

# **AM2020**

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# **AFP1010**

## **CHAPTER Two**

## **OPERATION**

# Introduction

## About the operation of the panel

Use of intelligent and addressable detectors and modules provide the operator with precise information on the location of the alarm or trouble, as well as what type of device is reporting the activity.

### **WARNING**

The AM2020/AFP1010 control panel will only operate with Notifier intelligent addressable devices installed.

All operating power, as well as data communications to and from intelligent and addressable devices, is transmitted on a two-wire LIB Signaling Line Circuit (SLC) Loop that may be wired to meet the requirements of either NFPA Style 4 (Class B) or Style 6 or 7 (Class AA) operation. The AM2020 system can be configured with up to 10 LIB SLC Loops and the AFP1010 system with up to 4 Loops, each of which is capable of supporting up to 99 intelligent detectors and up to 99 addressable control or monitor modules.

A **fire alarm** in the AM2020/AFP1010 is initiated by activation of any of the following devices:

- Intelligent smoke or heat detectors (SDX-551/751, SDX-551-TH, CPX-551/751, FDX-551, or IPX-751, etc.).
- Addressable Manual Pull Stations (BGX).
- Conventional normally-open or normally-closed contact fire alarm initiating devices connected to addressable MMX Monitor Modules (or equivalent XPM circuits) along a LIB SLC Loop.

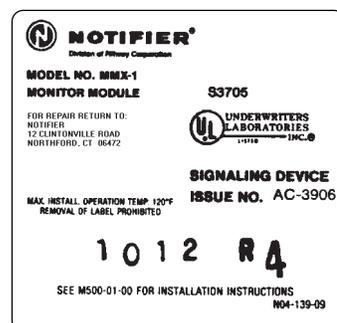
During an alarm condition, LEDs on as few as six and as many as 99 addressable initiating devices (smoke detectors, heat detectors, MMX modules etc.) and/or output modules may be latched on. A latched-on LED on an initiating device indicates that the device has caused an activation signal to be transmitted to the AM2020/AFP1010. A latched on LED on an output module indicates that the module has been activated. An **activation signal** on the AM2020/AFP1010 includes fire alarms, security alarms, supervisory conditions, or non-alarm inputs.

### **NOTE**

During loss of primary (AC) power, when the AM2020/AFP1010 is operating under secondary power, only LEDs on intelligent detectors (including DHX-501 duct detectors) will be latched on during a fire alarm.



The AM2020/AFP1010 can be programmed to latch the LEDs on up to 99 addressable devices (MMX, CMX, etc.). This software feature can be used only if ALL installed addressable devices are stamped with the code R4 on the product marking label (purchased from Notifier after April 1, 1991.) Use of this feature under any other circumstances can cause the LIB SLC Loops to shut down during a fire alarm condition. RA-400 Remote LEDs are not permitted for use with this feature (excluding those wired to DHX-501 Duct Detectors). Use only the RA-400Z Remote LED when extending the number of latched-on LEDs beyond six. SDX-551 Photoelectric Detectors can also have an H code after their model numbers.



### **NOTE**

Detectors have priority over modules. Detectors that come into alarm will assume LED-latch priority over previously-latched module LEDs.

Output devices (alarm notification appliances, output relays, etc.) are controlled by activation of CMX Control Modules (or equivalent XPC or XPR circuits) connected along the LIB SLC Loop. A control module may serve as a Form-C output relay or as a Notification Appliance Circuit (NAC).

## About this Chapter

This chapter covers the operation of the AM2020/AFP1010 Combination Fire/Security Protective Signaling System and the control features available to the operator presented through the perspective of the Display Interface Assembly (DIA-2020 or DIA-1010).

Following are general terms used for specific part numbers:

- PRN is used for PRN-4
- CRT is used for CRT-2
- CMX is used for CMX-1 or CMX-2
- MMX is used for MMX-1 or MMX-101

This chapter refers to CMX Control Modules and MMX Monitor Modules. If XP Series Transponders are used, unless otherwise stated, the following substitutions may be made:

- MMX Monitor Modules can be substituted with XPM circuits.
- CMX Control Modules configured as Form-C contacts (tabs broken), can be substituted with XPR circuits.
- CMX Control Modules not configured as Form-C contacts can be substituted with XPC circuits.

#### **NOTE**

See warning regarding XP Transponder operation at the beginning of Chapter Three, Section Three. For more information, refer to the XP Series Transponder System Manual.

#### **About the passwords**

The AM2020/AFP1010 functions in one of three levels—Operational Level, Level One, and Level Two. In Operational mode, the operator may perform the following keypad or menu-displayed functions:

- Acknowledge alarms, troubles, and restorations (clears)
- View acknowledged alarms, troubles, and restorations
- Silence the sounding of fire alarm notification appliances
- Reset the AM2020/AFP1010 System
- Test all intelligent addressable detectors in the system
- Test the panel's LED indicators, Liquid Crystal Display (LCD), terminal and printer
- Read the status of the entire AM2020/AFP1010 system, including the addressable devices
- Print out a report on the status of the system or access the history buffer

Access to keypad or menu levels one and two require entry of specific passwords. These levels allow an authorized programmer to initialize or alter the programming of the AM2020/AFP1010. Level One and Level Two entry requirements are defined as follows:

Alter Status \_\_\_\_\_ Level One password required.  
Programming \_\_\_\_\_ Level Two password required.

If the main operator of the system requires access to a function which is password protected, contact the distributor who installed the system for the required password(s). For more information on programming or altering the status of the AM2020/AFP1010, refer to Chapter Three of this manual.

Whenever the operator selects a menu, the AM2020/AFP1010 begins a one-minute timer. If no key is pressed during this minute, the function selected will be aborted and control will return to the state the panel was in prior to selection of that menu.

#### **NOTE**

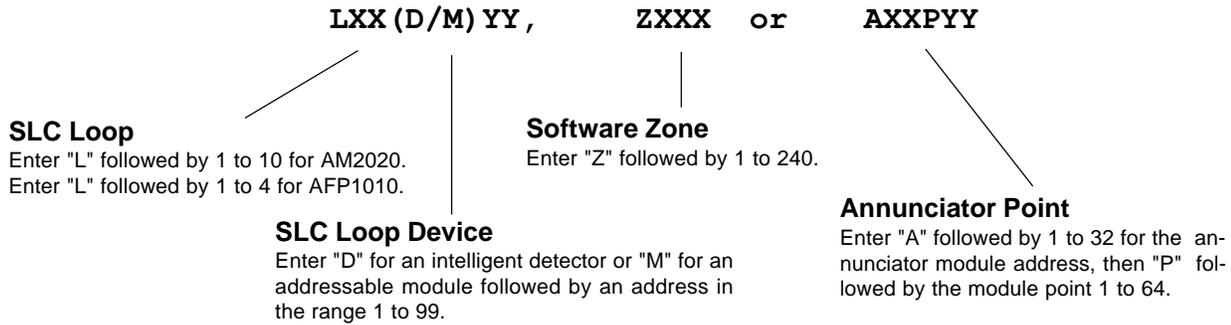
Unacknowledged points must be acknowledged prior to being reprogrammed. Any new trouble or alarm reports reviewed during programming may disrupt the programming process.

#### **About the software**

Depending on the particular release of software in your system, some menu functions and system features may not be operable. If you attempt to execute a function not operable, the panel will respond with the message "**FUNCTION NOT ENABLED.**"

### About addresses

For certain functions such as READ STATUS, the operator must enter a device, software zone, or annunciator point address. Leading zeroes are not required. The address assumes the following format:



For example, **L3M44** must be entered as the address for the 44th module on LIB SLC Loop 3.

### About the Backspace Key

The backspace key serves two purposes:

- 1) At a menu prompt:



```
PRESS 1=SYS, 2=PTREAD, 3=ALM, 4=TBL, 5=DIS,
6=MONON, 7=CTLON :
```

the backspace key "aborts" the selection of that menu.

- 2) When entering data or making a selection from a menu:

```
ENTER LXX(D/M)YY, ZXXX OR AXXPYY FOR PT.
STATUS (BCKSPC TO ABORT) : L4D3
```

the backspace key erases the last character, or menu choice entered.

### About entering alphanumerics

Most of the keys on the DIA keypad serve more than one function. For instance, the **3** key is used to enter the digit **3** or the letter **D** when entering the address of a detector.

The AM2020/AFP1010 toggles which character is displayed on the LCD with each successive keypress of that same key. This allows the operator to press a particular key until the desired character is displayed. That character is entered into the display whenever the next, different, key is pressed. If two of the characters contained on a particular key (for instance, the **D** and the **3**) need to be entered in succession, the ALPHA ENTER key must be used (see example that follows). After the full address has been entered into the display, press ENTER to transfer the display contents to the system for processing.

Example: To enter **L8D3**,

- Press  and the letter **K** will be displayed.
- Press  again and the **K** will change to **L**.
- Press  and the letter **O** is displayed to the right of the displayed letter **L**.
- Press  again to change the letter **O** to the digit **8**.
- Press  and the letter **D** will be displayed to the right of the displayed characters **L8**. The partial address displayed now reads **L8D**.
- Press  to enter the letter **D** into the display.
- Press  and a second letter **D** will be displayed to the right of the displayed characters **L8D**. The partial address displayed now reads **L8DD**.
- Press  again to change the second **D** to the digit **3**. The completed address now reads **L8D3**.
- Press  to transfer the display contents to the AM2020/AFP1010 system for processing.

### About Walk Test

The Walk Test function is a service feature that allows one-man testing of devices on any selected LIB. The Walk Test feature will automatically abort after 15 minutes of inactivity if inadvertently left enabled by the service representative.

### About the display time

The AM2020/AFP1010 has a separate time field in the display for each event that occurs in the system.

All Systems Normal: During periods of no activity, the time field reflects the *current time*. For AM2020/AFP1010 systems with **NOTI•FIRE•NET™**, the time is synchronized every hour by the network master clock (last AM2020/AFP1010, INA, or NRT node on network to have its time changed).

Single, unacknowledged event: When an event has occurred *but has not been acknowledged*, and no other event has occurred, the CRT terminal and the DIA display the time this event occurred.

Multiple, unacknowledged events: The display will show the actual time that the first unacknowledged event occurred. After the first event is acknowledged, the time shown on the display does not represent the time at which the event occurred, but instead indicates the time at which the event is displayed.

Single/multiple previously acknowledged events: The time shown for an acknowledged event is the time at which that event was last placed in the display by activation of the ack/step key (not the time at which the event occurred).

### About the print time

Output from the printer for a particular event (alarm, trouble, acknowledgment, etc.) includes the time the event was sent to the printer, which, in most cases, is identical to the time the event occurred. In extreme cases, when many events have occurred within a few seconds, the time printed for a particular event may differ from the actual event time by up to one minute. After events have been acknowledged, only the event history buffer (if enabled) and the system printer will provide a record of the time at which events occurred.

### About priorities

Every event the AM2020/AFP1010 displays is prioritized. This includes the processing of incoming alarm and trouble events, acknowledging events, the clearing of events, and acknowledging the clearing of events (receiving unit operation only). Security alarms will increment the trouble counter on the terminal status line of the CRT.

#### **NOTE**

Security alarms are processed like fire trouble conditions in the AM2020/AFP1010.

The AM2020/AFP1010 processes and displays events under the following priorities, highest priority first:

- |                         |                                  |
|-------------------------|----------------------------------|
| 1) Fire Alarms          | 8) Cleared Fire Alarms           |
| 2) Security Alarms      | 9) Cleared Security Alarms       |
| 3) Supervisory Signals  | 10) Cleared Supervisory Signals  |
| 4) Device Troubles      | 11) Cleared Device Troubles      |
| 5) Disabled Zones       | 12) Cleared Disabled Zones       |
| 6) System Troubles      | 13) Cleared System Troubles      |
| 7) Annunciator Troubles | 14) Cleared Annunciator Troubles |

In addition, detectors have a higher priority than modules within each detector/module category; the lower the address, the higher the priority (see list below). *The display of certain events can be pre-empted by others at the time they are acknowledged. Pay careful attention to the display when acknowledging events.*

Node 1, Loop 1 Detector 1, Loop 1 Detector 2, Loop 1 Detector 3 ... Loop 10 Detector 99  
(followed in priority by)

Node 1, Loop 1 Module 1, Loop 1 Module 2, Loop 1 Module 3 ... Loop 10 Module 99  
(followed in priority by)

Node 1, Zone 1, Zone 2, Zone 3... Zone 240  
(followed in priority by)

Node 1, System Trouble Indices (in Hex) T00, T01, T02... TFF  
(followed in priority by)

Node 1, Annunciator Trouble Indices (in Hex) N00, N01, N02... NFF

### About System Test

System Test, or "Detector Test" as it is often referred to, is a manually initiated test of all intelligent detectors installed in the system. When the user presses the system test key the fire panel performs a chamber test of each intelligent detector to ensure its proper operation. System test can take up to one minute before displaying its results. There are two types of display:

```
DETECTOR TEST:ALL OK    01+05+00+02+00+80  
+25+00+06+00 TOT=119  05:00P 05/22/97
```

Each LIB displays the total number of intelligent devices installed on it, as well as the overall system total.

```
DETECTOR TEST FAIL: 110,119,211,213,605,  
617,799,815,015,020+ 05:30 05/22/97
```

Each failed device is represented by a three digit number. The first digit indicates the LIB number (0=10), and the last two the device address. If more than ten devices have failed a "+" is shown after the last detector number. If more than ten detectors failed, the serviceman would have to repair, replace or disable the ten listed, and then rerun System Test in order to locate the remaining ones.

### About Periodic Test

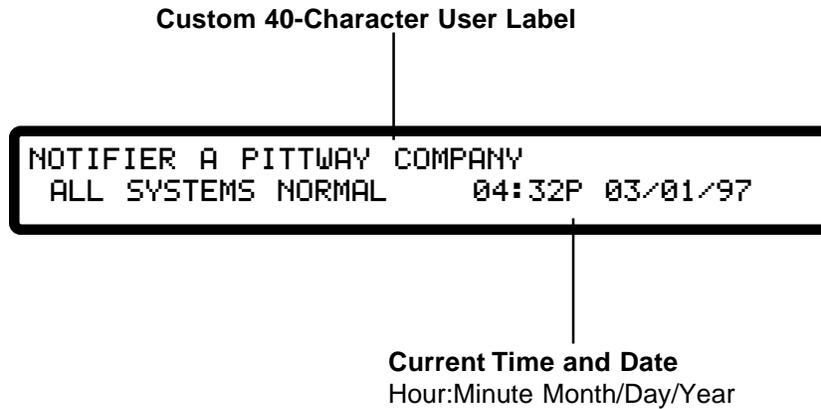
The fire panel performs a periodic automatic chamber test of all intelligent detectors installed in the system to ensure their proper operation. When a detector has failed its automatic chamber test, it will generate a trouble message as in Section 5.1 with "DET FAILED TEST" in the type of trouble field. The service man would then have to repair or replace the indicated device.

# Section One

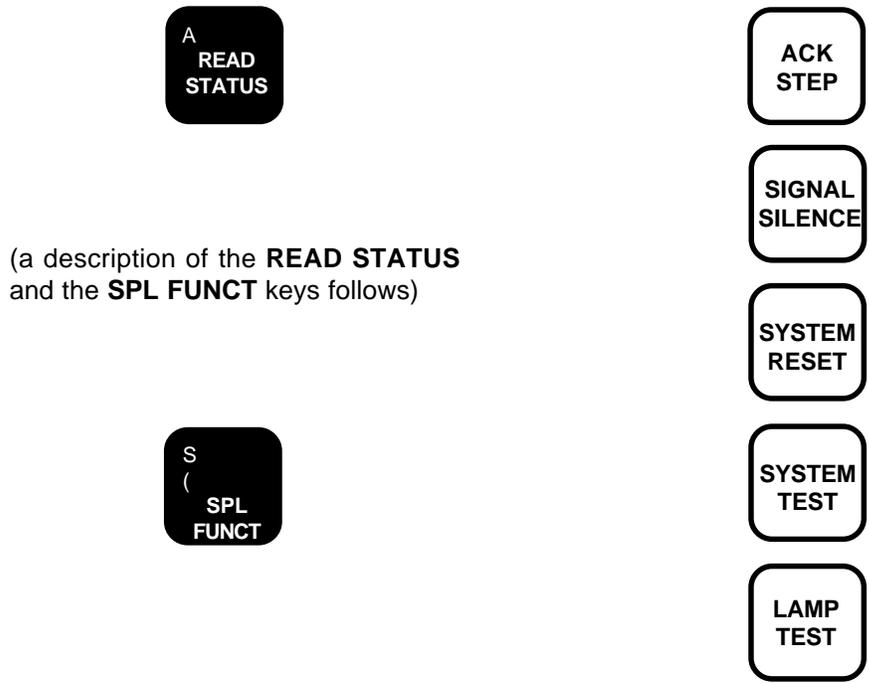
## The Display Interface Assembly

### Section 1.1 Normal Operation

During normal fire alarm operation when no alarms or troubles exist, the system will display the following:



The operator can perform the functions associated with the following keys without having to enter a password:



**PIEZO SOUNDER** - The local panel piezo sounder provides an audible indication of the system alarm or trouble conditions. The sounder will pulse to indicate the detection of at least one fire alarm condition in the system, and will sound steadily when the system is in trouble. The sounder is silenced when all conditions have been acknowledged. If the sounder sounds steadily, and it cannot be silenced by the acknowledgment of all system alarm/trouble conditions, CALL YOUR SERVICE REPRESENTATIVE IMMEDIATELY.

**80 CHARACTER LIQUID CRYSTAL DISPLAY** - The LCD displays the current status of the entire AM2020/AFP1010 system. While programming the AM2020/AFP1010, the LCD provides various system configuration menus and prompts. This display also is illuminated when the AM2020/AFP1010 is under AC power. The display will remain illuminated for one minute after the loss of AC power; any keypad or system activity will re-illuminate the display for one minute.

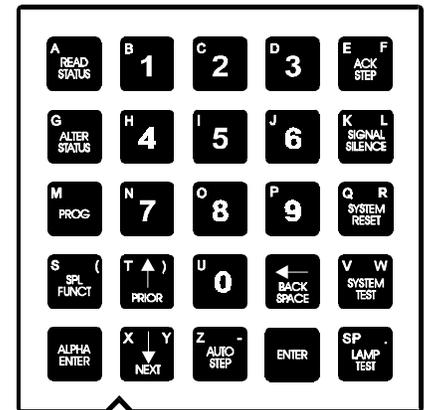
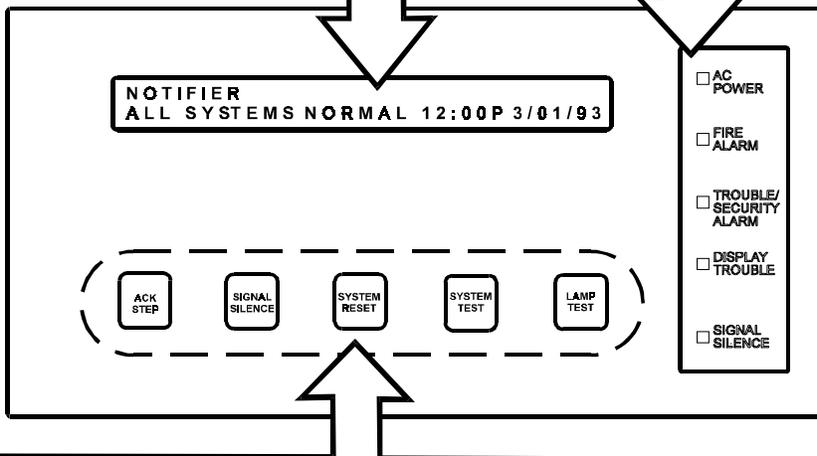
**AC POWER** - A green LED will illuminate to indicate that the system is operating from the primary power supply.

**FIRE ALARM** - A red LED will flash to indicate that the panel has detected at least one fire alarm in the system. The red LED will light steadily when all fire alarms have been acknowledged. The panel display will provide detailed information on any alarms received.

**TROUBLE/SECURITY ALARM** - A yellow LED will flash to indicate any unacknowledged change of status in the system. The panel display will provide detailed information about each change of status signal received. After all change of status conditions have been acknowledged, and while at least one trouble condition still exists, the Trouble/Security Alarm LED will illuminate steadily. Note: Security alarms are treated as fire trouble conditions in this combination fire alarm/security system.

**DISPLAY TROUBLE** - A yellow LED will illuminate when a trouble condition is detected in the display assembly. If this LED is illuminated the contents of the display must be considered invalid. **Call your service representative immediately.**

**SIGNAL SILENCE** - A yellow LED will illuminate steadily when all the control modules in the system which can be silenced have been silenced. A flashing yellow LED indicates a partial signal silence condition (some of the control modules that can be silenced have been silenced.)



DIA-2020

**ACK STEP** - This key is used to acknowledge system alarm or trouble conditions. When depressed, the operator acknowledges the new status of the device indicated on the display. Depression of this key will also step the display to the next device in alarm or trouble. After all such system alarm and trouble conditions have been acknowledged, the ACK STEP key may be used to step the display through the existing system alarm and trouble conditions.

**SIGNAL SILENCE** - This key, during a fire alarm condition, will deactivate all activated control modules that have been programmed to permit signal silencing.

**SYSTEM RESET** - This key is used to clear all system alarm and trouble conditions. If an alarm or trouble condition still exists after System Reset, that alarm/trouble condition will resound. **Note:** The function of this key is inhibited until all alarms and troubles have been acknowledged.

**SYSTEM TEST** - This key is used to automatically perform a test of all intelligent detectors in the system. Results of the system detector test are then indicated on the panel display.

**LAMP TEST** - this key is used to perform a test of LEDs on the control panel and to test the panel display. The test will illuminate the panel LEDs in sequence for a timed period and flash the panel display. When the test has been completed, the panel LEDs and the panel display will return to their prior status.

**NOTE** - These keys and their functions are repeated on the alphanumeric keypad of the DIA.

**AUTO STEP** - During READ STATUS, this function key automatically scrolls the display through a list of system conditions such as devices that are in alarm or trouble.

**PRIOR, NEXT** - During READ STATUS, these keys allow the user to step forward or backward through a list of system conditions such as devices that are in alarm or trouble.

**READ STATUS** - Allows the status of the entire system to be read, including the status of the Loop Interface Boards, the addressable detectors, and the control and monitor modules.

**ALTER STATUS** - Provides access to "Level One" functions, such as setting the FACP clock.

**PROG** - This "Level Two" function key provides access to Programming Mode, for configuring the AM2020/AFP1010.

**SPL FUNCT** - This key generates system and installed point reports.

**ALPHA ENTER** - During Programming Mode, pressing ALPHA ENTER stores the character displayed and permits the alternate character on that key to be entered next (see page 2-5).

**BACK SPACE** - Erases the last alphanumeric keypress, or serves as an "escape" key during programming.

**ENTER** - Menu selections are entered and programming data is stored in AM2020/AFP1010 memory upon pressing this key.

## Section 1.2 Read Status

The Read Status feature of the AM2020/AFP1010 allows the operator to display the status of the entire system. To execute READ STATUS:



The display will show:

```
PRESS 1=SYS,2=PTREAD,3=ALM,4=TBL,5=DIS,  
6=MONON,7=CTLON :
```

Enter **1 for Display System Configuration**. This selection provides information on any of the system parameters programmed into the AM2020/AFP1010 - the number and style of the Loop Interface Boards, the AVPS-24s and APS-6Rs, the Software Zone Boundary, the system time delays, annunciator modules installed, etc.

Enter **2 for Point Read**. This selection provides information on the status of any intelligent detector, addressable module, software-defined zone or annunciator point in the system.

Enter **3 for Alarm**. This selection provides information on the lowest addressed device or zone in a fire alarm state.

Enter **4 for Trouble**. This selection provides information on the lowest addressed device or zone in trouble.

Enter **5 for Disable**. This selection provides information on the lowest addressed device or zone disabled.

Enter **6 for Monitor On**. This selection provides information on the lowest addressed non-fire or security monitor module activated.

Enter **7 for Control On**. This selection provides information on the lowest addressed control module activated.

### NOTES

Read Status options 3, 4, 5, 6, and 7 use the same format as the Point Read option to display their indicated point information.

For an AM2020/AFP1010 FACP on the **NOTI•FIRE•NET** system, programming and read status operations should always be performed from a Network Reporting Terminal (NRT).

Never attempt to perform programming or read status operations from a local panel when the NRT is simultaneously attempting to do so.

## Display System Configuration

### READ STATUS Menu Option 1

Selecting 1 from the Read Status Menu allows the operator to review the various system parameters entered into the AM2020/AFP1010. The System Configuration Menu:

```
PRESS 1=INST, 2=STY, 3=TDLY, 4=AVPS, 5=ZBND,  
6=EXTEQ, 7=LOCP, 8=ISIB, 9=PARM      :
```

Note that when 4 is chosen from the menu, the total number of AVPS and/or APS-6R power supplies will be displayed.

#### Enter Menu Choice:

#### Status Displayed:

1

```
THESE LIB BOARDS ARE INSTALLED:  
1=Y, 2=Y, 3=Y, 4=Y, 5=N, 6=N, 7=N, 8=N, 9=N, 10=N
```

Y=installed      N=not installed

2

```
THE SLC LOOP STYLES ARE AS FOLLOWS:  
1=6, 2=6, 3=6, 4=6, 5=4, 6=4, 7=4, 8=4, 9=4, 10=4
```

The default value for SLC Loops not installed is NFPA  
Style 4

3

```
VER=60, SIL=045, CUT=0000
```

VER = Alarm Verification Time (in seconds)  
SIL = Signal-Silence Inhibit Time (in seconds)  
CUT = Signal Cut-out Time (in seconds)

4

```
THERE ARE CURRENTLY 04 AVPS-24 INSTALLED  
IN THE SYSTEM
```

**NOTE:** The number "04" in the above display represents the total number of AVPS and/or APS-6R power supplies installed in the system.

**Enter Menu Choice:**

**Status Displayed:**

**5**

ZONES 001 - 200 ARE FORWARD ACTIVATED  
ZONES 201 - 240 ARE REVERSE ACTIVATED

**6**

TS=N SL=N APM=N, CMR=N, NAR=N,  
LEDL=N, PEC=N, BC=N, PTI=N RPT=N

TS = Is the connection to the terminal supervised? (If TS=N, the terminal will not audibly indicate state changes [i.e., no Bell characters will be sent]).

SL = Is the Status Line option enabled?

APM = Is the connection to the auxiliary printer monitored?

CMR = Is control module state reporting enabled?

NAR = Is "NONA"/"NOA" monitor module state reporting enabled?

LEDL = LED latches on more activated addressable devices?

PEC = Continue to transmit under printer error conditions?

BC = Is bidirectional copy enabled?

PTI = Is the primary printer trouble inhibited?

RPT = Are printer reports directed to terminal output?

**7**

DPZ=N, LMD=45, LMM=20, LMC=90, 72ABCD, 71, RC,  
BTYP=N, BCAP=12, BSBY=24, ERM=N, BLN=N, PAL=N

DPZ = Is the piezo disabled during programming?

LMD = Local Mode detector address.

LMM = Local Mode monitor module address.

LMC = Local Mode control module address.

72A = Protected premises fire alarm system.

72B = Auxiliary fire alarm service.

72C = Do not use (see Chapter 2, section 1.1.7)

72D = Do not use (see Chapter 2, section 1.1.7)

71 = Do not use (see Chapter 2, section 1.1.7)

RC = Proprietary supervising station or central station receiving unit.

BTYP = Type of battery installed in the system.

BCAP = Ni-cad battery capacity.

BSBY = Ni-cad battery standby time.

ERM = Is event reminder enabled?

BLN = Is device blinking enabled?

PAL = Is pre-alarm option enabled?

**8**

PRESS 1=INSTL, 2=ANN, 3=XINT, 4=DACT

:

Option 8 provides you with a Read Status sub-menu for viewing the status of the intelligent SIB, installed annunciators, external interface, or DACT. This menu is described on the next page.

**9**

HIZNDET=Z150, LOZNDET=Z001, DVTCNTR=15  
SER=Y, DFT=Y, PGR=Y, MDM=Y, NAM=N, RP=Y, SUP=Y

HIZNDET = High zone for day/night detector sensitivity.

LOZNDET = Low zone for day/night detector sensitivity.

DVTCNTR = Detector verification trouble counter limit.

SER = Is "SACM"/"SEQM" monitor module state reporting enabled?

DFT = Is drift compensation enabled?

PGR = Is PAGE-1 enabled?

MDM = Is modem enabled?

NAM = Is the NAM-232 enabled?

RP = Is rapid polling enabled?

SUP = Is supervisory ACS reporting enabled?

Menu Choice 8:

Enter Option Choice:

Status Displayed:

1

```
ISIB=Y
```

ISIB = Is the Intelligent Serial Interface Board installed?

**NOTE**

ISIBs available for the AM2020/AFP1010 system include the SIB-2048A and SIB-NET. For an AM2020/AFP1010 connected to a **NOTI•FIRE•NET™** system however, the only ISIB that can be used is the SIB-NET. If a SIB-NET is not installed, **NOTI•FIRE•NET™** specific functions can not be programmed or read under Read Status (see Chapter One).

2

```
THESE ANNUNCIATORS ARE INSTALLED:  
(PRESS ENTER TO CONTINUE UNTIL DONE)
```

Due to its size, the Annunciator Read Status display is separated into two screens, illustrated below. Pressing <ENTER> invokes the next display.

```
1=Y, 2=N, 3=N, 4=N, 5=Y, 6=Y, 7=N, 8=N,  
9=Y, 10=N, 11=N, 12=Y, 13=Y, 14=Y, 15=N, 16=N,
```

```
17=Y, 18=Y, 19=Y, 20=N, 21=N, 22=N, 23=N, 24=N,  
25=N, 26=N, 27=N, 28=N, 29=N, 30=N, 31=N, 32=N
```

3

```
UPDN=N, ADDR=010, DBID=BC00D148  
MIBA=H, MIBB=H, PORTS=2
```

UPDN = Is the ACS Port upload/download enabled?

\* ADDR = FACP **NOTI•FIRE•NET™** address.

\* DBID = Database identifier.

\* MIBA = MIB-W/WF threshold for Channel A. (On the MIB-WF, only the Channel A threshold setting is used.)

\* MIBB = MIB-W threshold for Channel B.

\* PORTS = Number of data ports monitored.

\* These items are **NOTI•FIRE•NET™** specific functions and are only displayed when a SIB-NET is installed.

4

```
DACT=01
```

DACT = Base address of the UDACT (blank for none installed).

Selecting **2** from the Read Status Menu allows the operator to review the various detector, module, software zone or annunciator point parameters entered into the system. The system prompts the operator for the address of the point to be read:

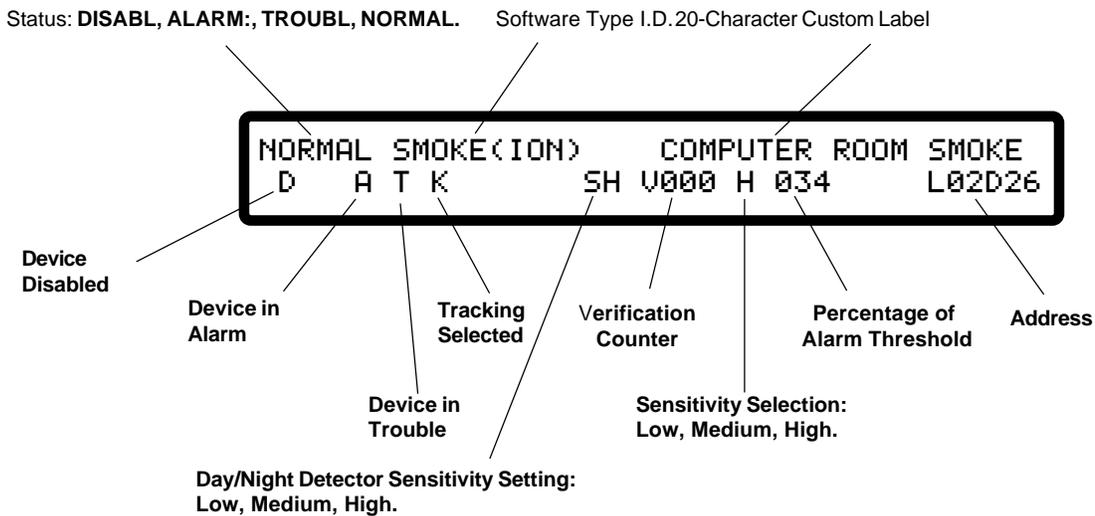
```
ENTER LXX(D/M)YY, ZXXX OR AXXPY Y FOR PT.  
STATUS (BCKSPC TO ABORT) :
```

Upon entering the address, the system will display a distinct screen format, depending on the particular type of device being read, as illustrated below:

**NOTE**

After a one-minute timeout, the Control-By-Event (CBE) and the annunciator point mapped address is displayed for devices and zones. Cooperative Control-By-Event (CCBE) is displayed for reverse zones. To display this information immediately, press ENTER after the status line appears.

**Detectors**



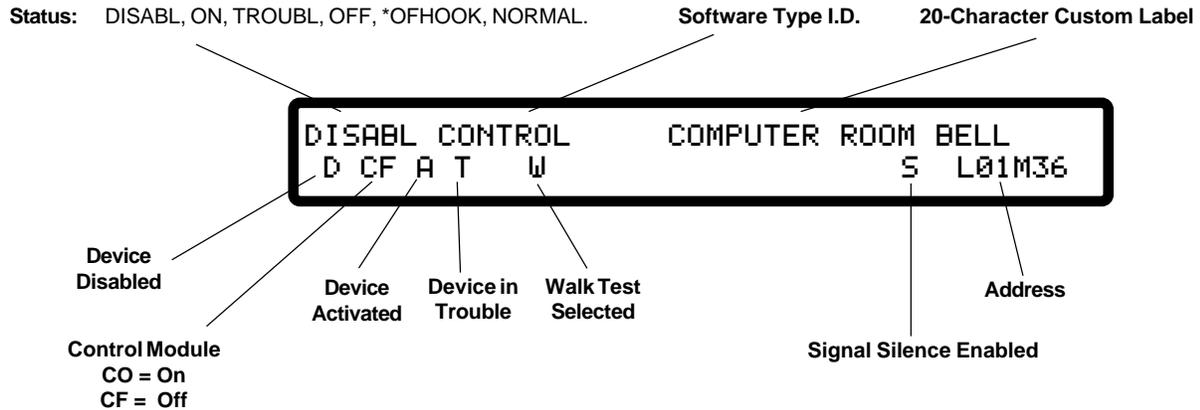
**Detector Verification**

If verification is enabled for this point, the V indicator appears and the 3-digit counter shows the number of times the verification timer was activated for the point *without going into alarm*. The counter returns to zero when power is cycled to the IFC-1010/2020 or by following the procedure in the *Resetting Sensor Verification Counters* section of this document. If you disable verification, the counter will retain its last value. If verification is not enabled for this point, the V indicator does not appear; however, the 3-digit number still appears. Note that the counter does not increment unless verification is enabled.

**NOTE**

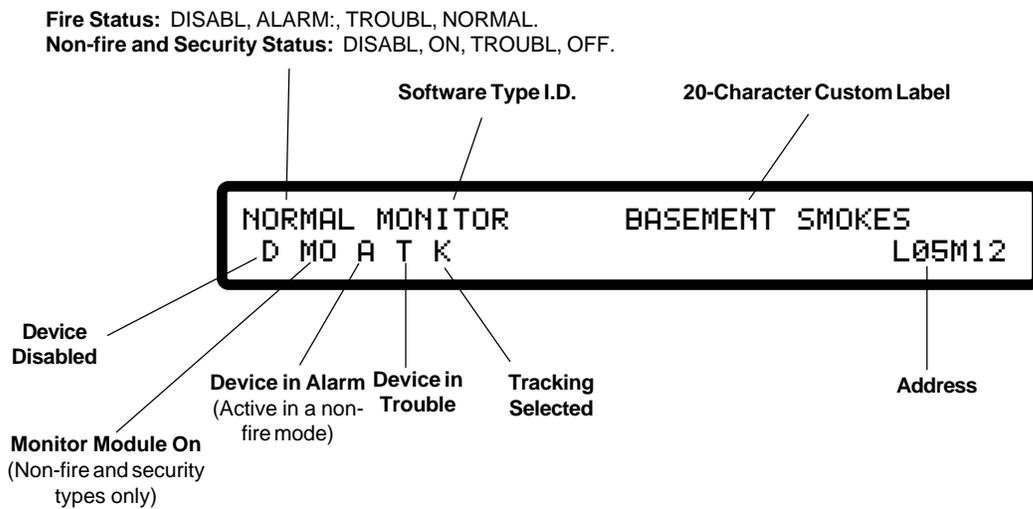
A detector may be in periodic test during a read status. In this case, the detector status will be normal but the percentage of alarm threshold will be greater than 100%. If this happens, wait one minute, then perform another read status.

## Control Modules

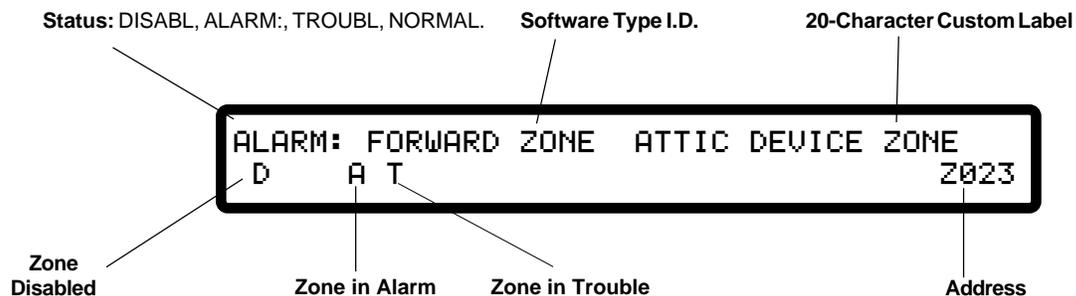


\*An OFHOOK status indicates that a telephone off-hook (ring-in) signal has been received, but has not been answered by the operator at the fire fighter telephone ACS switchboard.

## Monitor Modules



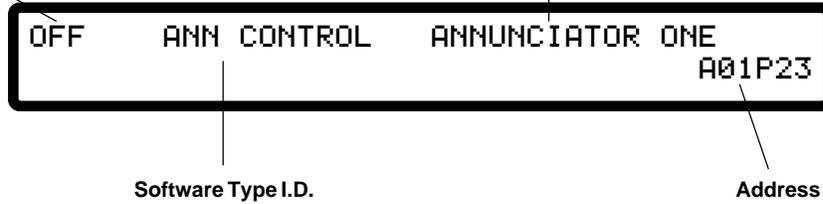
## Software Zones



## Annunciator Points

Status: ON, TROUBL, OFF, REQUEST\*, or blank.

20-Character Custom Label



\*A REQUEST status indicates that a telephone off-hook (ring-in) signal has been received and answered by the operator at the fire fighter telephone ACS switchboard, but has not been connected to the telephone line.

## Special Status

Read Status Menu  
Options 3 - 7

Option 3 provides information on devices or zones in a fire alarm state. Option 4 provides information on devices or zones in a trouble state. Option 5 provides information on disabled devices or zones. Option 6 provides information on activated non-fire or security monitor modules. Option 7 provides information on activated control modules. Selecting 3, 4, or 5 from the Read Status Menu prompts the operator to choose between zones and devices. The following example performs a search for the lowest device in a fire alarm state.

```
PRESS 1=SYS,2=PTREAD,3=ALM,4=TBL,5=DIS,  
6=MONON,7=CTLON : 3
```

```
DO YOU WANT ZONE OR DEVICE STATUS?  
(Y=ZONE,N=DEVICE (BCKSPC TO ABORT)) : N
```

```
ALARM: SMOKE(ION) COMPUTER ROOM SMOKE  
A M 034 L02D26
```

### NOTE

The control-by-event and the annunciator point mapped address is displayed for devices and zones after a one minute timeout. In a **NOTI•FIRE•NET** system, cooperative control-by-event equations are displayed for reverse zones. To display this information immediately, press ENTER after the status line appears.

# Section Two

## Prior/Next/Auto Step

The Prior, Next, and Autostep keys are used in conjunction with options 2 through 7 of the Read Status Menu. Upon selection of one of these options an address range is defined by the AM2020/AFP1010 for which similar searches can be performed using the Prior, Next and Autostep Keys. These functions enhance and speed up the search process, because they eliminate having to re-enter the Read Status Menu for the same function being repeated.

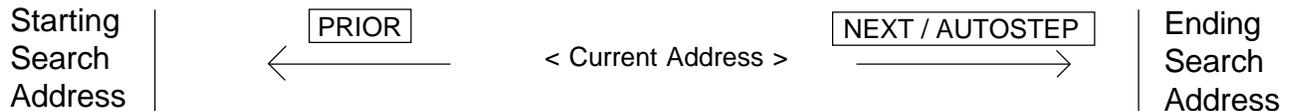
**PRIOR** - Searches the database in a reverse direction from the current address (refer to note).

**NEXT** - Searches the database in a forward direction from the current address (refer to note).

**AUTOSTEP** - Performs an automatic search of the database in the forward direction from the current address with a two second display of status line, followed by a two second display of the CBE and annunciator point mapped address, for each of the points found. (The CCBE equation is displayed for reverse zones on the NOTI•FIRE•NET system.)

### NOTE

The control-by-event and the annunciator point mapped address is displayed for devices and zones after a one minute timeout. The cooperative control-by-event is displayed for reverse zones. To display this information immediately, press ENTER after the status line appears.



The Autostep key can be used as an alternate method for generating special reports.

# Section Three

## Special Function

The Special Function feature of the AM2020/AFP1010 allows the operator to generate AM2020/AFP1010 status reports or view the AM2020/AFP1010 History Buffer.

Press



The display will show:

```
PRESS 1=RPTS,2=HIS
```

:

### Reports

SPL FUNCT  
Menu Option 1

```
PRESS 1=SYS,2=POINT,3=ALM,4=TBL,5=DIS,  
6=MONON,7=CTLON
```

:

Enter **1** for a **System Configuration** report, **2** for an **Installed Point** report, **3** for a **Fire Alarm** report, **4** for a **Trouble** report, **5** for a **Disable** report, **6** for a **Monitor Module On** report (including non-fire and security monitor modules), or **7** for a **Control Module On** report.

The display will show:

```
PRESS 1=REQUEST,2=ABORT
```

:

Enter **1** to execute the report or **2** to abort a report already in progress.

#### **NOTE**

Only one report can be conducted at any one time. The reports are not displayed on the DIA. Reports are either displayed on the CRT and/or printed by the printer depending on whether or not printer reports are redirected to the CRT during programming. An example of a report printout is illustrated in **Figure 3-1**.

The special function report printouts (refer to **Figure 3-1**) assume the same display format as the **Point Read** option under **Read Status**. For a description of the various report fields, refer to **Point Read**.  
**Note:** APS-6Rs will be counted as AVPSs in the Special Function Report Printout.

```

PRESS 1=RPTS,2=HIS                                     : 1
PRESS 1=SYS,2=POINT,3=ALM,4=TBL,5=DIS,6=MONON,7=CTLON : 1
PRESS 1=REQUEST,2=ABORT                               : 1
** SYSTEM CONFIGURATION REPORT BEGIN **                04:32P 03/01/97
THESE LIB BOARDS ARE INSTALLED:      1=Y,2=N,3=N,4=N,5=N,6=N,7=N,8=N,9=N,10=N
THE SLC LOOP STYLES ARE AS FOLLOWS:  1=4,2=4,3=4,4=4,5=4,6=4,7=4,8=4,9=4,10=4
VER=05,SIL=005,CUT=0504
THERE ARE CURRENTLY 00 AVPS-24 INSTALLED IN THE SYSTEM
ZONES 001 - 200 ARE FORWARD ACTIVATED  ZONES 201 - 240 ARE REVERSE ACTIVATED
TS=N      SL=Y      APM=Y,CMR=Y,NAR=Y, LEDL=N,PEC=N,BC=N,PTI=N      RPT=N
DPZ=N,LMD=20,LMM=20,LMC=20,72ABCD,71,RC,BTYP=N,BCAP=12,BSBY=48,ERM=Y,BLN=Y,PAL=N
ISIB=Y
THESE ANNUNCIATORS ARE INSTALLED:      (PRESS ENTER TO CONTINUE UNTIL DONE)
 1=N, 2=N, 3=N, 4=N, 5=N, 6=N, 7=N, 8=N, 9=N,10=N,11=N,12=N,13=N,14=N,15=N,16=N,
17=N,18=N,19=N,20=N,21=N,22=N,23=N,24=N,25=N,26=N,27=N,28=N,29=N,30=N,31=N,32=N
UPDN=N,ADDR=010,DBID=BC00D148,      MIBA=H,MIBB=H,PORTS=2
DACT=01
HIZNDET=Z150,LOZNDET=Z001,DVTCNTR=15      SER=Y,DFT=Y,PGR=Y,MDM=Y,NAM=N,RP=N,SUP=Y
*** SYSTEM CONFIGURATION REPORT END ***          04:32P 03/01/97
PRESS 1=RPTS,2=HIS                                     : 1
PRESS 1=SYS,2=POINT,3=ALM,4=TBL,5=DIS,6=MONON,7=CTLON : 2
PRESS 1=REQUEST,2=ABORT                               : 1
***** INSTALLED POINT REPORT BEGIN *****          04:32P 03/01/97
ALARM: FORWARD ZONE FIRST FLOOR                    A                Z001
( )                                                  A01P01
DISABL REVERSE ZONE SECOND FLOOR                    D      T                Z202
DR( )                                              A01P02
DR( )
ALARM: SMOKE (ION) OFFICE AREA                      A      SH  V010 H 045    L01D01
(Z01)                                              A01P03
TROUBL SMOKE(PHOTO) FACTORY                        T                V000 H 045    L01D02
(Z202)                                              A01P03
NORMAL HEAT(ANALOG) MAINTENANCE                    V000 H 045    L01D03
(Z01)                                              A01P03
NORMAL MONITOR FIRST AID                            K                L01M01
(Z01)                                              A01P04
ON CONTROL FIRST FLOOR                             CO      W                5 L01M02
DR(Z01)                                              A01P05
OFF CONTROL SECOND FLOOR                           CF      W                5 L01M03
DR(Z202)                                              A01P06
ON ANN ZONE BUILDING ONE                            A01P01
DISABL ANN ZONE BUILDING ONE                        A01P02
ON ANN DETECTOR BUILDING ONE                       A01P03
OFF ANN MONITOR BUILDING ONE                       A01P04
ON ANN CONTROL BUILDING ONE                        A01P05
OFF ANN CONTROL BUILDING ONE                       A01P06
***** INSTALLED POINT REPORT END *****          04:32P 03/01/97

```

**Figure 3-1 AM2020/AFP1010 Special Function Report Printout**

## The History Buffer

READ STATUS  
Menu Option 2

```
PRESS 1=PRINT,2=DISPLAY,3=STEP,4=RANGE/  
STATUS :
```

Choices 1, 2, and 3 will prompt the user for the beginning and end of the History Buffer range. The maximum number of events that the system can save in the History Buffer is 400.

Enter "1" to produce a **printed** report of the History Buffer. An example of a History Buffer printout is illustrated in **Figure 3-2**.

Enter "2" to perform an **automatic display** of the History Buffer on the DIA and CRT terminal (if employed).

Enter "3" to perform a **manual display** of the History Buffer on the DIA and CRT. Use the ENTER key (on DIA) or RETURN key (on CRT) to advance the display.

Enter "4" to display the History Buffer **range** (the number of entries contained in the buffer), and current **status** (active/inactive).

To differentiate between history buffer printouts (refer to **Figure 3-2**) and system printouts, the colon (: ) in the time field has been replaced by the semicolon (;).

```

PRESS 1=RPTS,2=HIS
PRESS 1=PRINT,2=DISPLAY,3=STEP,4=RANGE/STATUS
ENTER FIRST EVENT (1 - 008)
ENTER LAST EVENT (001 - 008)
***** HISTORY REPORT BEGIN *****
ALARM: SMOKE (ION) DETECTOR ONE          04;32P 03/01/97 101
ACK AL SMOKE (ION) DETECTOR ONE         04;32P 03/01/97 101
      SIGNAL SILENCE          REQUESTED    04;23P 03/01/97
      SYSTEM RESET           ACTIVATED     04;32P 03/01/97
CLR AL SMOKE (ION) DETECTOR ONE         04;32P 03/01/97 101
ACK AL SMOKE (ION) DETECTOR ONE         04;32P 03/01/97 101
NOTIFIER TEST SYSTEM ONE                 04;32P 03/01/97
DETECTOR TEST:ALL OK 02+00+00+00+00+00+00+00+00+00 TOT=002 04;32P 03/01/97
***** HISTORY REPORT END *****

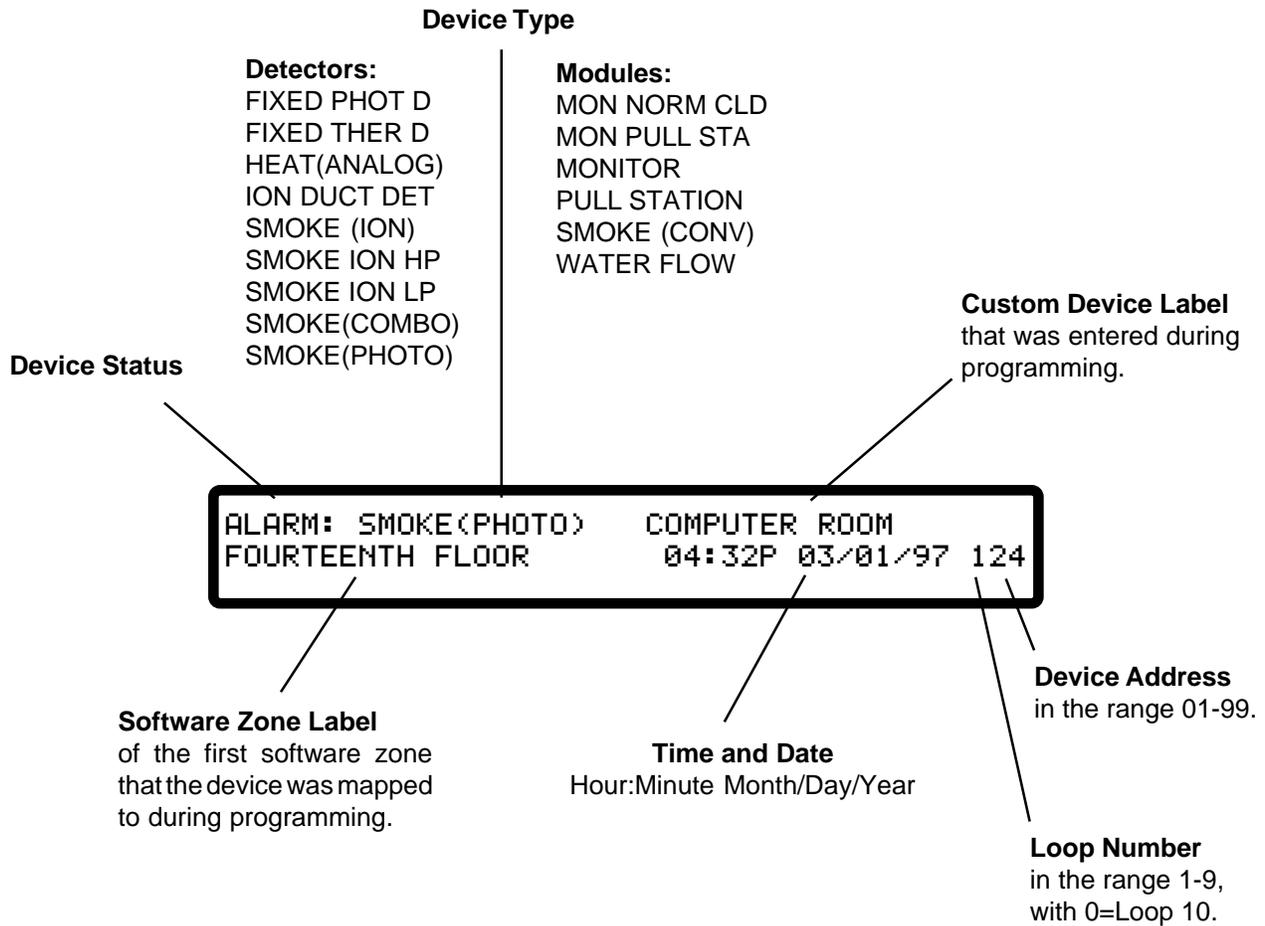
```

**Figure 3-2 AM2020/AFP1010 Special Function History Buffer Printout**

# Section Four

## Fire Alarms

The following example illustrates the system format used to display fire alarm conditions:



**NOTE**

The piezo sounder will pulse for fire alarm conditions.

## Section 4.1 Acknowledging a Fire Alarm

To acknowledge a fire alarm condition at the panel:

Push  and the **ALARM:** device status will change to **ACK AL** (*Acknowledged Fire Alarm*).

When the fire alarm condition clears (either automatically in the case of devices programmed for *Tracking*, or by depression of the *SYSTEM RESET* key), the panel will display **CLR AL** and the piezo will resound. To acknowledge the clearing of a fire alarm:

Push  and the **CLR AL** status will change to **ACL AL** (*Acknowledged Clear Fire Alarm*).

When multiple events have occurred, the system will display the first event that occurred (with the exception that the first fire alarm will always override any previous trouble). When the **ACK STEP** key is pushed, the operator will have acknowledged the highest priority event, *not necessarily the event that is being displayed* on the CRT Monitor and DIA. The acknowledged message for the first prioritized event will be displayed for several seconds, followed by display of the next priority unacknowledged event.

### NOTES

- The piezo sounder will be silenced only after all events have been acknowledged.
- Security alarms are treated like fire trouble conditions in the AM2020/AFP1010.
- Reset the system using the System Reset Key after all alarms have been investigated and subsequently cleared.
- Alarm signals from devices not selected for tracking need a system reset in order to clear.

For an AM2020/AFP1010 panel on the **NOTI•FIRE•NET** system, acknowledgment of any event may be accomplished from the local fire alarm panel, intelligent network annunciator (INA), or network reporting terminal (NRT). Acknowledging alarms and events from any of these locations automatically provides acknowledgment at all locations. Fire alarm signals are acknowledged individually at the local fire alarm panel, NRT, or INA. If the same event on the same point occurs on multiple nodes, the event on the node with the lowest node address has the highest priority. For more information on priorities and acknowledging events on the **NOTI•FIRE•NET** system, refer to the INA Manual, Document 15092, or the NRT Manual, Document 15090.

# Section Five

## Troubles

### Section 5.1 Trouble ..... with SLC Loop Devices

The following example illustrates the format used to display device trouble conditions:

#### Device Type:

##### Detectors:

FIXED PHOT D  
FIXED THER D  
HEAT(ANALOG)  
ION DUCT DET  
SMOKE (ION)  
SMOKE ION HP  
SMOKE ION LP  
SMOKE(COMBO)  
SMOKE(PHOTO)

##### Modules:

ACCESS MONTR  
ALARMS PEND  
AREA MONITOR  
CMX CONTROL  
CMX FORM C  
CONTROL  
DACT CONNECT  
EQUIP MONITR  
FORMC MANUAL  
FORM C RELAY  
GENERAL PEND  
GN ALARM  
GN ALARM EVC  
GN ALARM FORC  
GN SUPR FORC  
GN TRBL FORC  
GN WAT FORC  
GN WATER FLW  
MON NORM CLD  
MON PULL STA  
MONITOR  
MONITOR PAGE  
NON ALARM  
NON ALM MON  
PAGE  
POWER (CONV)

PULL STATION  
SMOKE (CONV)  
SPEAKER  
SPRNKLR MNTR  
SPRVSRY MNTR  
SYSTEM MONTR  
TELEPHONE  
TRBL MONITOR  
TRBLS PEND  
TROUBLE  
TROUBLE FORC  
WATER FLOW

#### Device Status

**Custom Device Label**  
that was entered during programming.

```

TROUBL SMOKE<PHOTO> COMPUTER ROOM
2087 MAINTENANCE REQ 04:32P 03/01/97 124
    
```

#### Software Zone

The first zone that the device was mapped to during programming.

**Time and Date**  
Hour:Minute Month/Day/Year

**Device Address**  
in the range 01-99.

#### Type of Trouble:

**Loop Number**  
in the range 1-9,  
with 0=Loop 10.

##### For Detectors:

DET FAILED TEST  
DEVICE DISABLED  
DRIFT TOLERANCE  
INVALID REPLY  
LOW CHAMBER VAL  
MAINTENANCE REQ  
PRE-ALARM ALERT  
VER COUNT OVFLW

##### For Modules:

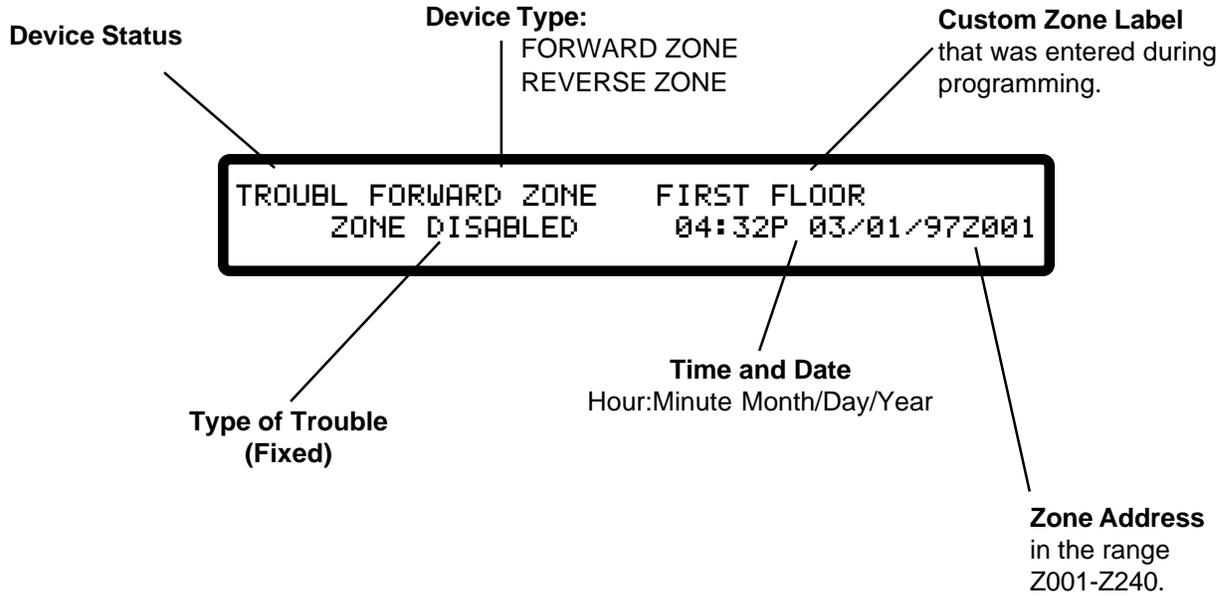
DEVICE DISABLED  
INVALID REPLY  
OPEN CIRCUIT  
POINT TROUBLE  
SECURITY ALARM  
SECURITY ALERT  
SECURITY NO COM  
SECURITY TAMPER  
SHORT CIRCUIT  
SPRNKLR TROUBLE  
SUPRVSRY SIGNAL

#### NOTE

The piezo sounder will sound steadily for unacknowledged trouble conditions.

## Section 5.2 Trouble ..... with Disabled Zones

The following example illustrates the format used to display disabled zone trouble conditions:

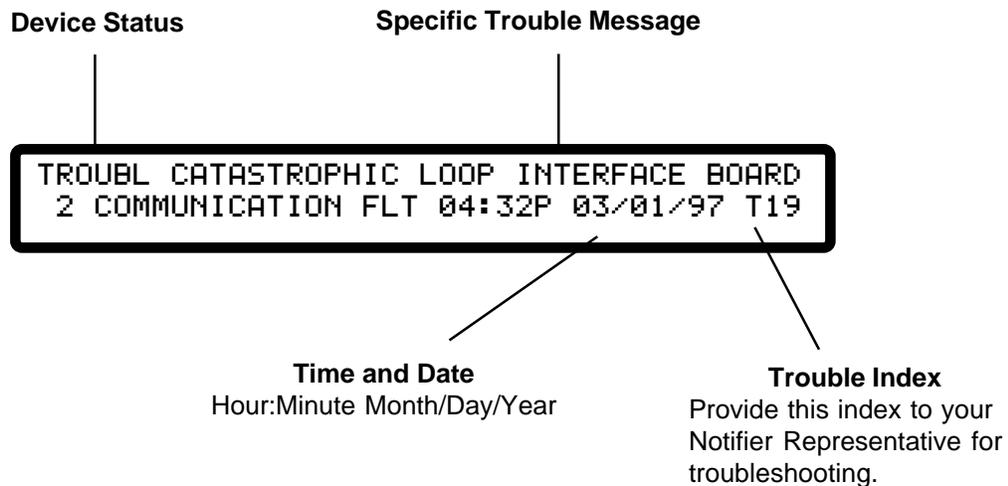


### NOTE

The piezo sounder will sound steadily for unacknowledged trouble conditions.

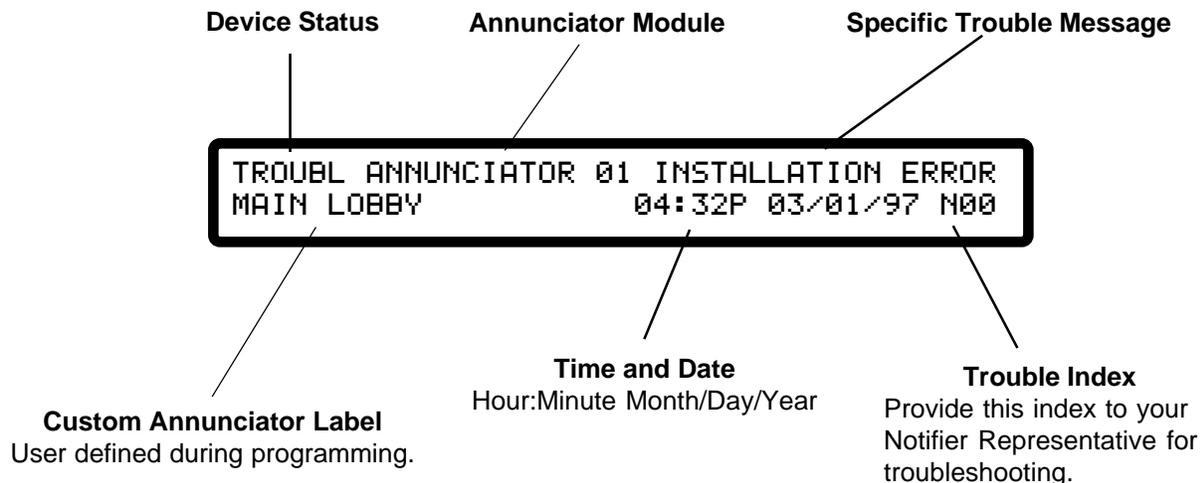
## Section 5.3 Trouble .....with the AM2020/AFP1010 System

The following example illustrates the format used to display system trouble conditions. For an explanation of some trouble messages, refer to Section Seven.



## Section 5.4 Trouble .....with the Annunciators

The following example illustrates the format used to display trouble conditions with the Annunciator Control System modules. For an explanation of some trouble messages, refer to Section Seven.



### **NOTE**

The piezo sounder will sound steadily for unacknowledged trouble conditions.

## Section 5.5 Block Acknowledge

The function of block acknowledge gives the user the ability to acknowledge multiple trouble conditions with a single depression of the ACK STEP key. The AM2020/AFP1010 block acknowledge function is normally enabled. With block acknowledge enabled, the AM2020/AFP1010 will function as follows:

- Fire Alarm conditions including clears (tracking devices only) must be acknowledged individually as described on the preceding pages. Fire Alarm conditions restored by depression of the system reset key do not require acknowledgment.
- All current unacknowledged conditions must be processed by the system before block acknowledge is executed (events will be acknowledged individually until then).
- No acknowledged event messages are recorded for individual troubles once the block acknowledge message has been displayed.
- Trouble clears will be recorded for individual troubles that have not been initiated by a system reset.
- Trouble clears no longer have to be acknowledged.
- Troubles may come and go without being acknowledged.
- Upon completion of block acknowledge the AM2020/AFP1010 will enter its display acknowledged events mode of operation (see displaying current alarms and troubles section).

To disable the block acknowledge function, refer to the local parameters NFPA programming section in Chapter Three of this manual. If the AM2020/AFP1010 block acknowledge function is disabled, the AM2020/AFP1010 will process alarm and trouble conditions in Receiving Unit Mode as described on the preceding and following pages respectively. See caution note below for restrictions.

Push  to execute block acknowledge. The following message will appear:

```
***** BLOCK ACKNOWLEDGE *****  
04:32P 03/01/97
```

### **CAUTION**

For an AM2020/AFP1010 connected to a **NOTI•FIRE•NET** system which also includes an NRT or an AFP-200 panel, receiving mode is not supported and block acknowledge should not be disabled. Disabling block acknowledge in this situation will prevent the panel from functioning properly and alarms will not be acknowledged.

If no NRT or AFP-200 is present on the network, the AM2020/AFP1010 may be configured for receiving mode or block acknowledge, provided that all other nodes (INAs, AM2020/AFP1010s) on the system are configured in the same manner.

## Section 5.5A Acknowledging Troubles in Receiving Unit Mode (Block Acknowledge Disabled)

The receiving unit mode of operation is required for all NFPA proprietary supervising station and central station receiving units.

To acknowledge a device, zone, system or annunciator module trouble condition:

Push  and the **TROUBL** status will change to **ACK TB** (*Acknowledged Trouble*).

When the trouble condition clears, the panel will display **CLR TB** and the piezo will sound again. To acknowledge the clearing of a trouble condition:

Push  and the **CLR TB** status will change to **ACL TB** (*Acknowledged Clear Trouble*).

When multiple events have occurred, the AM2020/AFP1010 will display the first event that occurred (with the exception that the first fire alarm will always override any previous trouble). When the **ACK STEP** key is pushed, the operator will have acknowledged the highest priority event, *not necessarily the event that is being displayed* on the CRT Monitor and DIA. The acknowledged message for the first prioritized event will be displayed for several seconds, followed by display of the next priority unacknowledged event.

### **NOTE**

The piezo sounder will be silenced only after all events have been acknowledged.

## Section 5.6 Displaying Current Alarms and Troubles

To display alarms and troubles that have been acknowledged but not cleared:

Push  and the next event in AM2020/AFP1010 memory will be displayed on the LCD. All events in memory can be reviewed by repeated depression of the **ACK STEP** key.

# Section Six

## Remote Peripherals

The AM2020/AFP1010 will support the installation of optional remote Video Display Terminals and printers.

### **The CRT Terminal**

The CRT displays all system information. The CRT can also display system reports if printer reports are redirected to the CRT during programming. The CRT is provided with a keyboard that can be used to program the AM2020/AFP1010.

### **Local Applications**

The keyboard can be used to operate the AM2020/AFP1010 provided the keyboard is either removed or locked up when not in use.

### **Receiving Unit Applications**

If employed under NFPA 72-1993 Proprietary Fire Alarm System (Receiving Unit) applications, the keyboard cannot be removed or locked up. The keyboard must remain connected and operationally functional in the system.

### **The Printer**

The printer can be used to provide a permanent record of all system events. Alarms, troubles, and acknowledgments are recorded as they occur in the system. In addition, the printer can be used to print out status information and system reports.

# Section Seven

## Trouble Messages

Many of the AM2020/AFP1010 device, zone, system and annunciator trouble messages are self-explanatory. Those messages needing further clarification are listed below. If the system is displaying a message that is not self-explanatory, and is not listed here, contact your Notifier distributor.

### **CAT. COMM. FAULT**

Catastrophic communications failure - the annunciator associated with this message is no longer functioning. The connection may be broken.

### **CAT. FAIL. INCOMPATIBLE SOFTWARE OR INVALID CBE**

The panel is operating under an earlier version of software after newer software features have been programmed into the system. Contact the factory to establish valid software compatibility. Complete reprogramming of system CBE equations may be required.

### **CATASTROPHIC LOOP INTERFACE BOARD "X" COMMUNICATION FLT**

Communication has failed between the AM2020/AFP1010 and the LIB Board specified in the "X" field of the message. This failure may be due to several reasons: the LIB Board has failed electronically; the LIB Board is programmed but not installed in the system; the LIB Board is installed but is not programmed into the system; or a poor connection has been made between the CPU and the LIB Board.

### **COMMUNICATION LINK FAILURE IN PORT A\***

Data is not being received on network (MIB) Port A. This trouble is only reported if the node is configured for dual port monitoring.

### **COMMUNICATION LINK FAILURE IN PORT B\***

Data is not being received on network (MIB) Port B. This trouble is only reported if the node is configured for dual port monitoring.

### **DET FAILED TEST**

This detector failed its periodic detector test. The periodic detector test verifies the alarm operation of the detector. This trouble will also be generated when non NOTIFIER devices are detected on the SLC. The detector should be removed and replaced by an authorized service representative.

### **DRIFT TOLERANCE**

This detector's drift compensation value is outside the allowable range. This detector can no longer be compensated and should be replaced.

### **EXPANDER MODULES**

The number of annunciator expander modules for this annunciator is less than the number indicated by its DIP switch settings.

### **EXT EQP ANN "XX" OR AUDIO/TELEPHON**

External equipment connected to the trouble contacts of an annunciator, AMG or FFT-7 has failed.

### **INSTALL. ERROR**

Installation error with an Annunciator Control System module. An annunciator has been physically installed in an AM2020/AFP1010 system, but has not been programmed; or has been programmed, but not installed.

### **INVALID REPLY**

The AM2020/AFP1010 has received either no response or an invalid response from an addressable LIB SLC Loop device. Confirm that the LIB SLC Loop is connected properly to the device and that the device address has been set correctly.

### **LAN COMMUNICATION FAILURE\***

The specific network node (panel) can no longer communicate with the rest of the network, indicating a problem with the network connections.

**LOW CHAMBER VAL**

The chamber value of the detector is too low for operation. This indicates a malfunction in the detector. The detector must be removed and replaced by an authorized service representative.

**MAINTENANCE REQ**

The chamber value of the detector has exceeded 80 percent of the Alarm Threshold (determined by the sensitivity selection of Low, Medium, or High), and has remained there for at least a 26-hour period. This condition may be due to a dirty detector. The detector should be inspected and cleaned as necessary by an authorized service representative. Failure to do so may eventually result in false alarms.

**MANUAL CONTROL**

This annunciator is being controlled manually.

**PRE-ALARM ALERT**

The chamber value of the detector has exceeded 80% of the alarm threshold (determined by the sensitivity selection of Low, Medium or High), and has remained there for at least a 60-second period. This condition may be due to a dirty detector. The detector should be inspected and cleaned as necessary by an authorized service representative. Failure to do so may eventually result in false alarms.

**POINT TROUBLE**

A monitor module dedicated to monitoring trouble conditions has been activated.

**SECURITY ALARM**

A security device programmed as SARM has been activated indicating a burglary or security violation. This condition should be checked immediately.

**SECURITY ALERT**

A security device programmed as SACM has been activated indicating that a monitored event has occurred.

**SECURITY TAMPER**

A security device programmed as SSYM or SEQM has been activated indicating that monitored equipment has been tampered with. This condition should be checked immediately for a SSYM device because it may be due to a burglary or security violation.

**SECURITY NO COM**

The AM2020/AFP1010 has received either no response or an invalid response from an addressable SLC loop device programmed for security operation. This may be the result of a burglary, other security violation, the failure of a device, an improperly addressed device, or failure of the field wiring.

**SPRNKLR TROUBLE**

A supervisory condition that indicates sprinkler equipment supervised by a monitor module is in an abnormal state (i.e. a sprinkler valve has been closed). Note that a break in the wiring of a supervisory circuit is a trouble condition that yields OPEN CIRCUIT, not SPRNKLR TROUBLE.

**SUPRVSRY SIGNAL**

A supervisory condition that indicates equipment supervised by a monitor module is in an abnormal state (i.e. low pressure indication). Note that a break in the wiring of a supervisory circuit is a trouble condition that yields OPEN CIRCUIT, not SUPRVSRY SIGNAL.

**VER COUNT OVFLW**

This detector has exceeded the allowed detector verification limit. This condition may be due to a dirty detector. The detector should be inspected and cleaned as necessary by an authorized service representative. Failure to do so may eventually result in false alarms.

\* **NOTI•FIRE•NET**-specific trouble messages

# Section Eight

## Drift Compensation

### Drift Compensation

AM2020/AFP1010 software is designed to automatically compensate for chamber sensitivity drift due to detector contamination in SDX-551/751 photo detectors and CPX-551/751 ion detectors. This software-based compensation meets NFPA 72-1993, Chapter 7 "Inspection, Testing, and Maintenance" periodic sensitivity testing and maintenance requirements without removing and testing each smoke detector in an installed system. This does not eliminate the need for visual inspection or testing for smoke entry.

Alarm sensitivity in a detector chamber tends to increase over time. This increase is caused by chamber contamination. In time, if the clean air level exceeds the alarm threshold a false alarm occurs. Drift compensation eliminates this problem by increasing the alarm threshold as needed to maintain constant sensitivity. When the detector is too dirty to compensate, a trouble is indicated automatically.

No additional programming is required for drift compensation. Every detector has three sensitivity levels: low, medium, and high. These levels assign specific "percent obscuration per foot" values for each device.

	<b>Low Sensitivity</b> (% obscuration per foot)	<b>Medium Sensitivity</b> (% obscuration per foot)	<b>High Sensitivity</b> (% obscuration per foot)
<b>Photo Detector</b>	2.0	1.5	1.0
<b>Ion Detector</b>	3.0	1.5	1.0

Drift compensation is executed when:

- The system powers up.
- A non-communication INVALID REPLY clears.
- Every 120 hours based on at least four samples.

Whenever a detector is replaced, an immediate compensation must be forced. The installer should remove the existing detector, wait for at least three minutes, and then install the new detector.

After servicing a system containing drift compensation software, some detectors may cause a drift compensation trouble indication within 15 minutes after reapplication of power. These detectors may have undergone several drift sensitivity adjustments in the past and may not be properly compensated during power up compensation. A second compensation may be required before the trouble condition clears. This second compensation will be completed automatically after 120 hours. If a trouble condition for a detector still exists after a second compensation, clean and/or replace it.

If power has not been removed and reapplied recently and drift compensation trouble is indicated for a particular device, clean and/or replace the detector immediately.