default Gateway – Customer Provided; factory defaulted to 10.10.10.1

NETWORK / ETHERNET CONFIGURATION

Select "Auto Negotiate"

SERVER / ADVANCED

- ARP Cache Timeout – 600 seconds

- TCP Keepalive – 45 seconds

- Monitor Mode @ Bootup - Enable

- CPU Performance Mode – Regular

- HTTP Server Port – 80

- MTU Size – 1400

CHANNEL 1 / SERIAL SETTINGS

- Channel 1 / Disable Serial Port – Off

- Port Settings / Protocol – RS232

- Port Settings / Baud Rate – 9600

- Port Settings / Data Bits – 8

- Port Settings / Flow Control – None

- Port Settings / Parity – None

- Port Settings / Stop Bits – 1

- Pack Control / Enable Packing – Off

- Flush Mode / Flush Input Buffer – all set to No

- Flush Mode / Flush Output Buffer – all set to No

CHANNEL 1 / CONNECTION

- Connect Protocol / Protocol – UDP

- Datagram Mode / Datagram Type – 00.

- Datagram Mode / Accept Incoming – Yes.

Upon completion of Xport® configuration, select "Apply Settings" to load the configuration changes into the Ethernet Module.

5.2 CHEETAH Xi/CYBERCAT PERIPHERAL ADDRESS – PANEL MENU

The control panel(s) that the Ethernet Modules are attached to must be configured for Ethernet, and network operation. The following menus outline the configuration requirements for the control panels communicating via Ethernet.

5.2.1 Configuration Menu 3

```
C O N F I G U R A T I O N   M E N U   3
F 1 - P E R I P H     F 4 -
F 2 - W A L K         F 5 - S E N   C H G
F 3 - G R O U N D     F 6 - M E N U   4
```
Exhibit 5-1 Configuration Menu 3

5.2.2 F1 Peripheral Menu

```
      P E R I P H E R A L     M E N U
F 1 - D E V I C E     F 4 - C M D   S E T
F 2 - S O U R C E     F 5 -
F 3 - S P E E D       F 6 -
```
Exhibit 5-2 Peripheral Menu

5.2.3 F1 Peripheral Device Address

The Ethernet peripheral address (2-32) can be set for supervision in the control panel menus. Access to this menu requires entry of a successful level 3 password. Select the address, type of connection and supervision in this menu (Keep the zone number to Z000). The Ethernet Module's custom message is listed on the fourth line. Use the +/- buttons to select the desired characters.

```
P E R I P H E R A L   A D D R :   0 2
T Y P E :   E T H E R N E T   P O R T
S U P E R V I S E :   Y E S   Z : 0 0 0
P E R I P H E R A L   M S G     0 2
```
Exhibit 5-3 Peripheral Address Menu

Line 1   Select the desired address for the Ethernet module

Line 2   Type: Ethernet Port should be set for the type of peripheral device

Line 3   Supervise has to be set to YES to ensure proper operation of the Ethernet operation

Line 4   This is where you set your custom message

5.3 CHEETAH Xi/CYBERCAT PERIPHERAL BUS COMMAND FORMAT

The Ethernet Module requires the panel's peripheral bus speed and command format to be set for proper operation.

If any changes are required to the settings loaded in the control panel, use the +/- buttons to increment/decrement the value of the field.

5.3.1 F3 Peripheral Bus Speed

```
P E R I P H E R A L   B U S   S P E E D
              9 6 0 0 b p s
```
Exhibit 5-4 Peripheral Bus Speed Menu

Line 3   Bus Speed **38400bps**/9600bps

If the Ethernet module's firmware version is lower than V3.20, the baud rate must be set to 9600bps. If firmware version is V3.20 or higher, the module will auto detect the panel's baud rate (panel firmware V5.00 and higher).

5.3.2 F4 Command Set

```
E V A C : F I K E   S T A T U S : E X P
H I S T O R Y   X M I T : C O M P A C T
H I S T O R Y   P A C K I N G : O N
H I S T O R Y   M E S S A G E : E X P
```
Exhibit 5-5 Command Set Menu

Line 1   EVAC **/ FIKE** / NONE
EVAC = Fike Guard
FIKE = Fike's Integrated voice system
OFF = No voice operation.

STATUS **EXP**/STD .
EXP must be selected for proper Ethernet Module function.

Line 2   History transmit **COMPACT**/VERBOSE
This setting selects all messages, or a subset of the history messages to be transmitted out of the peripheral bus. This setting does not affect the operation of the Ethernet Module.

Line 3   History Packing **ON**/OFF
ON must be selected for proper Ethernet Module function.

Line 4   History Message **EXP**/STD
EXP must be selected for proper Ethernet Module function.

5.4 CHEETAH Xi/CYBERCAT NETWORK CONFIGURATION FOR ETHERNET OPERATION

The Ethernet Module requires each control panel to be configured for network operation in order to transmit/receive the history messages via Ethernet.

If any changes are required to the settings loaded in the control panel, use the +/- buttons to increment/decrement the value of the field

5.4.1 Configuration Menu 5

```
C O N F I G U R A T I O N   M E N U   5
F 1 - L O G O        F 4 -  D I A L E R
F 2 - A U T O   A    F 5 -  N E T W O R K
F 3 -                F 6 -  M E N U   6
```
Exhibit 5-6 Configuration Menu 5

5.4.2 F5 Configure Network Menu

```
   C O N F I G U R E   N E T W O R K
F 1 - I D ' S        F 4 - H I S T   T R
F 2 - M O D U L E    F 5 - S W I T C H
F 3 - Z O N E S
```
Exhibit 5-7 Configure Network Menu

5.4.3 F1 Network Panel ID

Each panel that participates in the network shall have a unique Network Panel ID, in order to provide proper system supervision and annunciation.

```
N E T W O R K   P A N E L   I D : 0 0 1
A L L   N E T   I D ' S : 0 0 1 - 0 2 0
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
```
Exhibit 5-8 Network Panel ID Menu

Line 1   This allows you to assign the unique network ID to each panel. Arrow to ID field and using +/- buttons to change network ID. Each panel on the network must have a unique Network ID.

☞ **NOTE:** Supervision "Y" in line 4 is not necessary for Ethernet operation. If the panel does not have a network module then all of line 4 should be blank.

5.4.4 F2 Network Module Config

The Network Module Configuration screen is used to provide a custom message for the panel on the network, as well as define whether or not the Silence, Reset, Drill and Acknowledge switches share function across the network.

```
M O D U L E   T Y P E :    N O N E
N E T W   W I R I N G :    S T Y L E - 4
S W   F U N C T I O N :    L O C A L
C U S T O M   M S G   P A N E L   0 0 1
```
Exhibit 5-9 Network Module Config Menu

Line 1   Module Type is used for networking via the 485 or fiber optic network cards.

        This field is not applicable to the Ethernet Module.

Line 2   Network Wiring Style is used for networking via the 485 or fiber optic network cards.

        This field is not applicable to the Ethernet Module.

Line 3   Defines the network operation of the Silence, Reset, Drill and Acknowledge switches.

        If set to GLOBAL, this panel will accept switch operation from any panel on the network as long as this panel is receiving history messages from that panel

        If set to LOCAL, then this panel will ignore the switch function from the other network panels unless configured to selectively accept these switch functions from the network ID's configured in the SWITCH configuration screen **AND** this panel receives history messages from that panel. (Refer to section 5.4.5 F5 NETWORK SWITCH).

Line 4   Custom Message field for this panel. 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 the custom message is completed.

5.4.5 F3 Network Zone

The CyberCat / Cheetah Xi control systems can be configured to either share common zone numbers on the network (zone 1 spanning multiple panels operates as one zone for all inputs and outputs), or leave the panel zones independent from each other (zone 1 on panel 1 is independent from zone 1 on panel 2). Note, however, that the pre-discharge state is NOT shared across the network.

The NETWORK ZONE configuration screen allows you to assign which network zones will participate in the local panel zone.

All panels broadcast their zone status and history to the network. The individual panels are configured to accept and react to network zone status.

⚠️ **Zone 254 must be shared to allow troubles across the network**.

```
A S S I G N   T O   N E T W O R K
Z O N E   R A N G E   : 0 0 1 - 0 2 0
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
Y
```

Exhibit 5-10 Network Zones Menu

Line 2   20 zone range that will be displayed in lines 3 & 4 below. Position the cursor under the first number in this line and use the +/- button to increment/decrement the range in groups of 20 to display at one time. This will cycle through the 254 zones available on the CyberCat / Cheetah Xi.

Line 3   These numbers act as placeholders and zone number indicators for the range of zones signified on line 2.

Line 4   Position the cursor on the fourth line beneath the address selected and use the +/- button to toggle to select zones to participate. Toggle to 'Y' to participate and '–' to not participate. (If a zone is not selected to participate, it will still show up in the History of all panels, but does not act on the state indicated in that zone.

Note: Use F5 to set all of line 4 to "Y" and use F6 to set all to "N"

5.4.6 F5 Network Switch

If the NETWORK SWITCH FUNCTION is set to LOCAL, then the CyberCat / Cheetah Xi control panel can be configured to selectively react to Reset, Silence, Drill and Acknowledge from other panels on the network. (Refer to section F2 – NETWORK MODULE CONFIG).

This configuration screen sets which network panels to accept switch functions from.

Since the Ethernet Module only sends History messages to the monitoring panel, this configuration screen is not applicable to the monitoring panel unless local 485/fiber networks are used as well.

```
A C C E P T   S W I T C H E S   F R O M
N E T W O R K   I D ' S : 0 0 1 - 0 2 0
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
 Y
```

Exhibit 5-11 Switch Menu

Line 2   20 ID's range that will be displayed in lines 3 & 4 below. Position the cursor under the first number in this line and use the +/- button to increment/decrement the range in groups of 20 to display at one time. This will cycle through the 128 CyberCat / Cheetah Xi panels.

Line 4   Position the cursor on the fourth line beneath the Panel ID you wish to change. To accept switch commands from the specified panel, use the +/- buttons to toggle the selection to a 'Y'. Leave the selection blank to ignore switch commands from the specified panel.

NOTE: If SW FUNCTION is set to GLOBAL, the fourth line will display a 'y' under each ID indicating that the panel will accept switch commands from all panels.

5.5   IP CONFIGURATION FOR ETHERNET OPERATION

For each CyberCat / Cheetah Xi utilizing an Ethernet Module, the IP addresses for the connected panel, panels to supervise, and the monitoring panel need to be configured. Configuration of these parameters is required in order to maintain system supervision and insure successful transmission of system history to the correct location.

Due to the requirement to indicate a loss in system communication, the system supervision must be setup in a many to one format where all supervised panel's report to a single monitoring panel (See example system on Page 18).

5.5.1   Configuration Menu 6

```
C O N F I G U R A T I O N   M E N U   6
F 1 - I P   A D R     F 4 - S W   O P E R
F 2 - I P   S U P     F 5 - L E D   O P R
F 3 - I P   T I M     F 6 - M E N U   7
```
Exhibit 5-12 Configuration Menu 6

5.5.2   F1 Network IP Addresses

```
        I P   A D D R E S S E S
S R C :  0 0 0 . 0 0 0 . 0 0 0 . 0 0 0
H I S T : 0 0 0 . 0 0 0 . 0 0 0 . 0 0 0
S U P V : 0 0 0 . 0 0 0 . 0 0 0 . 0 0 0
```
Exhibit 5-13 IP ADRress

Line 2   Position the cursor on the second line. At this location you will set the Source IP for the panel. This is required In order to utilize the remote monitoring capability. Each Ethernet Module must have a unique SRC address.

Line 3   Position the cursor on the third line. At this location you will set the Destination IP for the monitoring panel. If configuring the monitoring panel, leave as all zeros.

Line 4   Position the cursor on the third line. At this location you will set the Supervision IP for the monitoring panel. If configuring the monitoring panel, leave as all zeros.

⚠️ **For proper history reporting, both the HIST and SUPV IP address must be the same.**

5.5.3   F2 Network IP Supervision

The monitoring panel must be configured to supervise the panel IP addresses that send supervision messages to it (panels with the monitor's IP address in line 4 of the IP ADDRESSES configuration screen.

The panels that are supervised must be configured to supervise the monitoring panel in order for both systems to indicate a trouble condition upon loss of communication.

```
S U P E R V I S E   N E T W O R K   I D
              0 0 1
        A T   I P   A D D R E S S
0 0 0 . 0 0 0 . 0 0 0 . 0 0 0
```
Exhibit 5-14 Member IP Supervision

Line 2   Position the cursor on the second line and use the +/- buttons to select the panel(s) you wish to supervise (001 – 128). This number refers to the Network ID of the panel you wish to supervise. Refer to step 5.30/5.33 in the CyberCat/Cheetah Xi manual.

Line 4   Position the cursor on the fourth line. Use the +/- buttons to toggle the numbers to the IP Address of the panel that line 2 has as a Source IP. Refer to Exhibit 5-12.

5.5.4   F3 Network IP Supervision Timeout

Upon loss of Ethernet communication, a system trouble will be annunciated if the loss of communication exceeds the configured timeout.

The timeout is selectable from 5 – 55 seconds in 5 second increments; 1 – 59 minutes in 1 minute increments; or 1 – 18 hours in 1 hour increments.

```
      I P   S U P E R V I S I O N
T I M E O U T :   3 0   S E C O N D S
H I S T O R Y   T R A N S M I T S : 0 2
I P   T I M E :     D I S A B L E D
```
Exhibit 5-15 Member IP Supervision Timeout

Line 2   Select the desired timeframe for indication of a system trouble due to a loss in panel communication.

Line 3   Select the number of times the history messages are transmitted.   The Fike recommendation is 2.

Line 4   Select whether the date and time of networked panels will be synched with the main panel.

DISABLED / ACCEPT / SEND

SRC IP Address: 68.35.140.234
Panel IP Supervision: 172.16.1.64
172.16.1.7
172.16.1.95

Ethernet Module

Switch/Router

FACP 1
Monitoring
Panel

Internet
LAN/WAN

Switch/Router

Switch/Router

Switch/Router

Ethernet Module

Ethernet Module

Ethernet Module

FACP 2
Supervised
Panel

FACP 3
Supervised
Panel

FACP 4
Supervised
Panel

SRC IP Address: 172.16.1.64
HIST IP Address: 68.35.140.234
SUPV IP Address: 68.35.140.234

SRC IP Address: 172.16.1.7
HIST IP Address: 68.35.140.234
SUPV IP Address: 68.35.140.234

SRC IP Address: 172.16.1.95
HIST IP Address: 68.35.140.234
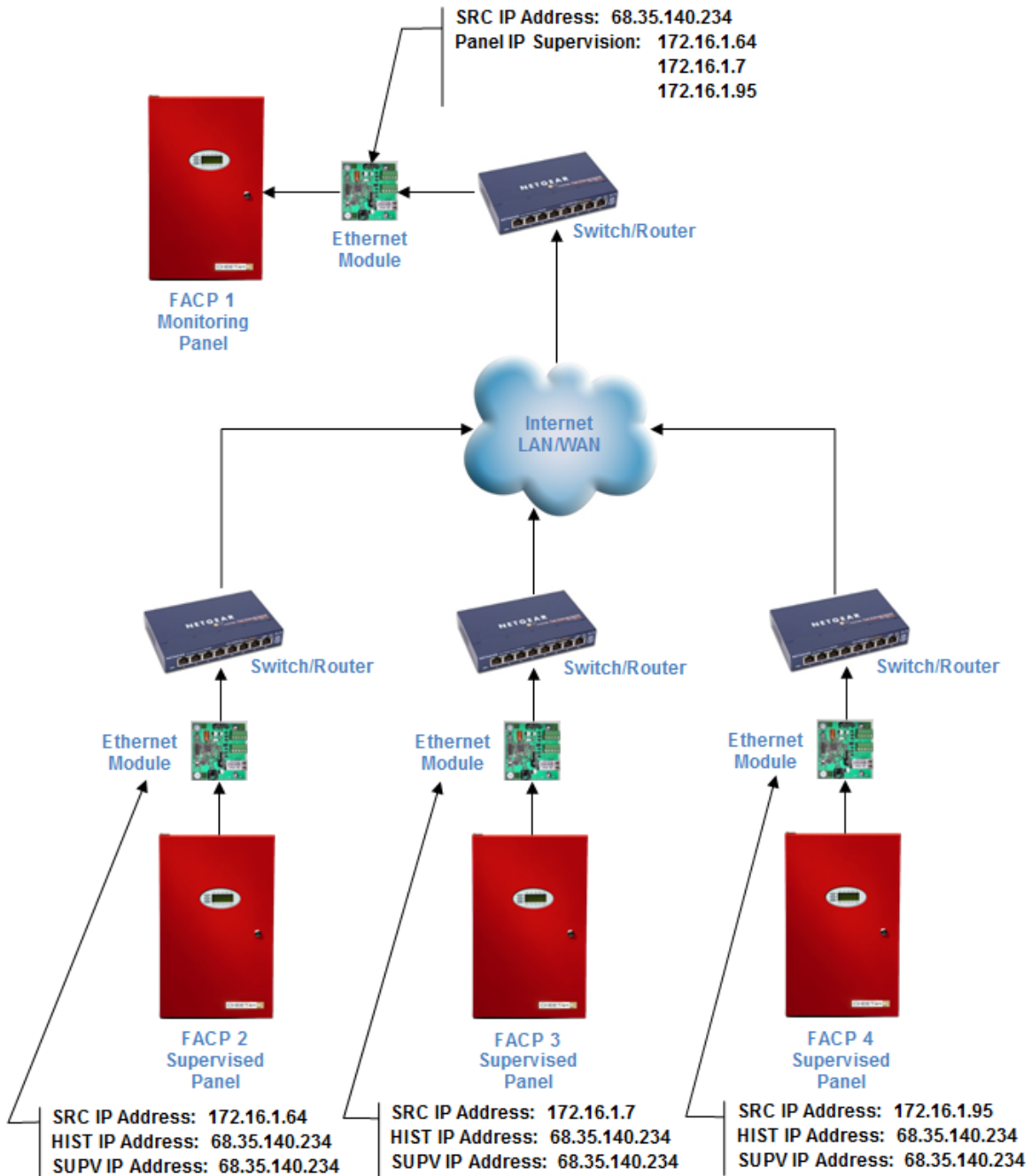SUPV IP Address: 68.35.140.234

Exhibit 5-16 Ethernet Monitoring Configuration Example

In the example above, Fire Alarm Control Panels 2, 3, and 4 are configured to transmit their history data to the monitoring panel 1 identified by IP address 68.35.140.234. Panel 1 is configured to supervise panels 2, 3 and 4 by including their associated SRC IP addresses in the panel's IP Supervision list.

For a wide area network (WAN) application there are two configuration options. Each configuration option must involve the facilities IT staff for the setup. The first configuration option assumes that the facility has a Public IP address that can be assigned to the supervising panel. The supervised panels will be configured to send their history events directly to the IP address of the supervising panel. The second configuration option assumes that the facilities router/gateway has a Public IP address and must be configured by the facilities IT staff to forward the history events to the destination port on the Ethernet module. The supervised panels will be configured to send their history events to the Public IP address of the router.

6.0 OPERATIONS

When an event occurs, the panel sends the data out the RS485 port to all connected peripherals. The ETHERNET MODULE is supervised by the Cheetah Xi/CyberCat.   If the ETHERNET MODULE becomes disconnected, power is removed, or the module stops communicating for any reason, the control panel produces the supervision trouble, 'Peripheral Missing'.

The ETHERNET MODULE must be configured for the desired peripheral type with the configuration and dip switches. Once this is selected, the ETHERNET MODULE takes the History messages from the control panel and forwards the information to the Monitoring Panel.

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7.0 SERVICING

Inspection, Testing, and Maintenance shall be performed by qualified individuals. Fike provides a training class on its Control Systems for Factory Authorized Distributors. The training class provides Certification for Installation, Service and Maintenance of the Fike Panel. The certified individual performing the service must have also read this entire manual and understand the basics of Fire Alarm Systems, codes, and standards. Before proceeding with any testing, notify all building occupants and any parties monitoring the Fire Alarm System. Notification must also be performed at the conclusion of the testing.

7.1 CHECKOUT

Once a new installation is complete and it is operational, it is necessary to test the system performance to ensure that it performs to the design and requirements for the customer and Local Authority Having Jurisdiction. Fike recommends testing all inputs and outputs as required in NFPA 72 Testing. The building owner shall be provided a copy of as-built installation drawings and a written sequence of operation.

7.2 MAINTENANCE

In order to have an optimum Fire Protection System completely functional at all times, it is recommended to follow NFPA 72 – "Testing Frequencies."

Components may periodically require replacement or service as necessary. Indication for such service will be determined from troubleshooting and scheduled service.

7.3   TROUBLESHOOTING

The FIKE Ethernet Module will provide a 20 character description of an event at the Cheetah Xi/CyberCat.   Each individual address can also have a 20 character custom message to aid in describing the device's location and event.

This custom message, found on the 2nd line of the display, can refer to the peripheral custom message that caused the event or the panel custom message that caused the event (Press F1 to toggle).   Refer to the Control System Product Manual for a complete description of events and the proposed tips for resolution of each.   The following are directly related to the Ethernet Module:

GENERAL ETHERNET MODULE EVENTS	DESCRIPTION	RECOMMENDATIONS FOR RESOLUTION
PERIPH #aa MISSING	RS485 Peripheral device #aa is not communicating with the main Cheetah Xi/CyberCat.	Locate Peripheral Device #aa and determine if appropriate power is present and if the RS485 wire is connected appropriately. Make sure that the address is set as required by the installation instructions for the peripheral. Make sure the 100 ohm termination resistor is inserted only on the last device of the peripheral loop. Validate wiring is within the specifications.
PERIPH #aa RETURN	RS485 Peripheral Device #aa has restored communication with the main Cheetah Xi /CyberCat.	Determine what was changed to restore the communication.

ETHERNET EVENTS	DESCRIPTION	RECOMMENDATIONS FOR RESOLUTION
PANEL MISSING ID: nnn	Panel with ID nnn is not in communication	Locate Peripheral Device #nn and determine if appropriate Ethernet connection is connected. Make sure that the IP Address is set correctly in the device and that the panel has the correct address in the configuration detailed in step 5.0 Programming. Validate wiring is within the specifications.
PANEL RETURN ID: nnn	RS485 Peripheral Device #nnn has restored communication.	Determine what was changed to restore the communication.

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