Simplex®

4005 Fire Alarm
Front Panel Programming
Instructions

574-059
Rev. D

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Cautions and Warnings

SYSTEM REACCEPTANCE TEST AFTER SOFTWARE CHANGES - To ensure proper system operation, this product must be tested in accordance with NFPA72-1996, Chapter 7 after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

READ AND SAVE THESE INSTRUCTIONS. Follow the instructions in the installation, operating and programming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. Fire Alarm Control Panel (FACP) operation and reliability depend upon proper installation and programming.

DO NOT INSTALL ANY SIMPLEX PRODUCT THAT APPEARS DAMAGED. Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify Simplex.

ELECTRICAL HAZARD - Disconnect electrical power when making any internal adjustments or repairs. Servicing should be performed by qualified Simplex Representatives.

STATIC HAZARD - Static electricity can damage components. Therefore, handle as follows:
1. Ground yourself before opening or installing components (use the 553-484 Static Control Kit).
2. Keep uninstalled component wrapped in anti-static material at all times.

RADIO FREQUENCY ENERGY - This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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Codes and Standards

The 4005 is listed for the following listing categories.

UL 864 Listings for Type of System:

- UL 864 Power-Limited Fire Alarm Control Unit.

- Local (formerly NFPA 72A).
  Requires the sounding of an alarm via listed notification appliance(s).

- Auxiliary (formerly NFPA 72B).
  Requires 4005-9809 City Circuit Module.

- Remote Station - protected premise (formerly NFPA 72C).
  Requires 4005-9809 City Circuit Module or the 4005-9810 DACT.

- Proprietary - protected premise (formerly NFPA 72D).
  Requires 4005-9809 City Circuit Module.

- Central Station - protected premise (formerly NFPA 71).
  Requires 4005-9810 DACT.

UL 864 Listings for Type of Service:

- Automatic, Manual, Waterflow, and Sprinkler Supervisory.

UL 864 Listings for Type of Signaling:

- Coded, Non-Coded, March-Time, and DACT.
  DACT requires 4005-9810 DACT.

Factory Mutual Approved

- Same as UL above

- Intrinsically Safe (Requires 2081-9636, 2081-9062, or 2081-9063 Intrinsically Safe Barrier Module)

Local Approvals

- CSFM

- MEA

NFPA Referenced Publications

The 1993 National Fire Alarm Code (NFPA 72) referenced publications are listed below. The installer should be familiar with these codes, as well as any applicable local codes and standards, when installing a fire alarm system.

- NFPA 72 National Fire Alarm Code
- NFPA 11 Standard for Low-Expansion Foam and Combined Agent Systems
- NFPA 11A Standard for Medium- and High-Expansion Foam Systems
- NFPA 12 Standard on Carbon Dioxide Extinguishing Systems
- NFPA 12B Standard on Halon 1211 Fire Extinguishing Systems
- NFPA 13 Standard for the Installation of Sprinkler Systems
- NFPA 14 Standard for the Installation of Standpipe and Hose Systems
- NFPA 15 Standard for Water Spray Fixed Systems for Fire Protection
- NFPA 17 Standard for Dry Chemical Extinguishing Systems
- NFPA 70 National Electrical Code
- NFPA 80 Standard for Fire Doors and Fire Windows
- NFPA 90A Standard for the Installation of Air Conditioning and Ventilation Systems
- NFPA 90B Standard for the Installation of Warm Air Heating and Air Conditioning Systems
- NFPA 92A Recommended Practice for Smoke-Control Systems
- NFPA 92B Guide for Smoke Management Systems in Malls, Atria, and Large Areas
- NFPA 101 Life Safety Code
- NFPA 170 Standard for Fire Safety Symbols
- NFPA 231C Standard for Rack Storage of Materials
- NFPA 1221 Standard on the Installation, Maintenance, and Use of Public Fire Service Communication Systems

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Chapter 1
System Overview

Introduction

This publication shows how to use the menu-driven Front Panel Programming feature of the 4005 Fire Alarm. All control of the 4005 is allowed through the front panel via menus and the keypad.

Note: When a membrane panel key is referenced in this manual, it is normally shown between angle brackets. Examples are <Menu> and <System Reset>.

Chapter 2 shows the basic programming involved with factory-configured operation of the 4005. The 4005 base panel is configured (and shipped) as a general alarm system. A number of menu selectable options are provided to further enhance the 4005 operation.

The 4005 has resident editing capability. Once the programming mode is selected, the 4005's LCD display and keypad become the indicator and controls of the resident editor (programmer).

Chapter 3 shows how to use the Simplex Multi-functional Programming Language (SMPL) to program custom functions into the 4005 when more sophisticated operations are required. The SMPL option can be used to customize the operation of an Output, while the rest of the system continues to operate as a general alarm system. The SMPL programming provides many more features and applications which are discussed in this manual.

Chapter 4 contains a number of SMPL applications with examples of equations used for various control and signaling functions.

Chapter 5 contains Point Type Charts which list exact LCD displays and system status corresponding to each type of Point in the 4005 system.

Chapter 6 contains Programming Guides and Reference Information to assist you in planning and documenting the programming steps you take. This chapter also provides information about System Addresses, Point and Device Types, and Point descriptions.

Important: The 4005 system continues to operate as a fire alarm system during programming operations

Related Documents

The following manuals contain information about the 4005:

Publication Title	Part #
4005 Fire Alarm Installation/Operating Instructions Rev. A	574-068
4005 Operating Instructions Following an Alarm/Supervisory/Trouble Condition . . . Ed 8 95	574-069
4005 Fire Alarm I/O Cards – Installation Instructions Ed 3 96	574-070
4005 Fire Alarm City Circuit Card – Installation Instructions . . . Rev. B	574-071
4005 Fire Alarm Expansion Power Supply & Power Distribution Boards – Installation Instructions . . . Rev. A	574-072
4005 Fire Alarm PC Interface Operating Instructions Rev. A	574-328
4005 Fire Alarm Programming Sheets	FA4-41-655
4005 Fire Alarm Pocket Training Reference	FA4-91-654

Description

The 4005 is a microprocessor-based, battery-backed, electrically-supervised fire alarm system capable of supporting from 8 to 40 circuits. These circuits, either initiating device circuits (IDC) or notification appliance circuits (NAC), are added to the system in blocks of four. In addition, the 4005 can automatically control supplementary equipment such as fire doors and fans during a fire condition using NACs converted to auxiliary relay outputs.

The 4005 provides audible and visible indications during trouble, supervisory, or alarm (fire) conditions. Should any of these conditions occur, the system activates the applicable notification appliance(s), LEDs, and the panel tone-alert. The indications continue until someone appropriately acknowledges the condition.

Chapter 2
Basic Programming

Introduction

This chapter discusses the basic programming functions that are available with the 4005 Fire Alarm Control Panel (FACP). The programming of more advanced functions is discussed in Chapter 3.

Menu Structure

All programming is done from the front panel via menu-driven prompts. Access levels protect different programming options. All programming described in this publication assumes a Level 4 (Simplex Service Mode) access. Figure 2-1 illustrates the entire menu structure at Level 4 operation.
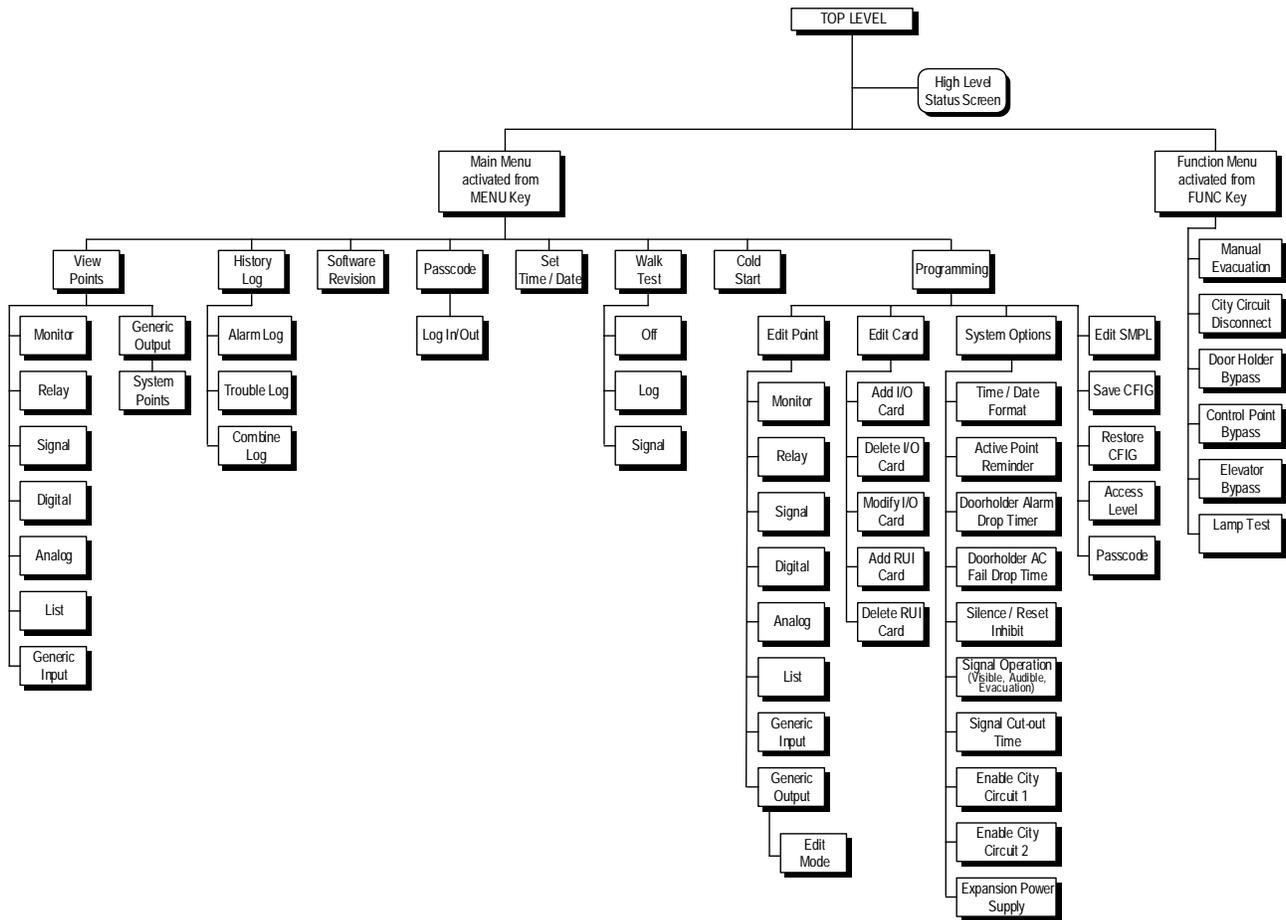
Figure 2-1. Level 4 Menu Structure

Basic Things to Know About Programming a 4005

Storing and Saving Editing Changes

During a programming session, the edit changes are stored in a temporary memory area called the Edit Buffer. This means that you can leave the programming session and perform other operations on the 4005.

As a result of this flexibility, the edit session becomes a two-step operation:

1. Editing and

2. Saving the changes to CFIG.

After the edit session is complete, you must select the "Save to CFIG" option in order to save the edit changes (see the *Save to CFIG* in Chapter 6 of this publication). There are two programming reminder screens that notify you to act on changes in the Edit Buffer. Additionally, if there are no key presses within 10 minutes, the system returns to the High-Level Status screen at access level 1.

Programming Keys

During programming mode, only certain keys remain active. When in the programming mode, the 4005 still functions as a fire alarm system. If an alarm should sound, use the <Exit/Clear> key to exit the programming mode (by pressing the key several times). Once at the High-Level Status Screen (the display shows the first alarm or a normal status) alarms, supervisories, or troubles can be acknowledged and/or viewed for additional information. Figure 2-2 illustrates the front panel of the 4005 with a High-Level Status screen displaying normal system operation.

Refer to the *4005 Fire Alarm — Installation/Operating Instructions* (Pub. No. FA4-21-650) for more information on the operator keys.
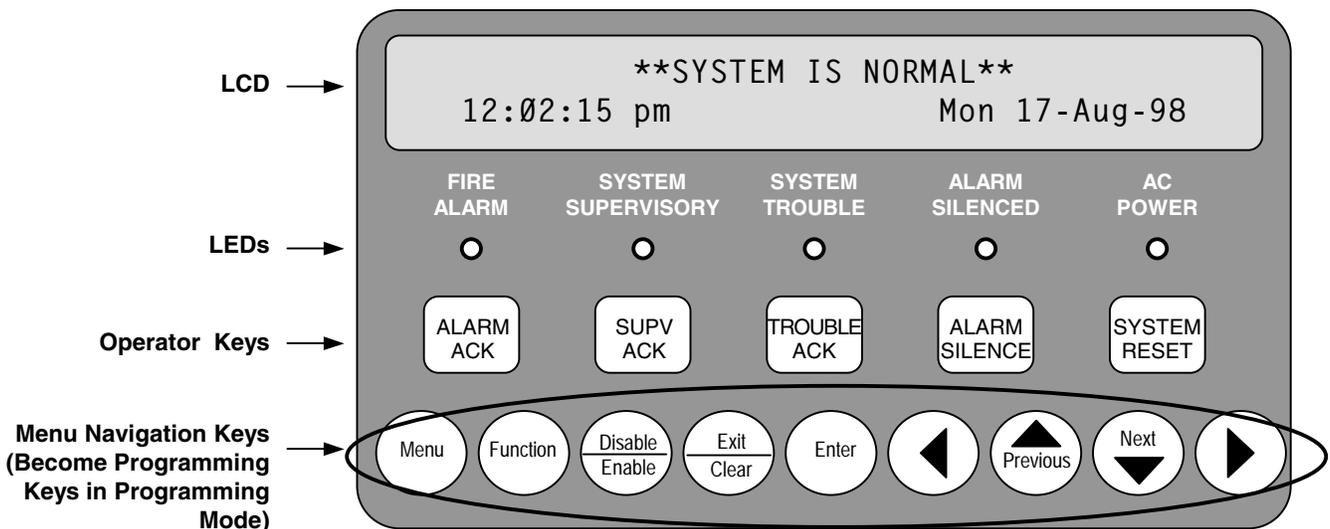
Figure 2-2. 4005 Front Panel

Basic Things to Know About Programming a 4005, *Continued*

Programming Mode

Even though "Passcode" is not the first menu option, you must log in to the 4005 FACP in order to perform the Level 4 programming covered in the remainder of this publication.

To enter the Programming mode, press <Menu>. (You must always press <Menu> first to begin programming mode.)

The Menu Programming screen is displayed.

LogIn

Use the following steps and Figures 2-3 and 2-4 to log in to the 4005.

Note: All passcodes consist of a four-digit number (refer to *Default Passcodes* below). An asterisk (∗) appears in the place of an entered number for security purposes.

A.
```
        ** SYSTEM IS NORMAL **
Menu:     [Passcode]
```

B.
```
Current Access Level:     Level 1
Passcode:  [Login]
```

C.
```
Current Access Level:     Level 1
Passcode:     [Ø]
```

D.
```
Current Access Level:     Level 1
Passcode:   ***[5]
```
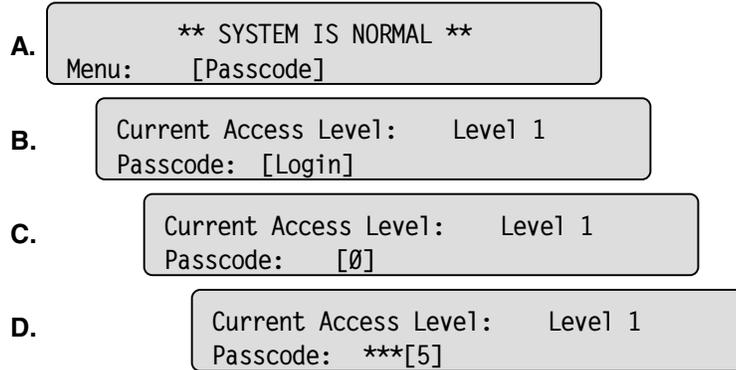
Figure 2-3. Menu Progression from the Normal Menu to the Passcode Menu

1. Press <Next> to scroll through the menus until [Passcode] is displayed (**A**) and then press <Enter> (**B**).

2. Press <Enter> to Login (**C**).

3. Press <Next> to scroll through the numbers (0-9) for the first digit of the passcode. When the correct number appears between the focus brackets ([ ]), press <▶> to move the brackets to the next digit of the code.

4. Repeat Step 3 until all four numbers are entered (**D**).

Default Passcodes

The 4005 comes with three default passcodes.

- 2000 = Level 2 access
- 3000 = Level 3 access
- 4000 = Level 4 access (causes a Simplex Service Mode Trouble)

Basic Things to Know About Programming a 4005, *Continued*

Default Passcodes *(Continued)*

E.
```
        ** Login is Accepted **
Current Access Level:     Level 4
```

F.
```
Simplex Service Mode
Trouble Point        Trouble        1/1
```

G.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Menu:   [View Points]
```
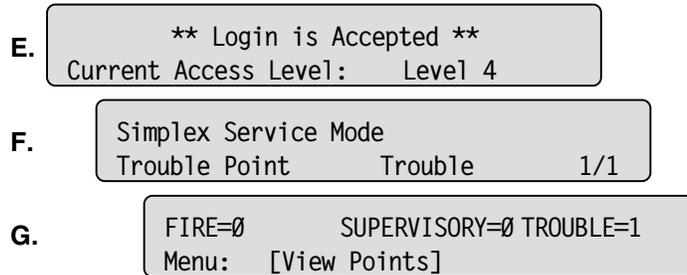
Figure 2-4. Menu Progression from the Login Accepted Menu to the Fire, Supervisory, Trouble Menu

5. Press <Enter> to accept the passcode. (Logging in at Level 4 causes a Simplex Service Mode Trouble. Acknowledge the trouble and continue.)

    The display in (**E**) appears briefly and then (**F**) appears after the Simplex Service Mode trouble is acknowledged.

6. Press <Menu> to start Programming (**G**).

Logout

Follow Steps 1 and 2 to log out of the 4005.

1. Press <Next> to scroll through the menus until [Passcode] is displayed and then press <Enter>.

2. Press <Next> until [Log Out] is displayed and then press Enter.

    The 4005 defaults to Level 1 access.

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Operations Involving Points:
Viewing Points

Viewing Points

To View a Point, use the following steps:

1. To view points, press <Menu>, <Next> until [View Points] is displayed, and then press <Enter>.

2. Press <Previous> or <Next> to display the Device Type of the point you wish to view and then press <Enter> (refer to Table 2-1).

    The first point for that Device Type is displayed.

Table 2-1. Device Type

Device Type
Monitor
Relay
Signal
Digital
Analog
Generic Output
Generic Input
System Points
List

3. Press <Next> or <Previous> to scroll through additional points.

```
Class 34 Fire Monitor              ZONE 1
Monitor Zone            NORMAL        1/24
```

```
   Device=MONB        Card=18       Point=1
   Monitor Zone                     Normal
```

Figure 2-5. Standard Screens Based on Device Type

4. To view additional information (if available), press <▶> or <◀> to advance through the information screens. Pressing <Exit/Clear> returns you to the menu screen (see **G** in Figure 2-4). When viewing the point or list, all points or lists have two standard screens based on the device type (see Figure 2-5).

Function Control while Viewing Points

Function Control

Certain Functions are allowed during the View Points session. To activate Function Control for a specific point, use Steps 1 through 3 above to view the point and then press <Function>. Refer to Table 2-2 for a list of functions based on device types.

Table 2-2. Functions Based On Device Type

Device Type	Available Function Commands
Monitor	Clear Verification Tally
Relay Signal Digital (P27-P50)	• Turn ON the point • Turn OFF the point • Turn the point to AUTO • Change the point Priority
Analog (A5-A25)	Change the Point Value
System Points	Turn ON/OFF certain points
Lists	• Turn List ON • Turn List OFF • Turn List Auto
Generic Outputs	• Turn ON the point • Turn OFF the point

Use <Previous> or <Next> to scroll through the commands and then press <Enter> to execute the command.

Enabling a Point

Enabling a Point

To Enable a Point, use Figure 2-6 and the following steps:

1. View points by pressing <Menu> and <Next> until [View Points] is displayed, and then press <Enter>.

2. Press <Previous> or <Next> to display the Device Type of the point you wish to enable and then press <Enter>.

   The first point for that Device Type is displayed.

3. Press <Previous> or <Next> to display the point you wish to enable (**A**).

A.
```
First Floor East Wing          Room 12
Monitor Zone        TROUBLE         1/6
```

B.
```
First Floor East Wing          Room 12
Control:   [Enable]    Status=DISABLED
```

C.
```
First Floor East Wing          Room 12
Press ENTER to Enable, EXIT to cancel
```

D.
```
First Floor East Wing          Room 12
Point will ENABLE in 30, EXIT to cancel
```

Figure 2-6. Typical Screens Used to Enable a Point

4. Press <Enable/Disable>. Press <Previous> or <Next> until [Enable] is displayed (**B**).

5. Press <Enter> to enable the point.

6. Press <Enter> to confirm your choice (**C**).

The point enables in 30 seconds (**D**). Press <Exit/Clear> to stop the point from enabling during this time period.

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Disabling a Point

Disabling a Point

To Disable a Point, use the following steps:

1. View points by pressing <Menu> and <Next> until [View Points] is displayed, and then press <Enter>.

2. Press <Previous> or <Next> to display the Device Type of the point you wish to disable and then press <Enter>.

   The first point for that Device Type is displayed.

3. Press <Previous> or <Next> to display the point you wish to enable (**A**).

A.
```
First Floor East Wing          Room 12
Monitor Zone          TROUBLE          1/6
```

B.
```
First Floor East Wing          Room 12
Control:   [Disable]     Status=ENABLED
```

C.
```
First Floor East Wing          Room 12
Press ENTER to Disable, EXIT to cancel
```

D.
```
First Floor East Wing          Room 12
Monitor Zone          TROUBLE          1/6
```

Figure 2-7. Typical Screens Used to Disable a Point

4. Press <Enable/Disable>. Press <Previous> or <Next> until [Disable] is displayed (**B**).

5. Press <Enter> to disable the point.

6. Press <Enter> to confirm your choice or <Exit/Clear> to cancel (**C**).
   The point disables immediately and a trouble occurs (**D**). Acknowledge the trouble and continue.

Editing a Point Label

Editing a Point Label

To Edit a Custom Label of a point, use the following steps:

1. Log in to the 4005.

2. Press <Menu> (**A**).

A.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Menu:   [View Points]
```

B.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Menu:   [Programming]
```

C.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Programming:[Edit Point]
```

D.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Edit Point:[Monitor]
```
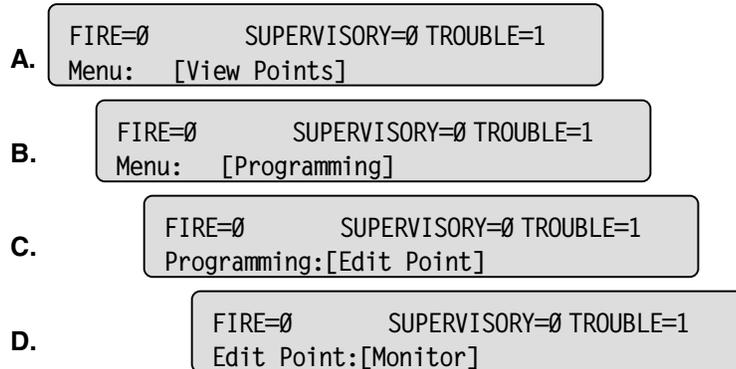
Figure 2-8. Typical Screens Used to Edit a Label

3. Press <Next> or <Previous> to scroll through the menu until [Programming] is displayed (**B**) and then press <Enter>.

4. Press <Next> or <Previous> to scroll through the menu until [Edit Point] is displayed (**C**) and then press <Enter>.

5. Press <Next> or <Previous> to scroll through the menu until the desired device type is displayed (**D**) and then press <Enter>.

Note: System Point Labels cannot be edited or cleared.

Editing a Point Label, *Continued*

Editing a Point Label
(Continued)

6. Press <Next> or <Previous> to scroll through the points until the point you wish to edit is displayed (**E**) and then press <Function>.

E.
```
I/O Card 1, Input 1
Monitor Zone                        1/6
```

F.
```
I/O Card 1, Input 1
Control:[Edit Point Label]
```

G.
```
I/O Card 1, Input 1
Monitor Zone
```

H.
```
First Floor East Wing         Room 12
Smoke Detector                     1/6
```

Figure 2-9. Additional Typical Screens Used to Edit a Label

7. Press <Next> or <Previous> to scroll through the menus until [Edit Point Label] is displayed (**F**) and then press <Enter>.

    The first editable character of the label is underlined (**G**).

8. Press <Next> or <Previous> to scroll through the character set until the desired character is displayed. Press < ► > and < ◄ > to move the underline to the character in the label you wish to edit.

    Pick a label that best suits the location or function of the point (**H**).

    The available characters are as follows :

    Digits: **0-9**
    Alpha: **A-Z** and **a-z**
    Punctuation: **space   comma   period   &   '   )   (*   +   −   /   :   #**

Note: Press <Menu> to toggle between Upper and Lower Case characters. Press <Disable/Enable> to insert a blank space.

9. Press <Enter> once the label reads correctly. Press <Enter> again to confirm the change to the label. **** Operation Complete **** is displayed.

Note: To save all changes, refer to the *Saving Editing Changes* section later in this chapter.

Clearing a Point Label

Clearing a Point Label

To Clear a Custom Label of a point, use the following steps:

1. Follow Steps 1 through 5 under *Editing a Point Label*.

2. Press <Next> or <Previous> to scroll through the points until the point you wish to clear is displayed (**A**) and then press <Function>.

A.
```
I/O Card 1, Input 1
Monitor Zone                        1/6
```

B.
```
  I/O Card 1, Input 1
  Control:[Clear Point Label]
```

C.
```
    _
    Monitor Zone
```

Figure 2-10. Typical Screens Used to Change a Point Label

3. Press <Next> or <Previous> to scroll through the menus until [Clear Point Label] is displayed (**B**) and then press <Enter>.

Important: Once <Enter> is pressed, the label clears (**C**). The 4005 is now in the Edit Label mode. When a label is accidentally cleared, press <Exit/Clear> and re-enter the Clear Point Label menu to clear the correct label.

Editing Point Types

Editing Point Types

To Edit the Point Type of a point, use the following steps:

1. Follow Steps 1 through 5 under *Edit Label*.

2. Press <Next> or <Previous> to scroll through the points until the point you wish to edit is displayed (**A**) and then press <Function>.

A.
```
I/O Card 1, Input 1
Monitor Zone                    1/6
```

B.
```
I/O Card 1, Input 1
Control:[Edit Point Label]
```

C.
```
I/O Card 1, Input 1
[FIRE: Fire Monitor Zone]
```

D.
```
Press ENTER to Confirm, EXIT to cancel
[FIRE: Fire Monitor Zone]
```
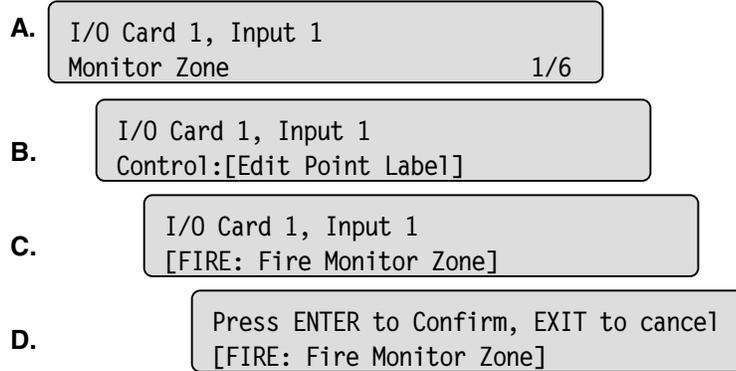
Figure 2-11. Typical Screens Used to Edit Point Types

3. Press <Next> or <Previous> to scroll through the menus until [Edit Point Type] is displayed (**B**) and then press <Enter>.

4. Press <Next> or <Previous> to scroll through the point types until the desired type is displayed (**C**) and then press <Enter> (refer to the Programming Sheets in Appendix A for a complete list of point types).

5. A Confirmation screen appears (**D**) allowing you to make or abandon the changes. Press <Enter> to confirm your choice, or <Exit/Clear> to abandon your changes.

   The 4005 informs you when the Operation is Complete.

Edit Mode Programming

Edit Mode Programming

You can change the mode of a Generic Output point. (If another type of point is chosen, you are notified that this is an invalid action.)

Mode editing of a point associated with the output of a SMPL equation is not allowed.

Note: The following describes assigning Links between an LED of a RCU card to a Fire monitor point (18-01).

To Edit the Mode of a point, use the following steps:

1. Follow Steps 1 through 5 under *Editing a Point Label*.

2. Press <Next> or <Previous> to scroll through the points until the point you wish to edit is displayed (**A**) and then press <Function>.

3. Press <Next> or <Previous> to scroll through the menus until [Edit Mode] is displayed (**B**) and then press <Enter>.

4. Press <Next> or <Previous> to scroll through the actions until the desired action is displayed then use the < ► > to move the focus brackets (**[ ]**) to the point you wish to link to a RCU/SCU point. Use <Next> or <Previous> to scroll through the points until the desired point is displayed (**C**) and then press <Enter> (see the Table 2-3 for your choices of Output Modes and Link to… options).

5. A Confirmation screen appears (**D**) allowing you to make or abandon the changes. Press <Enter> to confirm your choice, or <Exit/Clear> to abandon your changes.

A.
```
RCU Card 1, LED 1
LED                                    1/28
```

B.
```
RCU Card 1, LED 1
Control:  [Edit Mode]
```

C.
```
Mode Programming - Generic Output
Fire                        [18-01]
```

D.
```
Press ENTER to Confirm, EXIT to Cancel
[Fire]                         18 -01
```
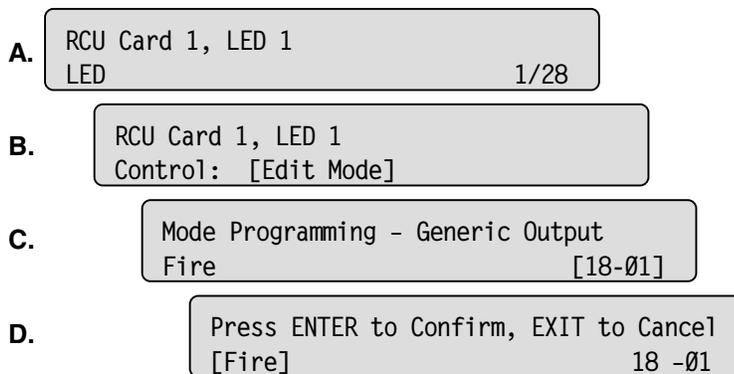
Figure 2-12. Typical Screens Used in Edit Mode Programming

Continued on next page

2-13

Edit Mode Programming, *Continued*

Edit Mode Programming

Table 2-3 lists the Output Mode choices for a Generic Output Point and the Points to which they can be linked.

Table 2-3. Generic Output Point Output Mode and their Link to… Choices

Generic Output Output Mode…	…Can Link to these Points:
SMPL	No Points (*RCU/SCU will not respond to any Output Mode*)
Fire	
Supervisory	System Points (*see complete list in Chapter 5*)
Trouble	
Disabled	Digital Pseudo Points (*see complete list in Chapter 5*)
ON	
OFF	Lists (*see complete list in Chapter 5*)

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Operations Involving Cards:
Adding an Input/Output (I/O)

Adding an Input/Output (I/O) Card

To add an Input/Output (I/O) card to the 4005, use the following steps:

Note: Refer to the *SMPL Programming, Edit SMPL* section of *Chapter 6* for more information on card addressing and points.

1. Make sure all jumpers and relays are set correctly and install the card in the Physical Slot desired (refer to Pub. No. FA4-21-700).

   After installing the I/O card, apply power to the 4005. An "Extra I/O Card" trouble occurs. Acknowledge the trouble and continue.

2. Follow Steps 1 through 3 under *Editing a Point Label*.

3. Press <Next> or <Previous> to scroll through the menus until [Edit Card] is displayed (**A**) and then press <Enter>.

A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:[Edit Card]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Edit Card:[Add I/O Card]
```

C.
```
Card=[21]   (Panel Slot 4)
Card Type=4-Point Monitor
```

D.
```
Card=21    (Panel Slot 4)
Card Type=4-Point Monitor
```

Figure 2-13. Typical Screens Used to Add an Input/Output Card

4. Press <Next> or <Previous> until [Add I/O Card] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[   ]**) appear in the Card Address field (**C**) of the display. Refer to Table 2-3 for address information.

Card Addresses

Card Slot #10 — 27	18 — Card Slot #1
Card Slot #9 — 26	19 — Card Slot #2
Card Slot #8 — 25	20 — Card Slot #3
Card Slot #7 — 24	21 — Card Slot #4
Card Slot #6 — 23	22 — Card Slot #5
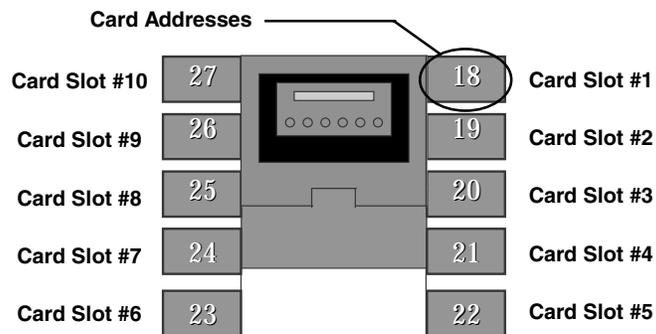
Figure 2-14. I/O Card Address/Locations

Adding an Input/Output Card, *Continued*

Adding an Input/Output (I/O) Card *(Continued)*

5. Press <Next> or <Previous> to choose the Card Address.

6. Press < ▶ > to move the focus brackets to the Card Type field of the display (**D**).

Table 2-4. Address Information

Card Location (Left)	Card Address		Card Location (Right)
10	27	18	1
9	26	19	2
8	25	20	3
7	24	21	4
6	23	22	5

7. Press <Next> or <Previous> to choose the Card Type (refer to Table 2-4) and then press <Enter>.

   When installing an I/O card with a Class A Adapter, choose the appropriate card type that includes the Class A Adapter.

Table 2-5. I/O Card Types

I/O Card Types
4-Point Monitor
4-Point Monitor Class A
2-Input / 2-Output
2-Input / 2-Output Class A
8-Point Annunciator Card
4-Point NAC/Relay Card
4-Point NAC/Relay Card Class A

8. Press <Enter> to confirm your selection.

   " **Configuring the card. . .**" is displayed.

Note: " ****No Cards Found for this Action** **" is displayed when the 4005 does not recognize an empty slot.

2-16

Deleting Input/Output Cards

Deleting Input/Output Cards

To delete an Input/Output Card from the 4005, use the following steps:

Note: Deleting a card from the 4005 also removes any modes or SMPL equations associated with that card.

1. Follow Steps 1 through 3 under *Editing a Point Label*.

2. Press <Next> or <Previous> to scroll through the menus until [Edit Card] is displayed (**A**) and then press <Enter>.
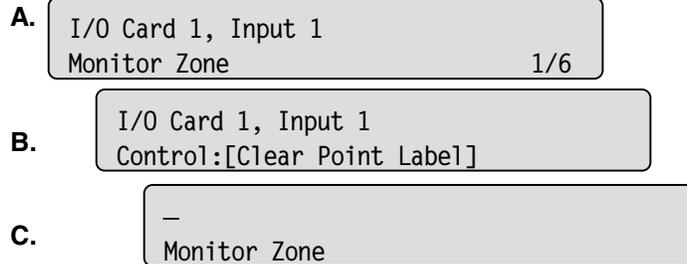
A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:[Edit Card]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Edit Card:[Delete I/O Card]
```

C.
```
Card=[18]   (Panel Slot 1)
Card Type=4-Point Monitor
```

Figure 2-15. Typical Screens Used to Delete an Input/Output Card

3. Press <Next> or <Previous> until [Delete I/O Card] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[   ]**) appear in the Card Address field (**C**) of the display.

4. Press <Next> or <Previous> to choose the Card to delete and then press <Enter>.

5. Press <Enter> to confirm your selection.

   "Removing the card. . ." is displayed.

6. After deleting a card, the 4005 displays the next available card for deletion. To avoid deleting the next card, press <Exit/Clear>.

Modifying Input/Output Card Devices

Modifying Input/Output Card Devices

To modify an Input/Output Card of the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label*.

2. Press <Next> or <Previous> to scroll through the menus until [Edit Card] is displayed (**A**) and then press <Enter>.

A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:[Edit Card]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Edit Card:[Modify I/O Card Devices]
```

C.
```
Card=[2Ø]   (Panel Slot 3)
Card Type=4-Point NAC/Relay
```

Figure 2-16. Typical Screens Used to Modify Input/Output Card Devices

3. Press <Next> or <Previous> until [Modify I/O Card Devices] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[   ]**) appear in the Card Address field (**C**) of the display.

4. Press <Next> or <Previous> to choose the Card to modify and then press <Enter>.

5. Press <Function> to modify the card.

   Certain Functions are allowed during the Modify I/O Card Devices session. By pressing the <Function> key, the device type edit screen is displayed (**D**).

D.
```
Card=2Ø                   4-Point NAC/Relay
Ct1=[Sig]  Ct2= Sig  Ct3= Aux Ct4= Aux
```
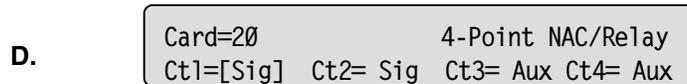
Figure 2-17. Device Type Edit Screen

For an input device type, the points are always MON (MONA or MONB is implied by the selected card type). If all four points are MONA or MONB, then no editable points exist. For an output device type, you can select: SIG (which is either SIGA or SIGB depending on the selected card), or AUX.

In the case of the 2-Input / 2-Output cards, you can only edit the output points (i.e., points 3 and 4) of the card.

Modifying Input/Output Card Devices, *Continued*

Modifying Input/Output Card Devices *(Continued)*

6. Press <Previous> or <Next> to select the type of output point.

    Press <▶> or <◀> to move the focus brackets to the next circuit.

    After all output points have been edited, press <Enter>.

7. After modifying a card, the 4005 displays the next available card for modification. To avoid modifying the next card, press <Exit/Clear>.

8. Press <Enter> to confirm your selection.

    "Configuring the card. . ." is displayed.

2-19

Adding a Remote Unit Interface (RUI) Card

Adding a Remote Unit Interface (RUI) Card

To add a Remote Unit Interface (RUI) Card, either a Status Command Unit (SCU) or a Remote Control Unit (RCU) to the 4005, perform the following steps:

1. Make sure all jumpers are set correctly and install the card. Refer to the Field Wiring Diagram 841-990 for more information on wiring the RUI cards.

    After installing the RUI card, apply power to the 4005.

2. Follow Steps 1 through 3 under *Editing a Point Label*.

3. Press <Next> or <Previous> to scroll through the menus until [Edit Card] is displayed (**A**) and then press <Enter>.

A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:[Edit Card]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Edit Card:[Add RUI Card]
```

C.
```
Card=[Ø1]
Card Type=SCU Card
```

D.
```
Card=Ø1
Card Type=[SCU Card]
```

Figure 2-18. Typical Screens Used to Add a Remote Unit Interface Card

4. Press <Next> or <Previous> until [Add RUI Card] is displayed (**B**) and then press <Enter>.

    The focus brackets (**[   ]**) appear in the Card Address field (**C**) of the display.

Note: Annunciator addresses are 1 through 16.

5. Press <Next> or <Previous> to choose the Card Address.

6. Press < ▶ > to move the focus brackets to the Card Type field of the display (**D**).

7. Press <Enter> to confirm your selection.

    "Configuring the card. . ." is displayed.

Deleting a Remote Unit Interface (RUI) Card

Deleting a Remote Unit Interface (RUI) Card

To delete a Remote Unit Interface (RUI) Card, either a Status Command Unit (SCU) or a Remote Control Unit (RCU) from the 4005, perform the following steps:

Note: Deleting a card from the 4005 also removes any modes or SMPL equations associated with that card.

1. Follow Steps 1 through 3 under *Editing a Point Label*.

2. Press <Next> or <Previous> to scroll through the menus until [Edit Card] is displayed (**A**) and then press <Enter>.
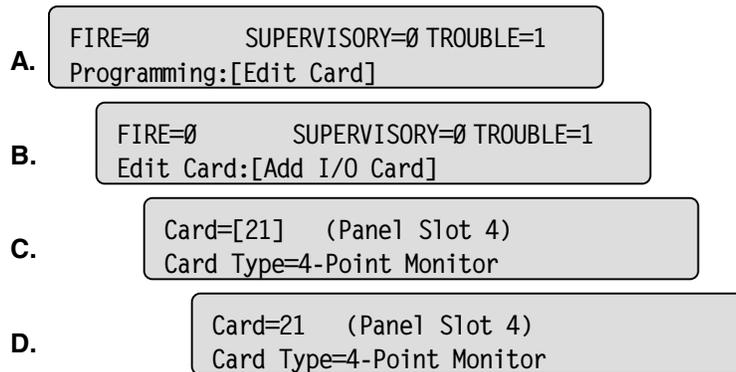
A.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Programming:[Edit Card]
```

B.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Edit Card:[Delete RUI Card]
```

C.
```
Card=[01]
Card Type=SCU Card
```

D.
```
Card=01
Card Type=[SCU Card]
```

Figure 2-19. Typical Screens Used to Delete a Remote Unit Interface Card

3. Press <Next> or <Previous> until [Delete RUI Card] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[ ]**) appear in the Card Address field (**C**) of the display.

4. Press <Next> or <Previous> to choose the Card to delete and then press <Enter>.

5. Press <Enter> to confirm your selection.

   "Removing the card. . ." is displayed.

6. After deleting a card, the 4005 displays the next available card for deletion. To avoid deleting the next card, press <Exit/Clear>.

2-21

Operations Involving System Options:
Changing Time/Date Format

Changing Time/Date Format

To change the Time/Date Format of the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label*.

2. Press <Next> or <Previous> to scroll through the menus until
   [System Options] is displayed (**A**) and then press <Enter>.

A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
System Options:  [Time/Date Format]
```

C.
```
Time/Date
New:  [24 Hour]        Current: 24 Hour
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [12 Hour]         Current: 24 Hour
```

**Figure 2-20. Typical Screens Used to Change
the Time/Date Format**

3. Press <Next> or <Previous> until [Time/Date Format] is
   displayed (**B**) and then press <Enter>.

   The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

4. Press <Next> or <Previous> to choose 12- or 24-Hour format and then
   press <Enter>.

5. Press <Enter> to confirm your selection or Exit to cancel (**D**).

   "Option is updated" is displayed when selecting Enter.

Active Point Reminder

Turning the Active Point Reminder ON or OFF

The Active Point Reminder sounds the piezo on the panel for five seconds eight hours after a trouble is acknowledged. This serves as a reminder that there is still a trouble in the system. To turn the Active Point Reminder ON or OFF for the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label*.

2. Press <Next> or <Previous> to scroll through the menus until [System Options] is displayed (**A**) and then press <Enter>.
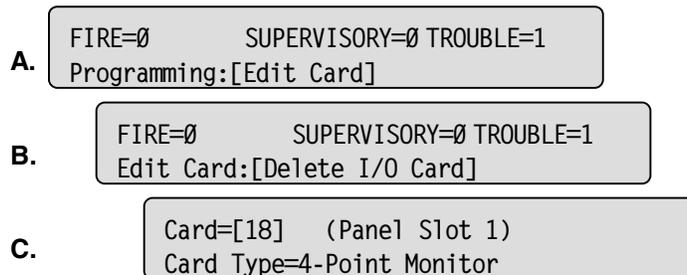
A.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
System Options:[Active Point Reminder]
```

C.
```
Active Point Reminder
New: [OFF]                    Current: OFF
```

D.
```
Press ENTER to confirm, EXIT to cancel
Card Type=[SCU Card]
```

**Figure 2-21. Typical Screens Used to Turn
the Active Point ON or OFF**

3. Press <Next> or <Previous> until [Active Point Reminder] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[   ]**) appear in the **New:** field (**C**)of the display.

4. Press <Next> or <Previous> to choose ON or OFF for the reminder and then press <Enter>.

5. Press <Enter> to confirm your selection or Exit to cancel (**D**).

   "Option is updated" is displayed when selecting Enter.

Silence/Reset Inhibit Timer

Setting the Silence/Reset Inhibit Timer

The Silence/Reset Inhibit timer ignores the keypress of the Silence and Reset Keys for a specified time (0-60 mins.). To set the Silence/Reset Inhibit timer in minutes for the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label*.

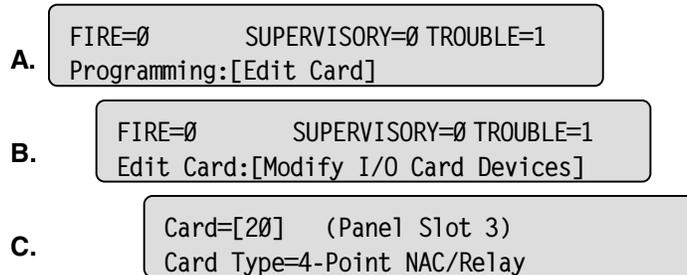2. Press <Next> or <Previous> to scroll through the menus until [System Options] is displayed (**A**) and then press <Enter>.

A.
```
FIRE=Ø         SUPERVISORY=Ø TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
System Options:[Silence/Reset Inhibit]
```

C.
```
Alarm Silence/System Reset Timer Inhibit
New: [ØØ]               Current: ØØ Mins
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [Ø5]                Current: ØØ Mins
```

Figure 2-22. Typical Screens Used to Set the Silence/Reset Inhibit Timer

3. Press <Next> or <Previous> until [Silence/Reset Inhibit] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

4. Press <Next> or <Previous> to choose the duration (1-60 minutes) for the inhibit timer and then press <Enter>.

Note: When initially setting a value for a System Option, all values in the 'New:' field reflect the Current: field's setting. A value of 00 is a disabled state of that System Option (for example, 00 Mins means that the Alarm Silence/System Reset Timer Inhibit is *not* active).

5. Press <Enter> to confirm your selection or Exit to cancel (**D**).

   "Option is updated" is displayed when selecting Enter.

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Cut-Out Timer

Setting the Cut-Out Timer

The Cut-Out Timer is a specified time (0-60 mins.) for signals to sound until they automatically turn off. To set the Cut-Out Timer in minutes for the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label*.

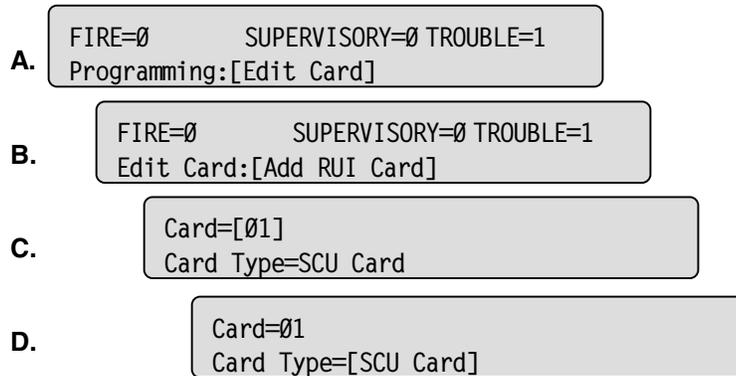2. Press <Next> or <Previous> to scroll through the menus until [System Options] is displayed (**A**) and then press <Enter>.

A.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
System Options:  [Cut-Out Timer]
```

C.
```
Signal Cut-Out Timer
New: [00]              Current: 00 Mins
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [05]              Current: 00 Mins
```

Figure 2-23. Typical Screens Used to Set the Cut-Out Timer

3. Press <Next> or <Previous> until [Cut-Out Timer] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

4. Press <Next> or <Previous> to choose the duration (1-60 minutes) for the signal cut-out timer and then press <Enter>.

Note: When initially setting a value for a System Option, all values in the 'New:' field reflect the 'Current:' field's setting. A value of 00 is considered a disabled state of that System Option (for example, 00 Mins means that the Cut-Out Timer is not active).

5. Press <Enter> to confirm your selection or Exit to cancel (**D**).

   "Option is updated" is displayed when selecting Enter.

2-25

Door Drop Alarm

Setting the Door Drop Alarm

The Door Drop Alarm is a specified time (0-60 secs.) doors are held open after an alarm. To set the Door Drop Alarm Timer in seconds for the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label.*

2. Press <Next> or <Previous> to scroll through the menus until [System Options] is displayed (**A**) and then press <Enter>.
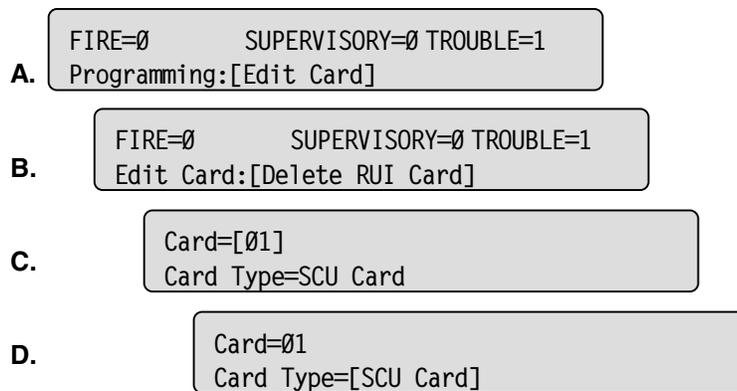
A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=Ø           SUPERVISORY=Ø TROUBLE=1
System Options:   [Door Drop Alarm]
```

C.
```
Door Holder - Alarm Drop Timer
New: [ØØ]              Current: ØØ Secs
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [Ø5]              Current: ØØ Secs
```

Figure 2-24. Typical Screens Used to Set the Door Drop Alarm

3. Press <Next> or <Previous> until [Door Drop Alarm] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

4. Press <Next> or <Previous> to choose the duration (1-60 seconds) for the door holder alarm drop timer and then press <Enter>.

Note: When initially setting a value for a System Option, all values in the 'New:' field will reflect the 'Current:' field's setting. A value of 00 is considered a disabled state of that System Option (for example, 00 Secs means that the Door Holder Alarm Drop Timer is *not* active).

5. Press <Enter> to confirm your selection or Exit to cancel (**D**).

   "Option is updated" is displayed when selecting Enter.

Door Drop AC Loss Timer

Setting the Door Drop AC Loss Timer

The Door Drop AC Loss is specified time (0-60 min.) that doors are held open on an AC loss. To set the Door Holder AC Fail Drop Timer in minutes for the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label.*

2. Press <Next> or <Previous> to scroll through the menus until [System Options] is displayed (**A**) and then press <Enter>.
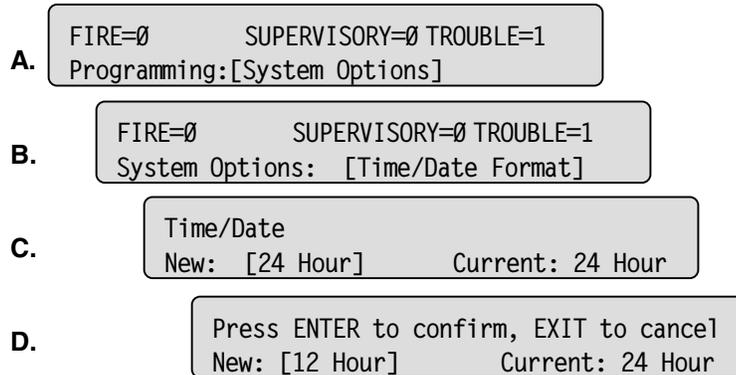
A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
System Options:  [Door Drop AC Loss]
```

C.
```
Door Holder - AC Fail Drop Timer
New: [ØØ]              Current: ØØ Mins
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [Ø5]              Current: ØØ Mins
```

**Figure 2-25. Typical Screens Used to Set the
Door Drop AC Loss Timer**

3. Press <Next> or <Previous> until [Door Drop AC Loss] is displayed (**B**) and then press <Enter>.

    The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

4. Press <Next> or <Previous> to choose the duration (1-60 minutes) for the AC fail drop timer and then press <Enter>.

Note: When initially setting a value for a System Option, all values in the 'New:' field will reflect the 'Current:' field's setting. A value of 00 is considered a disabled state of that System Option (for example, 00 Mins means that the Door Holder - AC Fail Drop Timer is *not* active).

5. Press <Enter> to confirm your selection or Exit to cancel (**D**). Option is updated is displayed when selecting Enter.

2-27

Audible Evacuation Signal

Setting the Audible Evacuation Signal

To set the type of Audible Evacuation signal for the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label*.

2. Press <Next> or <Previous> to scroll through the menus until [System Options] is displayed (**A**) and then press <Enter>.
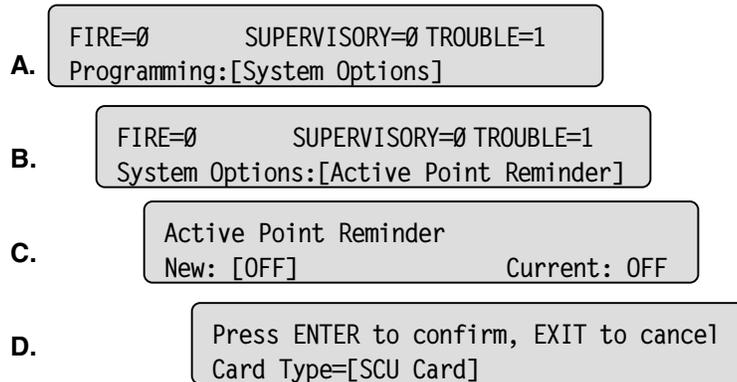
A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
System Options:  [Audible Evacuation]
```

C.
```
Signal
New: [Steady]           Current: Steady
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [Slow March]       Current: Steady
```
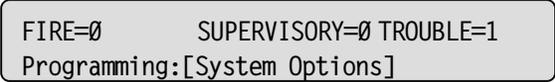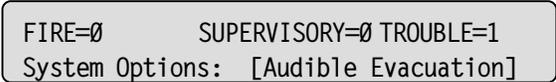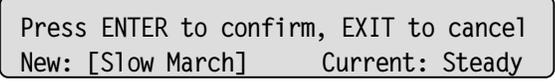
**Figure 2-26. Typical Screens Used to Set the
Audible Evacuation Signal**

3. Press <Next> or <Previous> until [Audible Evacuation] is displayed (**B**) and then press <Enter>.

    The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

4. Press <Next> or <Previous> to choose the type of audible signal for evacuation (Steady, Slow March, Fast March, Temporal) and then press <Enter>.

Note: When initially setting a value for a System Option, all values in the 'New:' field will reflect the 'Current:' field's setting.

5. Press <Enter> to confirm your selection or Exit to cancel (**D**).

    "Option is updated" is displayed when selecting Enter.

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Visible Evacuation Signal

Setting the Visible Evacuation Signal

To set the type of Visible Evacuation signal for the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label.*

2. Press <Next> or <Previous> to scroll through the menus until [System Options] is displayed (**A**) and then press <Enter>.
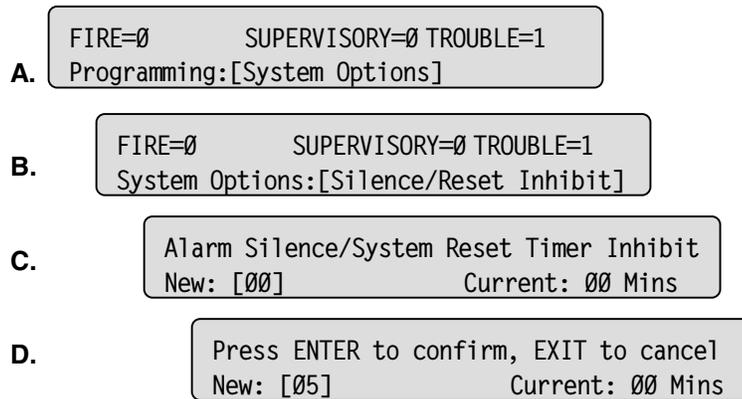
A.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
System Options:  [Visible Evacuation]
```

C.
```
Visible Evacuation
New: [Steady]          Current: Steady
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [Slow March]       Current: Steady
```
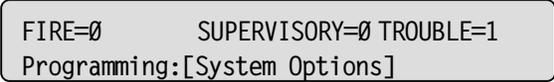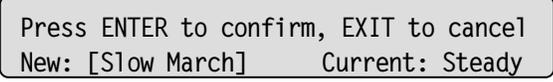
**Figure 2-27. Typical Screens Used to Set the
Visible Evacuation Signal**

3. Press <Next> or <Previous> until [Visible Evacuation] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

4. Press <Next> or <Previous> to choose the type of visible signal for evacuation (Steady, Slow March, Fast March, Temporal) and then press <Enter>.

Note: When initially setting a value for a System Option, all values in the 'New:' field will reflect the 'Current:' field's setting.

5. Press <Enter> to confirm your selection or <Exit/Clear> to cancel (**D**).

   "Option is updated" is displayed when selecting Enter.

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City Circuits

Enabling City Circuit 1 and/or City Circuit 2

To enable or disable the city circuits for the 4005, use the following steps:

1. Follow Steps 1 through 3 under *Editing a Point Label.*

2. Press <Next> or <Previous> to scroll through the menus until [System Options] is displayed (**A**) and then press <Enter>.
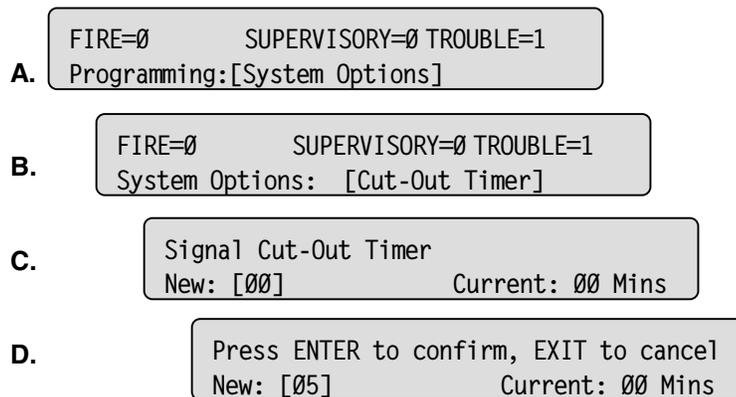
A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
System Options:[Enable City Circuit 1]
```

C.
```
Configure City Circuit 1
New: [OFF]                  Current: OFF
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [ON]                   Current: OFF
```

Figure 2-28. Typical Screens Used to Enable City Circuit 1 and City Circuit 2

3. Press <Next> or <Previous> until [Enable City Circuit 1] or [Enable City Circuit 2] is displayed (**B**) and then press <Enter>.

    The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

4. Press <Next> or <Previous> to choose ON or OFF for a specific city circuit and then press <Enter>.

Note: When initially setting a value for a System Option, all values in the 'New:' field will reflect the 'Current:' field's setting.
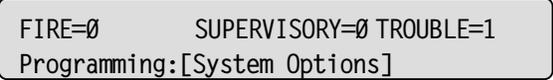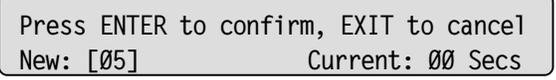
5. Press <Enter> to confirm your selection or Exit to cancel (**D**).

    "Option is updated" is displayed when selecting Enter.

Expansion Power Supply Circuit Supervision

Enabling or Disabling the Expansion Power Supply Circuit Supervision

![Warning symbol]

To enable or disable the expansion power supply circuit supervision for the 4005, use the following steps:

Important: The Factory Default Setting for the 4005 Expansion Power supply circuit is ON. When this circuit is turned ON and no expansion power supply is present in the system, a trouble occurs.

1. Follow Steps 1 through 3 under *Editing a Point Label.*

2. Press <Next> or <Previous> to scroll through the menus until [System Options] is displayed (**A**) and then press <Enter>.

A.
```
FIRE=Ø         SUPERVISORY=Ø TROUBLE=1
Programming:[System Options]
```

B.
```
FIRE=Ø         SUPERVISORY=Ø TROUBLE=1
System Options:  [Expansion Power]
```

C.
```
Expansion Power
New: [ON]                    Current: ON
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [OFF]                   Current: ON
```

Figure 2-29. Typical Screens Used to Enable or Disable the Expansion Power Supply Circuit Supervision

3. Press <Next> or <Previous> until [Expansion Power] is displayed (**B**) and then press <Enter>.

   The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

4. Press <Next> or <Previous> to choose ON or OFF for the expansion power circuit and then press <Enter>.

Note: When initially setting a value for a System Option, all values in the 'New': field will reflect the 'Current:' field's setting.

5. Press <Enter> to confirm your selection or <Exit/Clear> to cancel (**D**).

   "Option is updated" is displayed when selecting Enter.

Saving Editing Changes

Overview

There are two ways to save the edit buffer information to the 4005's CFIG:

- At the end of an edit session
- Anytime during programming

Saving Changes at the End of an Editing Session

To save changes at the end of an editing session, use the following steps:

1. Press and hold <Exit/Clear> after all your changes to the 4005 programming are made (**A**).

A.
```
    ** Edit Buffer has CHANGED **
 [Cancel]    Restore CFIG    Save CFIG
```

B.
```
    ** Edit Buffer has CHANGED **
 Cancel    Restore CFIG    [Save CFIG]
```

C.
```
         ** Saving CFIG **
 Press ENTER to save, EXIT to Cancel
```

**Figure 2-30. Typical Screens Used to Save Changes
at the End of an Editing Session**

2. Press <▶> or <◀> to choose [Save CFIG] (**B**).

3. Press <Enter> (**C**).

4. Press <Enter> to confirm your selection or <Exit/Clear> to cancel.

    The 4005 downloads the edit buffer information to the 4005 program. When the download completes, the 4005 performs a cold start.

Saving Editing Changes, *Continued*

Saving Changes Anytime During Programming

To save changes anytime during programming, use the following steps:

1. To save the CFIG, press <Menu>, <Next> until [Programming] is displayed (**A**), and then press <Enter>.

2. Press <Next> or <Previous> until [Save CFIG] is displayed (**B**), and then press <Enter>.

A.
```
FIRE=0        SUPERVISORY=0 TROUBLE=1
Menu:   [Programming]
```

B.
```
FIRE=0        SUPERVISORY=0 TROUBLE=1
Programming:  [Save CFIG]
```

C.
```
           ** Saving CFIG **
Press ENTER to Save, EXIT to Cancel
```

**Figure 2-31. Typical Screens Used to Save Changes
Anytime During Programming**

3. Press <Enter> to confirm your selection or <Exit/Clear> to cancel (**C**).

The 4005 downloads the edit buffer information to the 4005 program. When the download completes, the 4005 performs a cold start .

2-33

Canceling Editing Changes

Overview

The Restore CFIG option allows you to abandon all changes to the 4005 edit buffer. There are two ways to abandon your changes to the 4005's edit buffer:

- At the end of an edit session
- Anytime during programming

Abandoning Changes at the End of an Editing Session

To abandon changes at the end of an editing session, use the following steps:

1. Press and hold <Exit/Clear> after all your changes to the 4005 programming are made (**A**).

A.
```
     ** Edit Buffer has CHANGED **
 [Cancel]    Restore CFIG    Save CFIG
```

B.
```
      ** Edit Buffer has CHANGED **
 Cancel    [Restore CFIG]    Save CFIG
```

C.
```
             ** Restoring CFIG **
 Press ENTER to Restore, EXIT to Cancel
```

**Figure 2-32. Typical Screens Used to Abandon
Changes at the End of an Editing Session**

2. Press <▶> or <◀> to choose [Restore CFIG] (**B**).

3. Press <Enter> (**C**).

4. Press <Enter> to confirm your selection or <Exit/Clear> to cancel.

   The 4005 clears the edit buffer information. You can now start a new edit session.

Canceling Editing Changes, *Continued*

Canceling Changes Anytime During Programming

To cancel changes anytime during programming, use the following steps:

1. To restore the CFIG, press <Menu>, <Next> until [Programming] is displayed (**A**), and then press <Enter>.

2. Press <Next> or <Previous> until [Restore CFIG] is displayed (**B**), and then press <Enter>.

A.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Menu:   [Programming]
```

B.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Programming:  [Restore CFIG]
```

C.
```
           ** Restoring CFIG **
   Press ENTER to Save, EXIT to Cancel
```

**Figure 2-33. Typical Screens Used to Cancel
Changes Anytime During Programming**

3. Press <Enter> to confirm your selection or <Exit/Clear> to cancel (**C**).

   The 4005 clears the edit buffer information. You can now start a new edit session .

Performing Basic Operations:
Changing Access Level

Changing Access Level

Use the following steps and Figure 2-34 to change an access level of the options listed in Table 2-6. For each of the specified options, you can change the access level of the option, from level 1 through level 4. You *cannot* set an access level higher than your current access level nor can you edit an access level that is higher than your logged on level.

Table 2-6. Default Access Levels for System Options

OPTIONS	DEFAULT ACCESS LEVEL
Alarm Silence	Level 1
System Reset	Level 1
Fire Ack	Level 1
Supervisory Ack	Level 1
Trouble Ack	Level 1
Set Time/Date	Level 2
Enable/Disable	Level 2
Control Points	Level 3
Clear Logs	Level 3
Walk Test	Level 3
Clear Verification Tallies	Level 3
Cold Start	Level 4

1. Follow Steps 1 through 3 under *Editing a Point Label.*

A.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Programming:  [Access Level]
```

B.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
System Options:  [Alarm Silence]
```

C.
```
Alarm Silence
New: [Level 1]        Current: Level 1
```

D.
```
Press ENTER to confirm, EXIT to cancel
New: [Level 2]        Current: Level 1
```
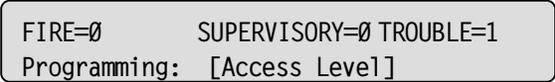
**Figure 2-34. Typical Screens Used to Change
Access Level**

2. Press <Next> or <Previous> to scroll through the menus until [Access Level] is displayed (**A**) and then press <Enter>.

Continued on next page

Changing Access Level, *Continued*

Changing Access Level
(Continued)

3. Press <Next> or <Previous> to choose the option to change (**B**) and then press <Enter>.

    The focus brackets (**[ ]**) appear in the **New:** field (**C**) of the display.

Note: When initially setting an access level, the level in the 'New:' field will reflect the 'Current:' field's setting.

4. Press <Next> or <Previous> to choose the new access level.

5. Press <Enter> to confirm your selection or <Exit/Clear> to cancel (**D**).

    "Access Level is updated" is displayed when selecting Enter.

Default Passcodes

The 4005 comes with three default passcodes.

*   2000 = Level 2 access
*   3000 = Level 3 access
*   4000 = Level 4 access (causes a Simplex Service Mode Trouble)

Changing Passcodes

Changing Passcodes

The passcode edit option allows you to customize the level passcodes.

1. Log into the 4005. Press <Menu>.

2. Press <Next> or <Previous> to scroll through the menu until [Programming] is displayed and then press <Enter>.

3. Press <Next> or <Previous> to scroll through the menus until [Passcode] is displayed (**A**) and then press <Enter>.

A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Programming:  [Passcode]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Edit Passcode:  [Level 2]
```

C.
```
Level 2
New Passcode: [Ø] * * *
```

D.
```
Re-Enter the Passcode to confirm Change
New Passcode: [Ø] * * *
```

Figure 2-35. Typical Screens Used to Change Passcodes

4. Press <Next> or <Previous> to choose which level passcode you wish to change (**B**) and then press <Enter>.

   The focus brackets (**[ ]**) appear around the first digit in the New Passcode: field (**C**) of the display.

Note: Passcodes always consist of four digits.

5. Press <Next> or <Previous> to scroll through the numbers for the first digit of the passcode.

6. Press < ▶ > or < ◀ > to move the focus brackets to the next digit of the passcode.

7. Repeat Steps 5 and 6 until all digits are correct and then press <Enter>.

8. Re-Enter the Passcode to Confirm Change using Steps 4 through 6 and then press <Enter> (**D**).

   The updated Passcode is displayed.

⚠ **Important:** **If the Level 4 Passcode is lost or forgotten, there is no way to retrieve it.**

Setting the Time and Date

Setting the Time and Date

To set the 4005's time and date follow the steps below.

1. Log in to the 4005.

2. Press <Menu> (**A**).

A.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Menu:   [View Point]
```

B.
```
FIRE=Ø          SUPERVISORY=Ø TROUBLE=1
Menu:   [Set Time/Date]
```

C.
```
          ** Set System Time **
          [11]:59:pm    Sun Ø8-Oct-95
```

D.
```
          ** Set System Time **
          11:[59]:pm    Sun Ø8-Oct-95
```
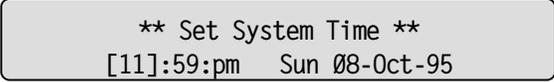
**Figure 2-36. Typical Screens Used to Set
the Time and Date**

3. Press <Next> or <Previous> to scroll through the menus until
   [Time Date] is displayed (**B**), and then press <Enter>.

   The focus brackets (**[ ]**) appear around the Hours in the time field (**C**).

4. Press <Next> or <Previous> to scroll through the numbers for the hours.

Note: Pay attention to AM or PM when setting the time in 12-Hour
format. The AM/PM field can not be selected.

5. Press <▶> or <◀> to move the focus brackets to the Minutes in the time
   field (**D**).

6. Press <Next> or <Previous> to scroll through the numbers for the
   minutes.

7. Press <▶> or <◀> to move the focus brackets to the Date in the date
   field (**E**).

Setting the Time and Date, *Continued*

Setting the Time and Date
(continued)

E.
```
        ** Set System Time **
    11:59:pm   Sun [Ø8]-Oct-95
```

F.
```
        ** Set System Time **
    11:59:pm   Sun Ø8-[Oct]-95
```

G.
```
        ** Set System Time **
    11:59:pm   Sun Ø8-Oct-[95]
```
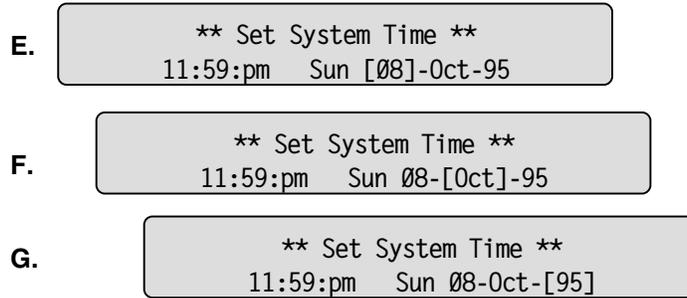
**Figure 2-37. Additional Screens Used to Set
the Time and Date**

8. Press <Next> or <Previous> to scroll through the numbers for the date.

    The 4005 will automatically pick which day the date falls on when setting
    the date is complete.

9. Press <▶> or <◀> to move the focus brackets to the Month in the date
    field (**F**).

10. Press <Next> or <Previous> to scroll through the months.

11. Press <◀> or <▶> to move the focus brackets to the Year in the date
    field (**G**).

12. Press <Next> or <Previous> to scroll through the numbers for the year
    and then press <Enter>.

    "Time and Date are updated" is displayed.

Notes: **1)** If you set the time and date before the time of the last
logged event, and you have sufficient access to clear the logs,
the warning shown in Figure 2-38 is displayed. If you then
press <Enter>, the logs are cleared.

```
WARNING! This action will clear the logs
 Press ENTER to continue, EXIT to cancel
```

Figure 2-38. Log Clearing Warning

2) If you set the time and date before the time of the last
logged event, and you DO NOT have sufficient access to clear
the logs, the warning shown in Figure 2-39 is displayed. The
4005 then returns to the Set Time Date screen.

```
Insufficient Access level! New Time/Date
 Invalidates the historical logs
```

Figure 2-39. Insufficient Access Level Warning

Cold Start

Executing a Cold Start

A Cold Start of the 4005 clears Historical Logs, Time/Date, and causes a Cold Start Trouble that clears upon acknowledgment. To execute a cold start perform the following steps and refer to Figure 2-40.

1. Log in to the 4005.

2. Press <Menu> (**A**).

A.
```
FIRE=0         SUPERVISORY=0 TROUBLE=1
Menu:   [View Point]
```
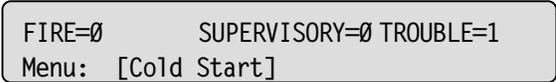
B.
```
FIRE=0         SUPERVISORY=0 TROUBLE=1
Menu:  [Cold Start]
```

C.
```
Press ENTER to Enable Cold Start.
Press EXIT to cancel
```

Figure 2-40. Typical Screens Used to Execute a Cold Start

3. Press <Next> or <Previous> to scroll through the menus until [Cold Start] is displayed (**B**) and then press <Enter>.

4. Press<Enter> to enable a cold start on the next press of the CPU Warm Start button located on the CPU board below the main display (see Figure 2-41) or press <Exit/Clear> to cancel (**C**).

   "Press CPU Reset to Perform Cold Start" is displayed.

2-41

Cold Start, *Continued*

Executing a Cold Start *(Continued)*

RS-232

P1

INT

P2

K1

EXT   DET

4 3 2 1

TB1

J2

LCD Data

J1

LCD Backlight

Main LCD Display

LED 1   LED 2   LED 3   LED 4   LED 5

P3

Membrane Keypad

J3

LEF POWER DISTRIBUTIO

U21

RIGH POWER DISTRIBUTIO

P4

U29

U31

4005 CPU BD ASSY 0565-469 B

R95   WARM

TP2

TP1

P6

TP3

P5

CITY1/DAC

U33

CITY

Warm Start (SW1)
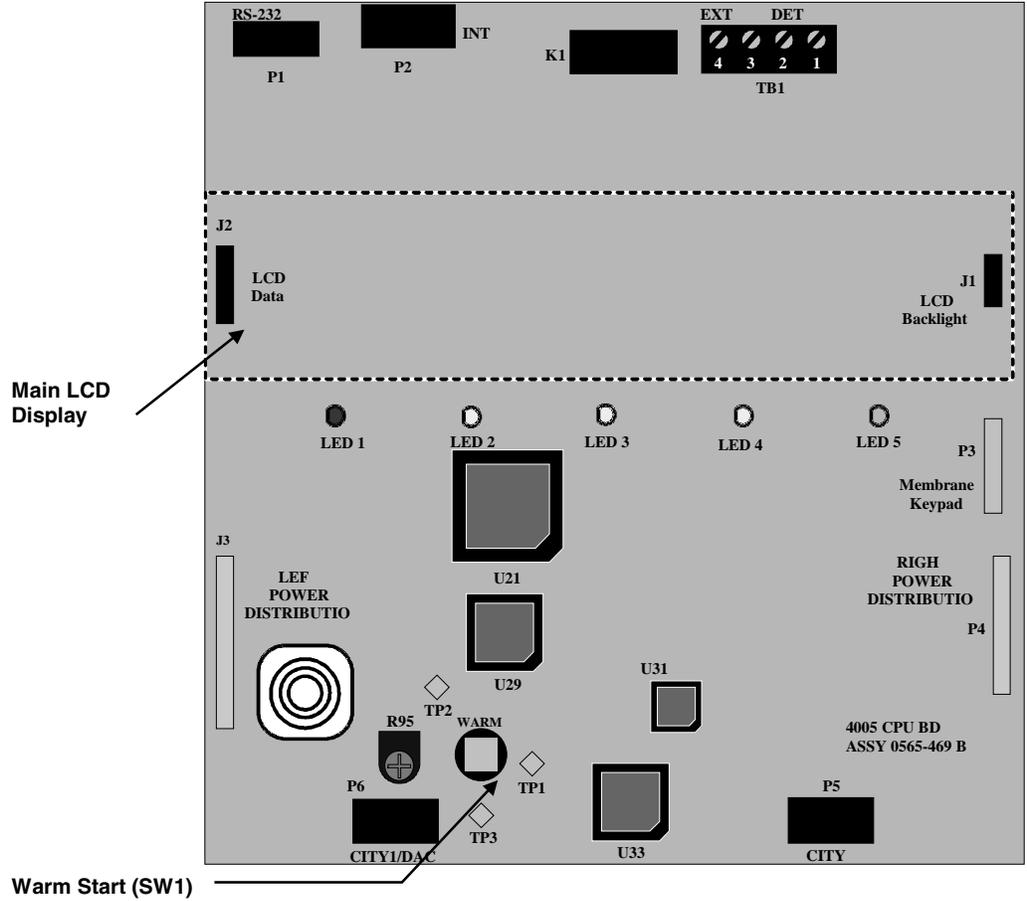
Figure 2-41. CPU Board

2-42

Operations Involving Lists: User Pseudo Points

User Pseudo Points

The following User Pseudo Points can be added to a List shown in Table 2-7 below.

Digital Pseudos (System Card Address 29)

- Digital Points 29-27 through 29-50 are User Definable as Utility point types.

Analog Pseudos (System Card Address 30)

- Analog Points 30-05 through 30-25 are User Definable as Analog point types.

List Pseudo Card (System Card Address 31)

- List Points are shown in Table 2-7.

Table 2-7. Point Numbers and Desciption

Point Number & Description	Point Type	Purpose
31-1 System Monitors and Manual Evacuation*	List	Contains all monitor zones and the manual evacuation pseudo point.
31-2 Waterflow Monitors*	List	Contains all waterflow monitors.
31-3 Sprinkler Monitors*	List	Contains all sprinkler monitors.
31-4 Primary Elevator Capture Monitors	List	User editable list for primary elevator capture monitor zones.
31-5 Alternate Elevator Capture Monitors	List	User editable list for alternate elevator capture monitor zones.
31-6 Points OFF with Silence	List	User editable list for points which turn OFF with a signal silence operation.
31-7 Points OFF with Reset	List	User editable list for points which turn OFF with a successful system reset.
31-8 through 31-25 User Definable	List	Open for specific job needs and requirements.

* Not User Editable

Adding Points to a List

Adding Points to a List

Use the following steps and Figure 2-42 to place points within a List.

1. Log in to the 4005.

2. Press <Menu> (**A**).

A.
```
FIRE=0        SUPERVISORY=0 TROUBLE=0
Menu:  [View Points]
```

B.
```
FIRE=0        SUPERVISORY=0 TROUBLE=0
Menu:  [Programming]
```

C.
```
FIRE=0        SUPERVISORY=0 TROUBLE=0
Programming:  [Edit Point]
```

D.
```
FIRE=0        SUPERVISORY=0 TROUBLE=0
Edit Point:  [List]
```

**Figure 2-42. Typical Screens Used to Add
Points to a List**

3. Press <Next> or <Previous> to scroll through the menu until [Programming] is displayed (**B**) and then press <Enter>.

4. Press <Next> or <Previous> to scroll through the menu until [Edit Point] is displayed (**C**) and then press <Enter>.

5. Press <Next> or <Previous> to scroll through the menu until [List] is displayed (**D**) and then press <Enter>.

6. Press <Next> or <Previous> to scroll through the points until the point you wish to edit is displayed (**E**) and then press <Function>.

E.
```
List: 8
```

F.
```
List 8
Control: [Add Point]
```

G.
```
Classroom 34
[Monitor]        ADD        1/6
```

H.
```
Classroom 34
Monitor        [ADD]        1/6
```

**Figure 2-43. Additional Screens Used to Add
Points to a List**

2-44

Adding Points to a List, *Continued*

Adding Points to a List
(continued)

7. Press <Next> or <Previous> to scroll through the menus until [Add Point] is displayed (**F**) and then press <Enter>.

8. Press <Next> or <Previous> to scroll through the types of points you wish to add to the list (**G**).

9. Press <▶> or <◀> to move the focus brackets to the ADD field (**H**).

10. Press <Next> or <Previous> to scroll through the different points for the point type chosen.

11. Press <Enter> to add the displayed point to a list. Repeat all steps to add points to other lists.

   "**Operation Complete**" is displayed.

Note: The User-Definable Point Lists are 8 through 25.

2-45

Chapter 3
Custom Control

Introduction

Custom Control is a programming language that is an English based version of the Simplex Multi-functional Programming Language (SMPL). Custom Control programming provides for creating custom functions such as selective signaling/control, cross zoning pre-signal, and many other possible functions.

Equations are written by the programmer to describe the various operations of the 4005 Fire Alarm System. Custom Control programming is used to customize the operation of some points while remaining points operate as general alarm points. Custom Control programming is 100% field-generated through the standard LCD/Membrane switch interface.

Custom Control Overview

The 4005 base panel is configured (and shipped) as a general alarm system. You must program the Custom Control option when more sophisticated operations are required.

Custom Control equations are developed to define specified operations. Each equation contains interrelated statements, which consists of the INPUT SIDE and OUTPUT SIDE. The 4005 will accept up to 40 programming equations, each consisting of up to six statements total.

Custom Control is used to customize the operation of an output, while the rest of the system continues to operate as a general alarm system. Custom Control also allows the user to modify the operation of points to be used in non-alarm functions. A point can be selected as a non-alarm, tracking (non-latching) point. This allows these points to be used for non-alarm applications such as emergency generator monitoring.

The 4005 has resident editing capability. Once the programming mode is selected, the Custom Control is programmed through a series of menu options. Custom Control equations are written for desired operation and are easily corrected. Once all the equations are entered, you can scroll through the Custom Control programming to review its contents. If errors are found, you can then insert new data or delete existing data. When you are satisfied with the program, you must exit the Custom Control mode to save all data to the 4005 CFIG chip.

Once programmed, and back on line, the 4005 handles its inputs and outputs differently. The 4005 checks to see what inputs and outputs have been changed by the Custom Control programmed equations. Outputs not used in the Custom Control program remain general alarm outputs. Outputs which have newly defined operations operate as specified in the Custom Control equations.

Important: Once an output is used in a Custom Control equation, it will no longer respond to the general alarm monitor points (for example, Walk Test will not activate Custom Control controlled points).

Custom Control, *Continued*

To Start Custom Control Programming

Follow Steps 1 through 4 to access the Custom Control program editor.

1. Log in at the appropriate level.

2. Press <Menu>.

3. Press <Previous> or <Next> until [Programming] (**A**) is displayed and then press <Enter>.

4. Press <Previous> or <Next> until [Custom Control] (**B**) is displayed and then press <Enter>.

A.
```
FIRE=0          SUPERVISORY=0 TROUBLE=1
Menu:  [Programming]
```

B.
```
FIRE=0          SUPERVISORY=0 TROUBLE=0
Programming:  [Custom Control]
```

Figure 3-1. Screens Used to Start Custom Control Programming

Custom Control Menu Navigation

Using <Next> and <Previous>, you can scroll through all the existing equations of the Custom Control program.

Note: All insertions are done above the current location.

If you wish to create a new equation before the first equation in the program, press <Next> to scroll to Equation 1 and then select Insert. When the new equation has been created and saved it will become Equation 1 and all other equations are incremented by 1.

If you wish to add a new equation to the end of the program, press <Next> or <Previous> until ** End of Program ** is displayed on the screen. Select Insert from the menu to create a new equation at the end of the current equation list with the number of the last equation plus 1.

Note: Selecting Insert does NOT change the current focus. That is, if you insert at the *end of program* marker when the action is completed, the current focus is still at the ** End of Program ** marker. This facilitates sequentially entering a program when none is present or adding a sequence of equations within the existing program.

Custom Control, *Continued*

Custom Control Menu Navigation *(Continued)*

When you enter Custom Control programming you see one of the screens in Figure 3-2. (**A**) shows the active equation number and how many equations exist in the program. (**B**) is displayed if no equations exist in the database or when you have scrolled past the last equation in the program.

A.
```
Equation 1                           1/4
[Edit]   Insert   Delete
```

B.
```
** End of Program **
[Edit]   Insert   Delete
```
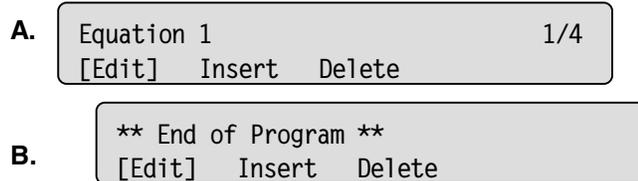
Figure 3-2. Equation Screens

Note: You are required to select the 'Insert' option to create a new equation. If you attempt to edit or delete the ** End of Program ** marker, an error message is displayed.

Equation Level

Enter the equation level by selecting an existing equation to edit or insert a new equation. When creating a new equation, you are shown an empty equation with the active indicator (signified by a leading asterisk [∗]) on the *End of Input* marker (remember: all inserts go above the current focus).

An empty equation consists of the "Input Side" header, the "End of Input" marker, and the "End of Output" marker (**A**). If an equation exists, you are shown the first input statement in the equation (**B**).

A.
```
*1: End of Input
[Edit]   Insert   Delete   Save Equation
```

B.
```
* NOT FIRE 18-01
[Edit]   Insert   Delete   Save Equation
```
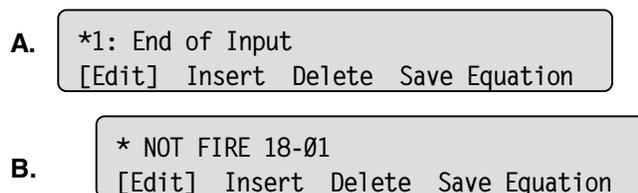
Figure 3-3. Equation Level Screens

Press <Next> and <Previous> to scroll through the statements of the selected equation.

When the active statement to be modified is displayed (indicated by '∗'), you enter the statement level by pressing <Enter> or by pressing < ▲ > or < ▼ > to move the focus brackets ([ ]) to select another menu option and then press <Enter>.

The menu options are:
- Edit: To change the current statement.
- Insert: To create a new statement ABOVE the current statement.
- Delete: To remove the current statement from the equation.
- Save Equation: To update the program with the new equation and return to the program level.

Custom Control, *Continued*

Custom Control Level

After entering the statement level you can work on the individual parts of a Custom Control statement. The display shows the current statement on the top line with the current "field" of the statement marked with focus brackets ([ ]). The current option selection is shown in focus brackets on the lower line of the display.

Use <▲> or <▼> to move between the statement fields on the top line and <Next> and <Previous> to scroll through the options for the current field (and display the new selection) on the lower line. Press <Enter> to move the new option from the lower line to the selected field in the top line. This also moves the field focus to the next field.

Equations

A total of 40 Custom Control equations are possible in the 4005. A Custom Control equation consists of up to six statements. Each equation consists of two sides: an INPUT SIDE and an OUTPUT SIDE. An equation can be better understood as an "IF/THEN" command. "IF" the INPUT SIDE is true, "THEN" execute the OUTPUT SIDE.

Each equation is made up of one or more input statement and one or more output statement (for a total of six statements). The equation in Figure 3-4 has four statements: two input statements and two output statements.

```
              ┌  Input Statement
              │  Input Statement
              │            End of Inputs
Equation  ────┤  Output Statement
              │  Output Statement
              └            End of Outputs
```
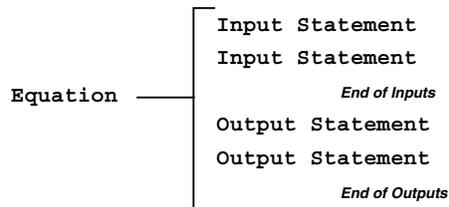
Figure 3-4. An Equation

Input Side (IF)

Each input statement is made up of four fields.

```
                    Field 1        Field 2       Field 3       Field 4
FIRST STATEMENT    [    ]         [NOT]         [FIRE]       [Ø3-Ø1]
```

Empty field starts a Custom Control equation

Optional NOT operator

Condition qualifier for field 4

Point
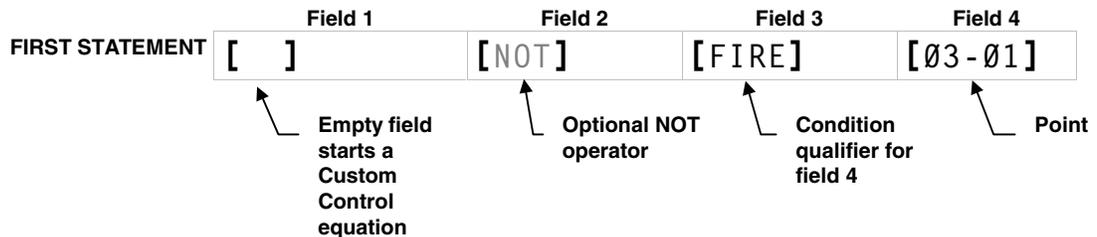
Figure 3-5. The Four Fields of an Input Statement

3-4

Input Field 1

Input Field 1	Field 1 is always empty in the first statement of any Custom Control equation. In subsequent statements, Field 1 will contain one of the two Link operators:

- AND – which links the statement in "Series" with *all* previous statements

- OR – which links the statement in "Parallel" with *all* previous statements

The AND Link Operator	The AND Link operator links the current statement in Series with *all* previous statements in an equation (see Figure 3-6).

	Field 1	**Field 2**	**Field 3**	**Field 4**
FIRST STATEMENT	[ ]	[ ]	[FIRE]	[03-01]

	Field 1	**Field 2**	**Field 3**	**Field 4**
SECOND STATEMENT	[AND]	[ ]	[FIRE]	[03-02]
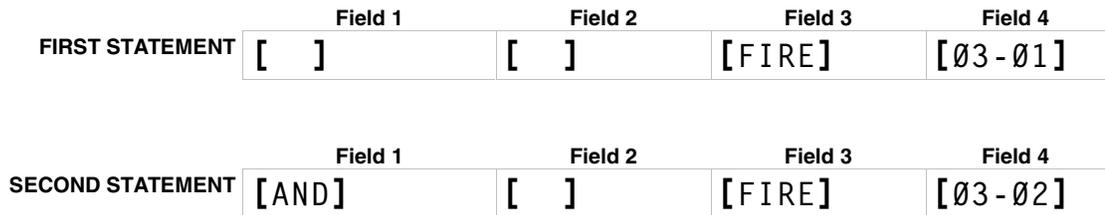
Figure 3-6. The AND Link

In Figure 3-6, IF the condition of 03-01 is Fire AND the condition of 03-02 is Fire, then the INPUT SIDE is true. Another way to look at this equation is shown in Figure 3-7. In order to cross from the INPUT SIDE of the equation to the OUTPUT SIDE, *both* of the statements must be true.
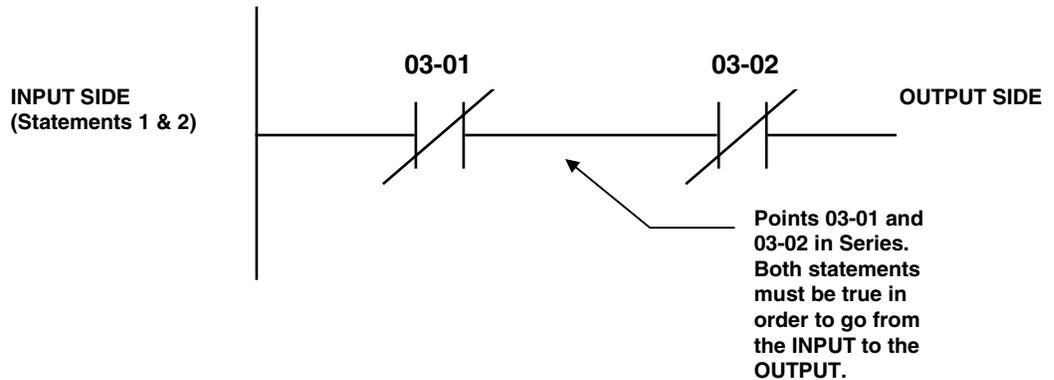
Figure 3-7. An Example of How the AND Link Works

3-5

Input Field 1, *Continued*

The OR Link operator

The OR Link operator links the current statement in Parallel with *all* previous statements in an equation (see Figure 3-8).

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[FIRE]	[03-01]

	Field 1	Field 2	Field 3	Field 4
SECOND STATEMENT	[OR]	[ ]	[FIRE]	[03-02]

Figure 3-8. The OR Link

In Figure 3-9, IF the condition of 03-01 is Fire OR the condition of 03-02 is Fire, then the INPUT SIDE is true. In order to cross from the INPUT SIDE of the equation to the OUTPUT SIDE, *one* of the statements (03-01 or 03-02) must be true.
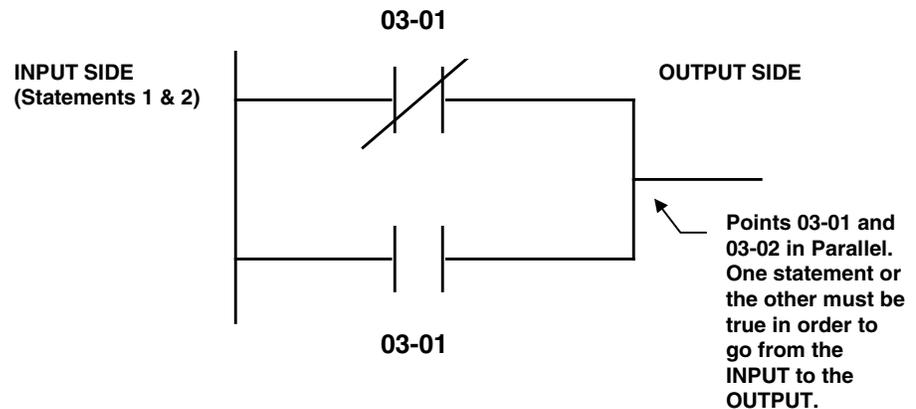
Figure 3-9. An Example of How the OR Link Works

Continued on next page

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Using the AND Operator first and the OR Operator second

In Figure 3-10 the first and second statements are linked in Series and the third statement is linked in Parallel with the first and second statements. **Remember, a Link operator links that statement with *all* previous statements, not just the statement before it.**

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[FIRE]	[Ø3-Ø1]

	Field 1	Field 2	Field 3	Field 4
SECOND STATEMENT	[AND]	[ ]	[FIRE]	[Ø3-Ø2]

	Field 1	Field 2	Field 3	Field 4
THIRD STATEMENT	[OR]	[ ]	[FIRE]	[Ø3-Ø3]

Figure 3-10. An Example of an And Link First and an OR Link Second

In Figure 3-11, IF the condition of 03-01 is Fire AND the condition of 03-02 is Fire, OR the condition of 03-03 is Fire, then the INPUT SIDE is true. In order to cross from the INPUT SIDE of the equation to the OUTPUT SIDE, the first *and* second statements (together) *or* the third statement must be true.

Points 03-01 and 03-02 (in Series) are Parallel with 03-03. 03-01 & 03-02 must be true (together) or 03-03 must be true in order to go from the INPUT to the OUTPUT.

03-01   03-02

INPUT SIDE
(Statements 1,2, & 3)

OUTPUT SIDE

03-03
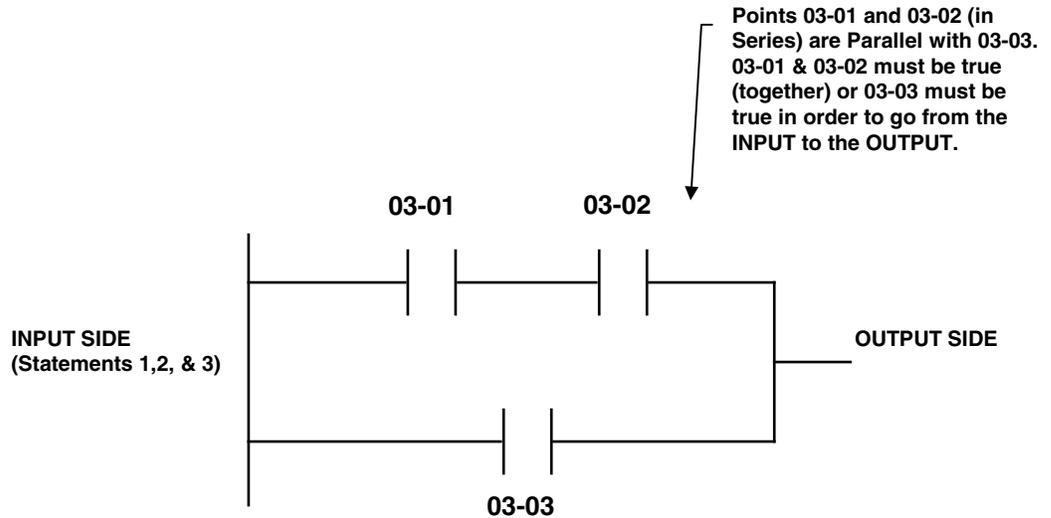
Figure 3-11. A Series and Parallel Statement

3-7

Input Field 1, *Continued*

Using the OR Operator first and the AND Operator second

In Figure 3-12 the first and second statements are linked in Parallel and the third statement is linked in Series with the first and second statements. **Remember, a Link operator links that statement with *all* previous statements, not just the statement before it.**

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[FIRE]	[Ø3-Ø1]

	Field 1	Field 2	Field 3	Field 4
SECOND STATEMENT	[OR]	[ ]	[FIRE]	[Ø3-Ø2]

	Field 1	Field 2	Field 3	Field 4
THIRD STATEMENT	[AND]	[ ]	[FIRE]	[Ø3-Ø3]

Figure 3-12. A Parallel and Series Statement

In Figure 3-13, IF the condition of 03-01 is Fire OR the condition of 03-02 is Fire, AND the condition of 03-03 is Fire, then the INPUT SIDE is true. In order to cross from the INPUT SIDE of the equation to the OUTPUT SIDE, the first *or* second statements *and* the third statement must be true.
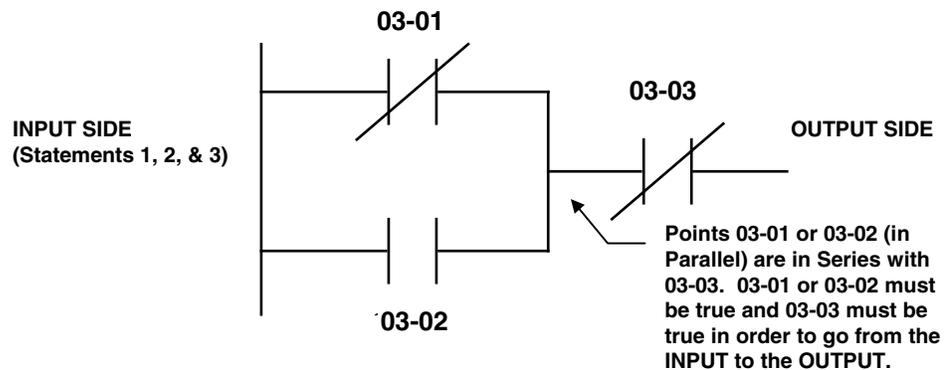
Figure 3-13. A Parallel Statement in Series with a Series Statement

3-8

Input Field 2

Overview

Field 2 can be empty or contain the negative operator NOT. NOT is shown in Figure 3-5 to state: IF point 03-01 is <u>NOT</u> in a FIRE condition, THEN the statement is true.

Using the AND and NOT Operators

The AND Link operator links the current statement in Series with *all* previous statements in an equation (see Figure 3-14).

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	`[     ]`	`[     ]`	`[FIRE]`	`[03-01]`

	Field 1	Field 2	Field 3	Field 4
SECOND STATEMENT	`[AND]`	`[NOT]`	`[FIRE]`	`[03-02]`

Figure 3-14. The NOT Operator

In Figure 3-15, if the condition of 03-01 is Fire AND the condition of 03-02 is NOT Fire then the INPUT SIDE is true. In order to cross from the INPUT SIDE of the equation to the OUTPUT SIDE, the first and second statements must be true.

Note: The NOT gate is shown as a normally closed contact. This statement is true because there is a path from the Input to the Output.
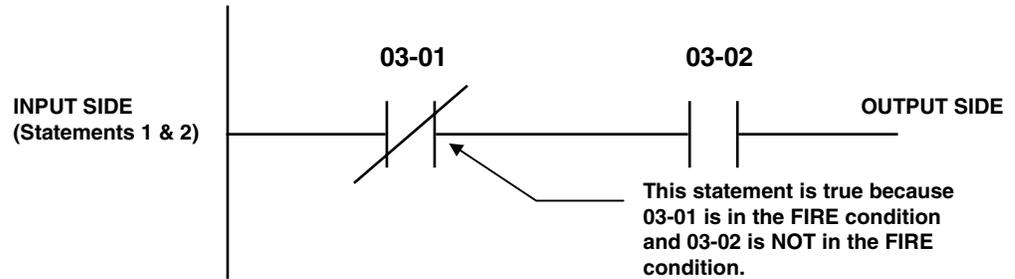
Figure 3-15. An Example of How the NOT Operator Works In Series

Input Field 2, *Continued*

Using the OR and NOT Operators

The OR Link operator links the current statement in Parallel with *all* previous statements in an equation (see Figure 3-16).

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[FIRE]	[Ø3-Ø1]

	Field 1	Field 2	Field 3	Field 4
SECOND STATEMENT	[OR]	[NOT]	[FIRE]	[Ø3-Ø2]

Figure 3-16. An OR Link and a NOT Operator

In Figure 3-17, if the condition of 03-01 is Fire OR the condition of 03-02 is NOT Fire then the INPUT SIDE is true. In order to cross from the INPUT SIDE of the equation to the OUTPUT SIDE, the first or the second statement must be true.

Note: The NOT gate is shown as a normally closed contact. This statement is true because there is a path from the Input to the Output.

03-01

INPUT SIDE
(Statements 1 & 2)

OUTPUT SIDE

This statement is true because 03-01 is not in the FIRE condition and 03-02 is not in the FIRE condition.

03-02
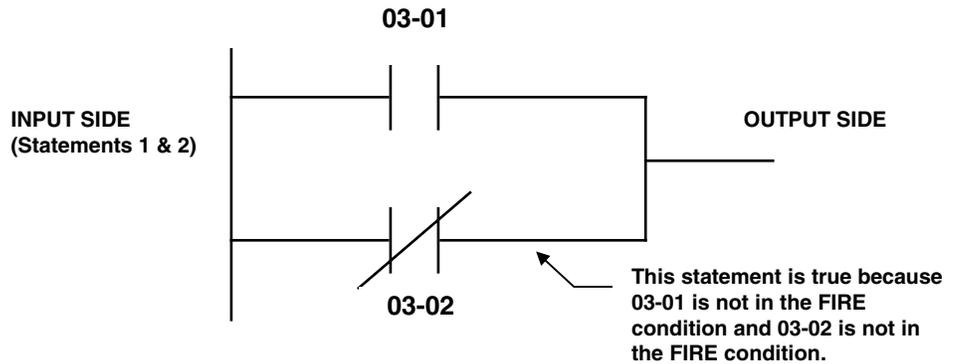
Figure 3-17. An Example of How the NOT Operator Works In Parallel

3-10

Input Field 3 and Input Field 4

Overview

Field 3 contains the condition qualifier for the point listed in Field 4; Field 4 options change per Condition Qualifier selected.

Using the FIRE Qualifier

When using the input condition qualifier FIRE, a statement is true when the point indicated in Field 4 is activated. Field 4 Choices for the FIRE qualifier are:

- System Card Points
- Digital Pseudo Points

Note: The statement holds true until the system is reset.

When the condition of 03-01 is FIRE, the input is true, and the output is executed. If the system is *not* reset, and the condition of 03-02 becomes FIRE after 03-01, the system outputs ignore 03-02. In other words, if the output executes from the FIRE condition of 03-01, the output does not re-execute from the FIRE condition of 03-02.

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	`[     ]`	`[    ]`	`[FIRE]`	`[Ø3-Ø1]`

	Field 1	Field 2	Field 3	Field 4
SECOND STATEMENT	`[OR]`	`[    ]`	`[FIRE]`	`[Ø3-Ø2]`

Figure 3-18. An Example Where the First and the Second Statement Both Contain the Condition FIRE

Example: *The condition of 03-01 is FIRE. The 4005 is reset from the Fire Alarm Control Panel (FACP). After the system is reset (and there are no alarms) the condition of 03-02 is FIRE. The appropriate notification appliances now activate for the FIRE condition of 03-02.*

Input Field 3 and Input Field 4, *Continued*

Using the FIRE DET Qualifier

When using the input condition qualifier FIRE DET (Fire Detect), a statement is true when the point indicated in Field 4 is activated. Field 4 Choices for the FIRE DET qualifier are:

- System Card Points

- Digital Pseudo Points

Note: When using the FIRE DET Qualifier, the statement holds true for ½ second. This allows the output to re-execute after a signal silence.

When the condition of 03-01 is FIRE DET, the input is true for ½ second and the output is executed. If the condition of 03-02 becomes FIRE DET after 03-01, the system re-executes the output. In other words, if the output executes from the FIRE DET condition of 03-01, the output re-executes from the FIRE DET condition of 03-02.

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[FIRE DET]	[Ø3-Ø1]

	Field 1	Field 2	Field 3	Field 4
SECOND STATEMENT	[OR]	[ ]	[FIRE DET]	[Ø3-Ø2]

Figure 3-19. An Example Where Fire Detect Re-executes

Example: *The condition of 03-01 is FIRE DET. The appropriate notification appliances are silenced from the FACP. After the notification appliances are silenced the condition of 03-02 is FIRE DET. The notification appliances now resound for the FIRE DET condition of 03-02.*

Input Field 3 and Input Field 4, *Continued*

Using the FIRE ACK Qualifier

When using the input condition qualifier FIRE ACK (Fire Acknowledge), a statement is true when the point indicated in Field 4 is activated. Field 4 Choices for the FIRE ACK qualifier are:

- System Card Points
- Digital Pseudo Points

Note: The statement holds true until the point indicated in Field 4 is Acknowledged. The Output operator used for the example below is TRACK.

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[FIRE ACK]	[03-01]

	Field 1	Field 2	Field 3	Field 4
SECOND STATEMENT	[ ]	[ ]	[FIRE ACK]	[03-02]

Figure 3-20. An Example Where the First and the Second Statement Both Contain the Condition FIRE ACK

Example: *The condition of 03-01 is FIRE ACK. The input of the equation remains true until the point indicated in Field 4 is acknowledged from the FACP. The same holds true for 03-02.*

Using the SUPV Qualifier

When using the input condition qualifier SUPV (Supervisory), a statement is true when the point indicated in Field 4 is activated. Field 4 Choices for the SUPV qualifier are:

- System Card Points
- Digital Pseudo Points

Note: The statement holds true until the point indicated in Field 4 clears.

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[SUPV]	[03-01]

Figure 3-21. An Example That Contains the Condition SUPV

Example: *The condition of 03-01 is SUPV. The input of the equation remains true until the point indicated in Field 4 is cleared.*

Input Field 3 and Input Field 4, *Continued*

Using the SUPV ACK Qualifier

When using the input condition qualifier SUPV ACK (Supervisory Acknowledge), a statement is true when the point indicated in Field 4 is activated. Field 4 choices for the SUPV ACK qualifier are:

- System Card Points

- Digital Pseudo Points

Note: The statement holds true until the point indicated in Field 4 is Acknowledged.

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[SUPV ACK]	[03-01]

Figure 3-22. An Example That Contains the Condition SUPV ACK

Example: *The condition of 03-01 is SUPV ACK. The input of the equation remains true until the point indicated in Field 4 is acknowledged from the FACP.*

Using the TBL Qualifier

When using the input condition qualifier TBL (Trouble), a statement is true when the point indicated in Field 4 is in trouble. Field 4 choices for the TBL qualifier are:

- CPU Card Points

- System Card Points

- Power Supply Points

- Digital Pseudo Points

Note: The statement holds true until the point indicated in Field 4 not in trouble.

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[TBL]	[03-01]

Figure 3-23. An Example That Contains the Condition TBL

Example: *The condition of 03-01 is TBL. The input of the equation remains true until the point indicated in Field 4 is not in trouble.*

3-14

Input Field 3 and Input Field 4, *Continued*

Using the TBL ACK Qualifier

When using the input condition qualifier TBL ACK (Trouble Acknowledge), a statement is true when the point indicated in Field 4 is in trouble. Field 4 choices for the TBL ACK qualifier are:

[1]

- CPU Card Points

- System Card Points

- Power Supply Points

- Digital Pseudo Points

Note: The statement holds true until the point indicated in Field 4 (in trouble) is Acknowledged.

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[TBL ACK]	[Ø3-Ø1]

Figure 3-24. An Example That Contains the Condition TBL ACK

Example: *The condition of 03-01 is TBL ACK. The input of the equation remains true until the point indicated in Field 4 is acknowledged from the FACP.*

Using the ON/CODE and OFF Qualifiers

When using the input condition qualifier ON/CODE (On Coding), a statement is true when the point indicated in Field 4 is On or Coding. Field 4 choices for the ON/CODE qualifier are:

- CPU Card Points

- System Card Points

- Power Supply Points

- Digital Pseudo Points

- Analog Pseudo Points

Note: The statement holds true until the point indicated in Field 4 is OFF.

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[ON/CODE]	[Ø3-Ø1]

Figure 3-25. An Example That Contains the Condition Qualifier ON/CODE

Example: *The condition of 03-01 is ON/CODE. The input of the equation remains true until the point indicated in Field 4 is OFF.*

Input Field 3 and Input Field 4, *Continued*

Using the ON/CODE and OFF Qualifiers *(Continued)*

When using the input condition qualifier OFF, a statement is true when the point indicated in Field 4 is OFF. Field 4 choices for the OFF qualifier are:

- CPU Card Points

- System Card Points

- Power Supply Points

- Digital Pseudo Points

- Analog Pseudo Points

Note: The statement holds true until the point indicated in Field 4 is ON or Coding.

	Field 1	Field 2	Field 3	Field 4
FIRST STATEMENT	[ ]	[ ]	[OFF]	[Ø3-Ø1]

Figure 3-26. An Example That Contains the Condition OFF

Example: *The condition of 03-01 is OFF. The input of the equation remains true until the point indicated in Field 4 is ON or Coding.*

Second Stage Fields

The COMP CNST, ANY, ALL, and DELAY CNST Qualifiers

The COMP CNST (Compare Constant), ANY, ALL, and DELAY CNST input condition qualifiers are two-stage qualifiers. Additional programming is necessary in order for these qualifiers to work correctly. When selecting these qualifiers, you must press Enter to program the second stage. In this second stage there are four additional fields with the following choices: Analog Points, numbers, relational qualifiers, and Lists. The choices for the different fields are related directly to the qualifier selected.

Using the COMP CNST Qualifier

When using the input condition qualifier COMP CNST, a statement is true when the value of the Analog Pseudo point in Field B is the proper relationship (dictated by the Field C relational qualifier) to the number in Field D (see Figure 3-27). The choices for Fields B, C, and D are as follows:

- Field B – Analog Pseudo points 20-01 through 20-25 (20-05 through 20-25 are reserved for future use)

- Field C – Relational Qualifiers **EQ** (Equal), **NE** (Not Equal), **GT** (Greater Than), **LT** (Less Than), **GE** (Greater Than or Equal), and **LE** (Less Than or Equal)

- Field D – Number Value (00000 to 65535)
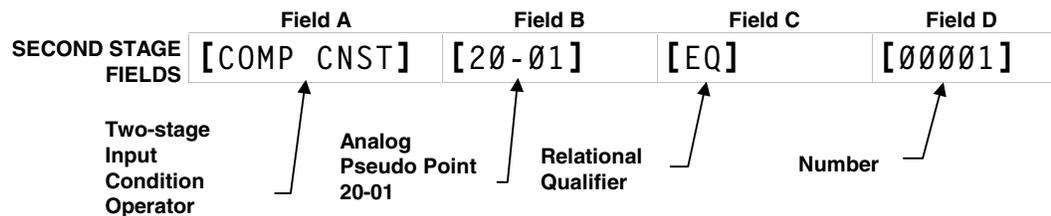
Figure 3-27. An Example Using the Input Condition Qualifier COMP CNST

Example: *When the value of the Analog Pseudo point equals 1, then execute the output.*

Second Stage Fields, *Continued*

Using the ANY Qualifier

When using the input condition qualifier ANY, a statement is true when the specified number of points from Field B equals the number of points in the List identified in Field D that are in the condition specified by Field C. The choices for Fields B, C, and D are as follows:

- Field B – Point number value 001 to 255

- Field C – Conditions FIRE ACK, SUP ACK, TBL ACK, FIRE, SUP, TBL, ON IN, ON CODE, PHY NRM, PHY ABN, PHY SHR, FIRE DET, DISABLE, MAN

- Field D – List Points 22-01 through 22-25
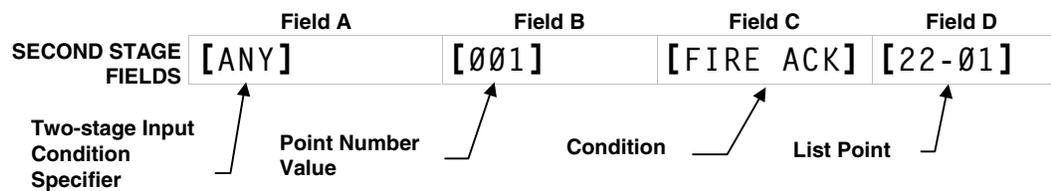
Figure 3-28. An Example Using the Input Condition Qualifier ANY

Example: *When any one (1) point's condition in the List 22-01 is FIRE ACK, then execute the output.*

Using the ALL Qualifier

Note: When choosing the ALL condition qualifier, there are only three fields open for programming.

When using the input condition qualifier ALL, a statement is true when all points specified in Field C are in the condition specified in Field B. The choices for Fields B and C are as follows:

- Field B —Conditions FIRE ACK, SUP ACK, TBL ACK, FIRE, SUP, TBL, ON IN, ON CODE, PHY NRM, PHY ABN, PHY SHR, FIRE DET, DISABLE, MAN

- Field C —List Points 22-01 through 22-25
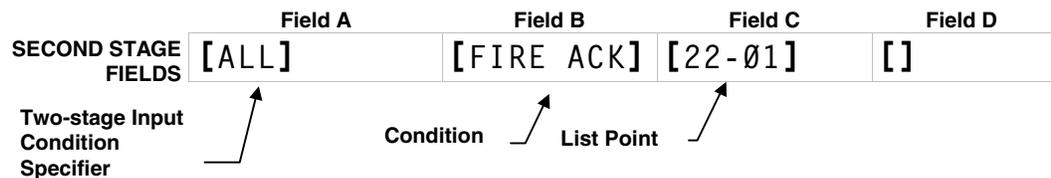
Figure 3-29. An Example Using the ALL Condition Qualifier

Example: *When all points in List 22-01 are in the condition of FIRE ACK, then execute the output.*

Second Stage Fields, *Continued*

Using the DELAY CNST Qualifier

When using the input condition qualifier DELAY CNST, and the input statement is true, the output action is delayed for a specified amount of time.

Note: The input must be true for the entire delay time specified.

	Field A	Field B	Field C	Field D
SECOND STAGE FIELDS	[DELAY CNST]	[20-05]	[00020]	[03-01]

Two-stage Input Condition Specifier

Point

Specified Delay Time
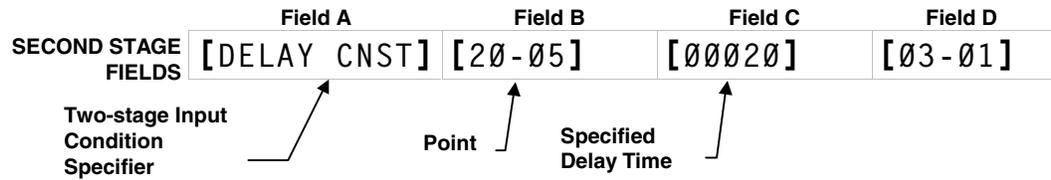
Figure 3-30. An Example Using the Input Condition Qualifier DELAY CNST

Output Statements

Output Side (THEN)

Each output statement is made up of three fields.
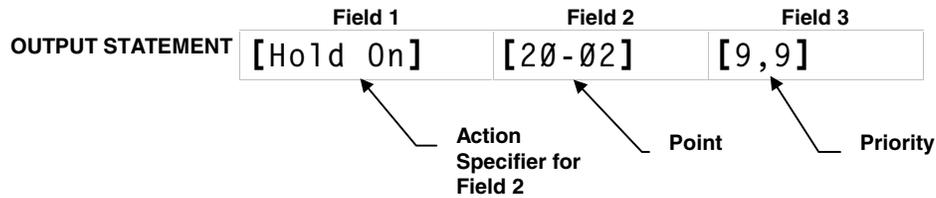
Figure 3-31. The Three Fields in an Output Statement

Output Field 1

Field 1 is the Action Operator for the Output. Field 1 contains the Action Operators described in Table 3-1. These operators are used to define the action of the output device specified in Field 2.

Table 3-1. Field 1 Action Operators

Action Operator	Description	Input/Output Conditions
TRACK ON	Track Point ON	When Input is TRUE; Output turns ON When Input is FALSE; Output turns OFF
TRACK OFF	Track Point OFF	When Input is TRUE; Output turns OFF When Input is FALSE; Output turns ON
HOLD ON	Hold Point ON	When Input is TRUE; Output turns ON and stays ON Output only turns off with another equation or with a system reset
HOLD OFF	Hold Point OFF	When Input is TRUE; Output turns OFF and stays OFF Output only turns on with another equation or with a system reset
ACK	Acknowledge Point	When Input is TRUE; Output is acknowledged
S MARCH	Slow March Output	When Input is TRUE; Output cycles on at 20 beats per minute
MARCH	March Output	When Input is TRUE; Output cycles on at 120 beats per minute
TEMPORAL	Temporal Output	When Input is TRUE; Output cycles in a pattern of three (½ sec. Pulse, ½ sec. Silence) cycles separated by 1½ sec. Of silence. The output continues until Reset.

Output Field 2

When using any action operator, Field 2 choices are:

- CPU Card Points 00-01 through 00-17
- System Card Points 18-01 through 27-*xx* (where *xx* is the point number)
- Power Supply Points 28-01 through 28-15
- Digital Pseudo Points 29-01 through 29-50
- List Pseudo Points 31-01 through 31-25

3-20

Output Statements, *Continued*

Output Field 3

Field 3 contains the Set and Reset Priorities of control equipment (relays). This eliminates confusion of when a point is under control of one statement and another statement tries to take control (see Figure 3-32).

	Field 1	Field 2	Field 3
OUTPUT STATEMENT	[Hold On]	[20-02]	[9,9]

Action Specifier for Field 2 — Point — Set Priority — Reset Priority
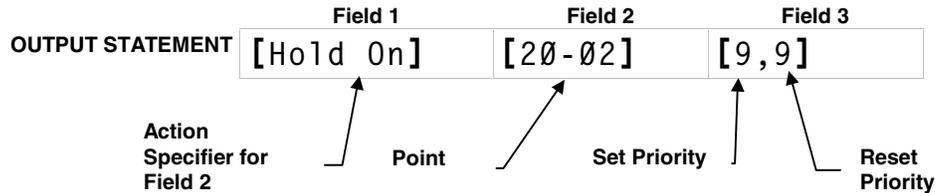
Figure 3-32. Field 3 Showing the Set and Reset Priorities

In Figure 3-32, point 20-02 will HOLD ON (IF the Input is true) at a Set priority of 9. This Output statement maintains control of this point until another output statement with an equal (9) or greater Set priority takes over. The possible ranges for a priority are from 1 to 15, 1 being the highest and 15 being the lowest priority. By default, the priority is 9. When changing a priority, press Function and then press <▲> to place the cursor under the Set priority. Use <Next> and <Previous> to scroll through the priorities. Press <▼> to place the cursor under the Reset priority. Use <Next> and <Previous> to scroll through the priorities and then press <Enter> to program the priorities selected.

3-21

Chapter 4
Common Simplex Multi-functional Programming Language (SMPL) Applications

Introduction

This chapter discusses some common Simplex Multi-functional Programming Language (SMPL) applications.

Selective Signals by Floor

In the following example any activated initiating device (e.g., smoke detectors and pull stations) on the first floor energizes the signals (e.g., horns) on the first floor. Initiating devices on the second floor energizes the signals on the second floor, and so on. Signals will March Time until silenced by the alarm silence key.

1) Edit a NAC/Relay card and assign NAC circuits as Signal points (see the *Edit Card, Modify I/O Card Devices* section of this publication).

2) Change the point type (see the *Edit Points, Edit Point Type* section of this publication).

3) Change the custom label of the point (see the *Edit Points, Edit Point Label* section of this publication).

4) Add the signal to the "Control Points, OFF with Silence" List 31-06 (see the *Lists, Add Points to a List* section of this publication).

5) Add the following SMPL equations (see the *To Start SMPL Programming* section of this publication):

Selective Signals by Floor - Equation 1

Equation	Point Label	Point Type
FIRE DET 18-Ø1	1st Floor East Wing	
OR FIRE DET 18-Ø2	1st Floor East Wing	
End of Input		
MARCH 20-Ø1 Pri 9,9	1st Floor East Wing	Signal
End of Output		

Selective Signals by Floor - Equation 2

Equation	Point Label	Point Type
FIRE DET 18-Ø3	2nd Floor East Wing	
OR FIRE DET18-Ø4	2nd Floor East Wing	
End of Input		
MARCH 20-Ø2 Pri 9,9	2nd Floor East Wing	Signal
End of Output		

SMPL Language Applications, *Continued*

Selective Signals by Floor
(continued)

If there are multiple zones on a floor, you may wish to have the zones on each floor assigned to a List. Then have this list turn ON the signal circuits.

Create a user List for each floor (Lists 31-08 through 31-25 are user defined List Pseudo Points). The List should contain all Monitor zones on the floor. Don't forget to add a label for each List created.

Add the following equations:

Selective Signals by Floor - Equation 3

Equation	Point Label	Point Type
ANY 1 FIRE DET 31-08	1st Floor East Wing Zones	
End of Input		
MARCH 20-01 Pri 9,9	1st Floor East Wing Sig.	Signal
End of Output		

Selective Signals by Floor - Equation 4

Equation	Point Label	Point Type
ANY 1 FIRE DET 31-09	2nd Floor East Wing Zones	
End of Input		
MARCH 20-02 Pri 9,9	2nd Floor East Wing Sig.	Signal
End of Output		

SMPL Language Applications, *Continued*

Selective Signals by Zone

In the following example any activated initiating device in the East Wing (e.g., smoke detectors and pull stations) energizes the signals (e.g., horns) in the East Wing only. Initiating devices in the Corridor energize the signals in the corridor only, and so on. Signals will sound steady until silenced by the alarm silence key.

1. Edit a NAC/Relay card and assign NAC circuits as Signal points (see the *Edit Card, Modify I/O Card Devices* section of this publication).

2. Change the point type (see the *Edit Points, Edit Point Type* section of this publication).

3. Change the custom label of the point (see the *Edit Points, Edit Point Label* section of this publication).

4. Add the signal to the "Control Points, OFF with Silence" List 31-06 (see the *Lists, Add Points to a List* section of this publication).

5. Add the following SMPL equations (see the *To Start SMPL Programming* section of this publication):

Selective Signals by Zone - Equation 1

Equation	Point Label	Point Type
FIRE 18-01	East Wing Init. Devices	
End of Input		
HOLD 20-01 Pri 9,9	East Wing Horns	Signal
End of Output		

Selective Signals by Zone - Equation 2

Equation	Point Label	Point Type
FIRE 18-03	Corridor Init. Devices	
End of Input		
HOLD 20-02 Pri 9,9	Corridor Horns	Signal
End of Output		

SMPL Language Applications, *Continued*

Selective Signal Operation for Fire Floor, Floor Above, and Floor Below

In the following example any activated initiating device (e.g., smoke detectors and pull stations) on a particular floor energizes the signals (e.g., horns) on that floor, the floor above that floor, and the floor below that floor. Signals sound steady until silenced by the alarm silence key.

1) Edit a NAC/Relay card and assign NAC circuits as Signal points (see the *Edit Card, Modify I/O Card Devices* section of this publication).

2) Change the point types (see the *Edit Points, Edit Point Type* section of this publication).

3) Change the custom labels of the points (see the *Edit Points, Edit Point Label* section of this publication).

4) Add the signals to the "Control Points, OFF with Silence" List 31-06 (see the *Lists, Add Points to a List* section of this publication).

5) Add the following SMPL equations (see the *To Start SMPL Programming* section of this publication):

Selective Signal - Equation 1 (Fire Floor Above, Floor Below)

Equation	Point Label	Point Type
ANY 1 FIRE DET 31-08	1st Floor East Wing Zones	
End of Input		
HOLD 31-09 Pri 9,9	1st Floor East Wing Sig.	Signal
HOLD 31-11 Pri 9,9	2nd Floor East Wing Sig.	Signal
End of Output		

Selective Signal - Equation 2 (Fire Floor Above, Floor Below)

Equation	Point Label	Point Type
ANY 1 FIRE DET 31-10	2nd Floor East Wing Zones	
End of Input		
HOLD 31-11 Pri 9,9	2nd Floor East Wing Sig.	Signal
HOLD 31-13 Pri 9,9	3rd Floor East Wing Sig.	Signal
HOLD 31-09 Pri 9,9	1st Floor East Wing Sig.	Signal
End of Output		

Selective Signal - Equation 3 (Fire Floor Above, Floor Below)

Equation	Point Label	Point Type
ANY 1 FIRE DET 31-12	3rd Floor East Wing Zones	
End of Input		
HOLD 31-13 Pri 9,9	3rd Floor East Wing Sig.	Signal
HOLD 31-15 Pri 9,9	4th Floor East Wing Sig.	Signal
HOLD 31-11 Pri 9,9	2nd Floor East Wing Sig.	Signal
End of Output		

SMPL Language Applications, *Continued*

Selective Relay Control for Fan/Damper Operation

The following steps and SMPL equations will Negatively pressurize the fire floor and Positively pressurize the floor above and the floor below the fire floor in a four story building. All other supply and exhaust fan circuits will be ON.

Note: The following example assumes you have two 4-point IDC cards installed in Physical Slots 1 and 2 (Logical Cards 18 and19 respectively), and two 4-point NAC/Relay cards installed in Physical Slots 4 and 5 (Logical Cards 21 and 22 respectively).

Negatively Pressurize the Fire Floor (Turn the Supply Fans OFF and the Exhaust Fans ON)

OFF

Supply Fan

ON

Exhaust Fan

Positively Pressurize the Floor Above and the Floor Below the Fire Floor (Turn the Supply Fans ON and the Exhaust Fans OFF)

ON

Supply Fan

OFF

Exhaust Fan
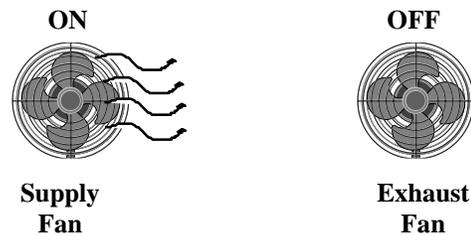
1. Edit a NAC/Relay card and assign NAC circuits as Relay points (see the *Edit Card, Modify I/O Card Devices* section of this publication).

2. Change the point types (see the *Edit Points, Edit Point Type* section of this publication).

3. Change the custom labels of the points (see the *Edit Points, Edit Point Label* section of this publication).

4. Add the signals to the "Control Points, OFF with Silence" List 31-06 (see the *Lists, Add Points to a List* section of this publication).

Continued on next page

4-5

SMPL Language Applications, *Continued*

Selective Relay Control for Fan/Damper Operation
(continued)

5. Create the following two sets of user lists:

Set of Lists Containing All Monitor Zones on each Floor

Zones	Assign to List	List Label
18-01 & 18-02	31-08	1st Floor Zones Bldg 23
18-03 & 18-04	31-09	2nd Floor Zones Bldg 23
19-01 & 19-02	31-10	3rd Floor Zones Bldg 23
19-03 & 19-04	31-11	4th Floor Zones Bldg 23

Set of Lists Containing All the Supply and Exhaust Fan Circuits for the Floors Specified

Supply & Exhaust Fans	Assign to List	List Label
21-01 thru 21-04	31-12	3rd & 4th Floor Fans
21-03 & 21-04	31-13	4th Floor Fans
20-01 & 20-02	31-14	1st Floor Fans
20-01 thru 20-04	31-15	1st & 2nd Floor Fans

Add the following SMPL equations (see the *To Start SMPL Programming* section of this publication):

Selective Relay Control - Equation 1 (Fire on the First Floor)

Equation	Point Label
FIRE 31-08	1st Floor Zones Bldg 23
End of Input	
HOLD 20-01 OFF Pri 2,9	1st Floor Supply Fan
HOLD 20-02 ON Pri 2,9	1st Floor Exhaust Fan
HOLD 20-03 ON Pri 3,9	2nd Floor Supply Fan
HOLD 20-04 OFF Pri 3,9	2nd Floor Exhaust Fan
HOLD 31-12 ON Pri 4,9	3rd & 4th Floor Fans
End of Output	

Selective Relay Control - Equation 2 (Fire on the Second Floor)

Equation	Point Label
FIRE 31-09	2nd Floor Zones Bldg 23
End of Input	
HOLD 20-03 OFF Pri 2,9	2nd Floor Supply Fan
HOLD 20-04 ON Pri 2,9	2nd Floor Exhaust Fan
HOLD 20-01 ON Pri 3,9	1st Floor Supply Fan
HOLD 20-02 OFF Pri 3,9	1st Floor Exhaust Fan
HOLD 31-13 ON Pri 4,9	4th Floor Fans
End of Output	

SMPL Language Applications, *Continued*

Selective Relay Control - Equation 3 (Fire on the Second Floor)

Equation	Point Label
FIRE 31-09	2nd Floor Zones Bldg 23
End of Input	
HOLD 20-01 ON Pri 3,9	3rd Floor Supply Fan
HOLD 20-02 OFF Pri 3,9	3rd Floor Exhaust Fan
End of Output	

Selective Relay Control - Equation 4 (Fire on the Third Floor)

Equation	Point Label
FIRE 31-10	3rd Floor Zones Bldg 23
End of Input	
HOLD 21-01 OFF Pri 2,9	3rd Floor Supply Fan Bldg 23
HOLD 21-02 ON Pri 2,9	3rd Floor Exhaust Fan Bldg 23
HOLD 20-03 ON Pri 3,9	2nd Floor Supply Fan Bldg 23
HOLD 20-04 OFF Pri 3,9	2nd Floor Exhaust Fan Bldg 23
HOLD 31-14 ON Pri 4,9	1st Floor Fans
End of Output	

Selective Relay Control - Equation 5 (Fire on the Third Floor)

Equation	Point Label
FIRE 31-10	3rd Floor Zones Bldg 23
End of Input	
HOLD 21-03 ON Pri 3,9	4th Floor Supply Fan Bldg 23
HOLD 21-04 OFF Pri 3,9	4th Floor Exhaust Fan Bldg 23
End of Output	

Selective Relay Control - Equation 6 (Fire on the Fourth Floor)

Equation	Point Label
FIRE 31-11	4th Floor Zones Bldg 23
End of Input	
HOLD 21-03 OFF Pri 2,9	4th Floor Supply Fan Bldg 23
HOLD 21-04 ON Pri 2,9	4th Floor Exhaust Fan Bldg 23
HOLD 21-01 ON Pri 3,9	3rd Floor Supply Fan Bldg 23
HOLD 21-02 OFF Pri 3,9	3rd Floor Exhaust Fan Bldg 23
HOLD 31-15 ON Pri 4,9	1st & 2nd Floor Fans
End of Output	

SMPL Language Applications, *Continued*

Selective Bypass of NAC/Relay Circuits

In the following example the activation of Monitor point 18-01 acts as a bypass switch for the Third Floor Door and Signal circuits in both the East and West wings (20-01 through 20-04).

1. Change the monitor point type of 18-01 to Utility (see the *Edit Points, Edit Point Type* section of this publication) and label point 18-01 "Third Floor Doors & Signals Bypass" (see the *Edit Points, Edit Point Label* section of this publication).

2. Add point 18-01 to a user defined list (see the *Lists, Add Points to a List* section of this publication) and label the user list "Third Floor Doors & Signals Bypass" (see the *Edit Points, Edit Point Label* section of this publication).

3. Change the point type of doors and signals to be bypassed to Relay and Signal (see the *Edit Points, Edit Point Type* section of this publication).

4. Add all door and signal circuits to a user list and label the user list "Third Floor Doors & Signals."

5. Add signals to the Points OFF with Silence List 31-06.

6. Add doors to the Points OFF with Reset List 31-07

7. Change the custom label of the next available Digital Pseudo Point to "3rd Floor Doors & Signals Bypass Trouble" (see the *Edit Points, Edit Point Type* section of this publication).

8. Change the Point Type of this Digital Pseudo Point to TROUBLE.

9. Add the following SMPL equations (see the *To Start SMPL Programming* section of this publication):

Selective Bypass - Equation 1

Equation	*Point Label*	*Point Type*
IN ANY 1 FIRE DET 31-01	System Mon. & Manual Evac	
AND NOT TBL 18-01	3rd Flr Doors & Sig.Bypass	
End of Input		
HOLD ON 31-08 PRI 2,2	3rd Flr Doors & Sig.	
End of Output		

Result: *If fire is detected and the bypass switch is not activated, release doors and sound signals*.

SMPL Language Applications, *Continued*

**Selective Bypass of
NAC/Relay Circuits**
(continued)

Selective Bypass - Equation 2

Equation	Point Label	Point Type
IN NOT TBL 18-Ø1	3rd Flr Doors & Sig. Bypass	
AND ANY 1 FIRE 31-Ø1	System Mon. & Manual Evac	
End of Input		
HOLD ON 31-Ø8 PRI 2,2	3rd Floor Doors & Sig.	
End of Output		

Result: *If fire is detected and the signals are bypassed, release doors and sound signals.*

Selective Bypass - Equation 3

Equation	Point Label	Point Type
IN ANY 1 PHYSHT 31-Ø9	3rd Flr Doors & Sig. Bypass	
End of Input		
TRACK ON 29-27 PRI 9,9	3RD Flr Doors & Sig Bypass	Trouble
End of Output		

Result: *Whenever doors and signals are bypassed, a system trouble is generated.*

Pre-Signal Operation

In the following example any smoke detector alarm (automatic device) causes a Slow March Time on signal circuit 1. Any manual device (manual station) causes evacuation signals (Temporal Code) to sound over signal circuits 2 and 4 until silenced.

1. Create a user list that includes all zones for pre-signal operation (see the *Lists, Add Points to a List* section of this publication).

2. Label the user list "Pre-Signal Alarm Zones" (see the *Edit Points, Edit Point Label* section of this publication).

3. Add the following SMPL equations (see the *To Start SMPL Programming* section of this publication).

Pre-Signal - Equation 1 (Automatic Device)

Equation	Point Label	Point Type
ANY 1 PHY ABN 31-Ø8	Smoke Detector Alarm	
End of Input		
SMARCH 20-Ø1 PRI 2,9	Signal Circuit 1	
End of Output		

Pre-Signal - Equation 2 (Manual Station)

Equation	Point Label	Point Type
ANY 1 PHY SHR 31-Ø8	Pull Station Alarm	
End of Input		
TEMPORAL 20-Ø2 PRI 2,9	Signal Circuit 2	
TEMPORAL 20-Ø4 PRI 2,9	Signal Circuit 4	
End of Output		

SMPL Language Applications, *Continued*

Cross-Zoning Function

In the following example, any two smoke detector zones in alarm causes an evacuation signal to sound on indicating device circuit 1.

1. Create a user list that includes all zones for cross-zoning function (see the *Lists, Add Points to a List* section of this publication).

2. Label the user list "Pre-Signal Alarm Zones" (see the *Edit Points, Edit Point Label* section of this publication).

3. Add the following SMPL equation (see the *To Start SMPL Programming* section of this publication).

Cross-Zoning Equation

Equation	Point Label	Point Type
ANY 2 FIRE 31-08	Smoke Detector Alarm	
End of Input		
MARCH 20-01 PRI 2,9	Signal Circuit 1	
End of Output		

Non-Latching / Non-Alarm Point Operation

In the following example when the water temperature in a holding tank is below 45° F, a monitor point (18-01) turns ON. This monitor point in turn activates the water heater point (20-01).

1. Change the monitor point (18-01) type to Utility (see the *Edit Points, Edit Point Type* section of this publication).

2. Label the Utility point "Water Temperature" and the control point (20-01) "Water Heater" (see the *Edit Points, Edit Point Label* section of this publication).

3. Add the monitor point to a user list and label that list "Water Temperature."

4. Add the following SMPL equation (see the *To Start SMPL Programming* section of this publication).

Non-Latching / Non-Alarm Equation

Equation	Point Label	Point Type
ANY 1 ON IN 31-08	Water Temperature	
End of Input		
TRACK ON 20-01 PRI 9,9	Water Heater	
End of Output		

SMPL Language Applications, *Continued*

AC Power Failure Operation

In the following example the 24 VDC magnetic door holders drop when any alarm is initiated or when primary AC power is lost. This prevents excessive current drain on the system batteries when AC is lost.

Add the following SMPL equation (see the *To Start SMPL Programming* section of this publication).

AC Power Failure Equation

Equation	*Point Label*	*Point Type*
ON/CODE 28-08	AC Failure Monitor	
OR ANY 1 FIRE 31-01	System Mon. & Manual Evac	
End of Input		
TRACK ON 20-01 PRI 9,9	Door Holder Circuit	
End of Output		

Note: Using TRACK causes the relay (20-01) to reenergize when AC power is restored.

Delay Door Drop on AC Power Failure Operation

In the following example the 24 VDC magnetic door holders drop when on alarm or 30 seconds after a power failure. If the power is interrupted for a time less than thirty seconds, the doors will not drop.

1. Change the Door Holder circuits point types to Relay (see the *Edit Points, Edit Point Type* section of this publication).

2. Add the following SMPL equation (see the *To Start SMPL Programming* section of this publication).

Delay AC Power Failure Equation

Equation	*Point Label*	*Point Type*
ON/CODE 28-08	AC Failure Monitor	
DELAY CNST 30-05 00030		
OR ANY 1 FIRE 31-01	System Mon. & Manual Evac	
End of Input		
TRACK ON 20-01 PRI 2,9	Door Holder Circuit	
End of Output		

SMPL Language Applications, *Continued*

SCU/RCU Point Matrix (Zone Grouping)

In the following example there is a 4602 SCU Serial Annunciator in the entry way of a building. The fire department would like the smoke detector's pull station's, and water flow device's alarm status to annunciate by floor. There are three floors and its a general alarm system.

1. Create a user list that includes all monitor zones for each floor (see the *Lists, Add Points to a List* section of this publication).

2. Label the user list for each floor "1st Floor Alarm," "2nd Floor Alarm," and "3rd Floor Alarm" respectively (see the *Edit Points, Edit Point Label* section of this publication).

3. Change the labels assigned to the RCU LEDs that are used to annunciate the floor in alarm to "Fire First Floor," "Fire Second Floor," and "Fire Third Floor" respectively.

4. Add the following SMPL equations (see the *To Start SMPL Programming* section of this publication).

Zone Grouping - Equation 1

Equation	*Point Label*	*Point Type*
ANY 1 FIRE 31-08	1st Floor Alarm	
End of Input		
HOLD ON 01-04 PRI 9,9	Fire 1st Floor	
End of Output		

Zone Grouping - Equation 2

Equation	*Point Label*	*Point Type*
ANY 1 FIRE 31-09	2nd Floor Alarm	
End of Input		
HOLD ON 01-03 PRI 9,9	Fire 2nd Floor	
End of Output		

Zone Grouping - Equation 3

Equation	*Point Label*	*Point Type*
ANY 1 FIRE 31-10	3rd Floor Alarm	
End of Input		
HOLD ON 01-02 PRI 9,9	Fire 3rd Floor	
End of Output		

SMPL Language Applications, *Continued*

Stagger/Start Operation

In the following example, fan circuits for the first through fourth floors are stagger started by 30 seconds following a system reset.

1. Change the fan circuits point types to Relay (see the *Edit Points, Edit Point Type* section of this publication).

2. Add the following SMPL equations (see the *To Start SMPL Programming* section of this publication).

Note: You can not use a Relay point as an input to an equation using the DELAY CNST command.

Stagger/Start - Equation 1

Equation	*Point Label*
COMP CNST 30-01 EQ 00000	Number of Fire Alarms in system
End of Input	
HOLD ON 20-01 PRI 2,9	1st Floor fan circuit
End of Output	

Stagger/Start - Equation 2

Equation	*Point Label*
COMP CNST 30-01 EQ 00000	Number of Fire Alarms in system
DELAY CNST 30-05 00030	Delay thirty seconds
End of Input	
HOLD ON 20-02 PRI 2,9	2nd Floor fan circuit
End of Output	

Stagger/Start - Equation 3

Equation	*Point Label*
COMP CNST 30-01 EQ 00000	Number of Fire Alarms in system
DELAY CNST 30-06 00060	Delay sixty seconds
End of Input	
HOLD ON 20-03 PRI 2,9	3rd Floor fan circuit
End of Output	

Stagger/Start - Equation 4

Equation	*Point Label*
COMP CNST 30-01 EQ 00000	Number of Fire Alarms in system
DELAY CNST 30-05 00090	Delay ninety seconds
End of Input	
HOLD ON 20-04 PRI 2,9	4th Floor fan circuit
End of Output	

SMPL Language Applications, *Continued*

Elevator Recall Operation

In the following example any alarm from floors two and above recalls the elevator to floor one. An alarm from floor one recalls the elevator to floor two. Once the elevator is recalled to a floor, a subsequent alarm will not relocate the elevator to another floor until you reset the system. No SMPL equations are needed for the operation.

1. Add all monitor zones for floors two and above to the Primary Elevator Capture Monitors list (31-04).

2. Add all monitor zones for floor one to the Alternate Elevator Capture Monitors list (31-05).

3. See the *Edit Cards, Modify I/O Card Devices* section of this publication to assign the primary and alternate elevator capture relay circuits to AUX.

4. Change the Primary Elevator Capture relay point to a PRIMARY point type.

5. Change the Alternate Elevator Capture relay point to a ALTERN point type.

Chapter 5
Point Type Charts

Introduction

The Point Type determines:

- What words will be displayed on the bottom line of the LCD display
- Which LED will be illuminated (Status LEDs)
- The software operation of the panel
- May determine the field wiring arrangement

The charts shown in this chapter have five major sections as described in Figure 5-1.

Point Type and Description

Circuit Status Column

LCD Readout (exact wording)

Status reported (LED indication)

Detailed description of the Point Type

Pt. TYPE: FIRE	Description: Generic Fire Alarm	
Circuit Status	**LCD Readout (2ⁿᵈ line)**	**LED**
Normal	Fire monitor Zone NORMAL	
Limited	Fire monitor Zone ALARM	A
Open	Fire monitor Zone TROUBLE	T
Short	Fire monitor Zone ALARM	A
Disable TBL	Fire monitor Zone TROUBLE	T
Class A TBL	Fire monitor Zone TROUBLE	T

Detailed Description: Additional information about a circuit can always be obtained. For instance, if you interrogated the panel about a monitor zone with a point type of FIRE, and the zone is normal, the display…

Figure 5-1. Point Type Chart sections

Displaying information on the LCD Panel

A typical LCD Panel display is shown in Figure 5-2.

```
Room 32 Training Center    Building 21
Fire Monitor Zone    NORMAL        1/24
```
Figure 5-2. Typical LCD Panel display

Additional information about the Point can be displayed by pressing the $<\blacktriangleright>$ key. Figure 5-3 shows this additional information.

```
Device=MONB         Card=18  Point=1
Fire Monitor Zone               NORMAL
```
Figure 5-3. Additional Information after $<\blacktriangleright>$ key press

Again, additional information about the Point can be displayed by pressing the $<\blacktriangleright>$ key. Figure 5-4 shows this further information.

```
Physical Status=NORMAL        ENABLED
Class A=NORMAL                Tally=0
```
Figure 5-4. Additional Information after 2ⁿᵈ $<\blacktriangleright>$ key press

Point Type Charts, *Continued*

Displaying information on the LCD Panel *(continued)*

The <►> key can always be used to obtain additional information about the point. Another example would be if the Fire Monitor Zone is open, the screens shown in Figure 5-5 would be displayed.

```
┌─────────────────────────────────────────┐
│ Room 32 Training Center    Building 21   │
│ Fire Monitor Zone    TROUBLE      1/24   │
└─────────────────────────────────────────┘
```

<►> key...

```
┌─────────────────────────────────────────┐
│ Device=MONB        Card=18    Point=1    │
│ Fire Monitor Zone          OPEN TROUBLE  │
└─────────────────────────────────────────┘
```

<►> key...

```
┌─────────────────────────────────────────┐
│ Physical Status=OPEN           ENABLED   │
│ Class A=NORMAL                 Tally=Ø    │
└─────────────────────────────────────────┘
```
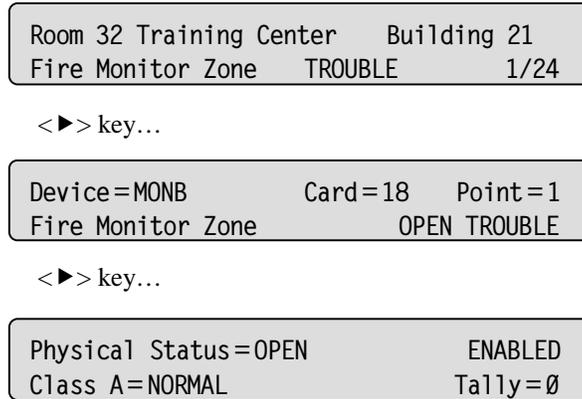
Figure 5-5. Series of information displays

These additional screens more specifically identify circuit conditions:
- OPEN
- TROUBLE
- DISABLE TROUBLE
- CLASS A TROUBLE

The screens also specifically identify the circuit's Physical Status:
- NORMAL
- ABNORMAL
- SHORT
- OPEN

Depending on the Point type, the screen may also identify the type of alarm:
- EMERGENCY
- SMOKE
- FIRE
- MANUAL
- VERIFIED SMOKE
- RUNNING
- STAGE 1
- STAGE 2
- WATERFLOW
- ACTIVATED
- DISCHARGE

5-2

Point Type Messages for Monitor Points

Monitor Points

There are 32 Monitor Points available with the 4005. These are described in Figures 5-6 through 5-33.

Pt. TYPE: SFIRE	Description: Smoke/Fire Combination Zone	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Fire monitor Zone NORMAL	
Limited	Fire monitor Zone ALARM	A
Open	Fire monitor Zone TROUBLE	T
Short	Fire monitor Zone ALARM	A
Disable TBL	Fire monitor Zone TROUBLE	T
Class A TBL	Fire monitor Zone TROUBLE	T
Detailed Description: Used when Smoke Detectors and shorting type devices are used on the same circuit.		

Figure 5-6. SFIRE Point Type

Pt. TYPE: VFIRE	Description: Verified Smoke/Fire Combination	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Fire monitor Zone NORMAL	
Limited	Fire monitor Zone ALARM	A
Open	Fire monitor Zone TROUBLE	T
Short	Fire monitor Zone ALARM	A
Disable TBL	Fire monitor Zone TROUBLE	T
Class A TBL	Fire monitor Zone TROUBLE	T
Detailed Description: Used to activate the alarm verification software for all smoke detectors connected to this circuit. All shorting devices will cause an immediate alarm.		

Figure 5-7. VFIRE Point Type

Pt. TYPE: SPULL	Description: Smoke/Pull Combination Zone	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Fire monitor Zone NORMAL	
Limited	Fire monitor Zone ALARM	A
Open	Fire monitor Zone TROUBLE	T
Short	Fire monitor Zone ALARM	A
Disable TBL	Fire monitor Zone TROUBLE	T
Class A TBL	Fire monitor Zone TROUBLE	T
Detailed Description: Used when only Smoke Detectors and Pull Stations are connected to the circuit.		

Figure 5-8. SPULL Point Type

Point Type Messages for Monitor Points, *Continued*

Monitor Points *(continued)*

Pt. TYPE: VSPULL	Description: Verified Smoke/Pull Combination	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Fire monitor Zone NORMAL	
Limited	Fire monitor Zone ALARM	A
Open	Fire monitor Zone TROUBLE	T
Short	Fire monitor Zone ALARM	A
Disable TBL	Fire monitor Zone TROUBLE	T
Class A TBL	Fire monitor Zone TROUBLE	T
Detailed Description: Used when only Smoke Detectors and Pull Stations are connected to the circuit.		

Figure 5-9. VSPULL Point Type

Pt. TYPE: VSMOKE	Description: Verified Smoke Detector Only	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Fire monitor Zone NORMAL	
Limited	Fire monitor Zone ALARM	A
Open	Fire monitor Zone TROUBLE	T
Short	Fire monitor Zone ALARM	A
Disable TBL	Fire monitor Zone TROUBLE	T
Class A TBL	Fire monitor Zone TROUBLE	T
Detailed Description: Used when only Smoke Detectors that must be verified are connected to the circuit.		

Figure 5-10. VSMOKE Point Type

Pt. TYPE: GVMON	Description: Generic Verified Monitor	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Fire monitor Zone NORMAL	
Limited	Fire monitor Zone ALARM	A
Open	Fire monitor Zone TROUBLE	T
Short	Fire monitor Zone ALARM	A
Disable TBL	Fire monitor Zone TROUBLE	T
Class A TBL	Fire monitor Zone TROUBLE	T
Detailed Description: Used when abnormal condition of the circuit must be verified.		

Figure 5-11. GVMON Point Type

Point Type Messages for Monitor Points, *Continued*

Monitor Points *(continued)*

Pt. TYPE: FIRE	Description: Generic Fire Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Fire monitor Zone NORMAL	
Limited	Fire monitor Zone ALARM	A
Open	Fire monitor Zone TROUBLE	T
Short	Fire monitor Zone ALARM	A
Disable TBL	Fire monitor Zone TROUBLE	T
Class A TBL	Fire monitor Zone TROUBLE	T
Detailed Description: Used for all fire alarm zones where more than one type of device may be connected. For example, smokes, pulls, waterflows, and heats are all connected to the same circuit. Shorts and current limited activate alarms.		

Figure 5-12. FIRE Point Type

Pt. TYPE: WATER	Description: WaterFlow Monitor	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	WaterFlow Monitor NORMAL	
Limited	WaterFlow Monitor ALARM	A
Open	WaterFlow Monitor TROUBLE	T
Short	WaterFlow Monitor ALARM	A
Disable TBL	WaterFlow Monitor TROUBLE	T
Class A TBL	WaterFlow Monitor TROUBLE	T
Detailed Description: Used when only waterflow monitors are connected to the circuit. Shorts and current limited are treated the same (activate alarms).		

Figure 5-13. WATER Point Type

Pt. TYPE: HEAT	Description: Heat Detector	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Heat Detector NORMAL	
Limited	Heat Detector ALARM	A
Open	Heat Detector TROUBLE	T
Short	Heat Detector ALARM	A
Disable TBL	Heat Detector TROUBLE	T
Class A TBL	Heat Detector TROUBLE	T
Detailed Description: Used when only Heat Detectors are connected to the circuit.		

Figure 5-14. HEAT Point Type

Monitor Points *(continued)*

Pt. TYPE: DUCT	Description: Duct Detector	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Duct Detector NORMAL	
Limited	Duct Detector ALARM	A
Open	Duct Detector TROUBLE	T
Short	Duct Detector ALARM	A
Disable TBL	Duct Detector TROUBLE	T
Class A TBL	Duct Detector TROUBLE	T
Detailed Description: Used when only Duct Detectors are connected to the circuit.		

Figure 5-15. DUCT Point Type

Pt. TYPE: FLAME	Description: Flame Detector	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Flame Detector NORMAL	
Limited	Flame Detector ALARM	A
Open	Flame Detector TROUBLE	T
Short	Flame Detector ALARM	A
Disable TBL	Flame Detector TROUBLE	T
Class A TBL	Flame Detector TROUBLE	T
Detailed Description: Used when only Flame Detectors are connected to the circuit.		

Figure 5-16. FLAME Point Type

Pt. TYPE: PULL	Description: Pull (manual) Station	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Manual Pull Station NORMAL	
Limited	Manual Pull Station ALARM	A
Open	Manual Pull Station TROUBLE	T
Short	Manual Pull Station ALARM	A
Disable TBL	Manual Pull Station TROUBLE	T
Class A TBL	Manual Pull Station TROUBLE	T
Detailed Description: Used when only Pull Stations are connected to the circuit.		

Figure 5-17. PULL Point Type

Point Type Messages for Monitor Points, *Continued*

Monitor Points *(continued)*

Pt. TYPE: SMOKE	Description: Smoke Detector	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Smoke Detector NORMAL	
Limited	Smoke Detector ALARM	A
Open	Smoke Detector TROUBLE	T
Short	Smoke Detector ALARM	A
Disable TBL	Smoke Detector TROUBLE	T
Class A TBL	Smoke Detector TROUBLE	T
Detailed Description: Used when only Smoke Detectors (both 2-wire and 4-wire) are connected to the circuit.		

Figure 5-18. SMOKE Point Type

Pt. TYPE: EMERG	Description: Combination Fire / Emergency	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Monitor Zone NORMAL	
Limited	Monitor Zone SUPERVISORY	S
Open	Monitor Zone TROUBLE	T
Short	Monitor Zone ALARM	A
Disable TBL	Monitor Zone TROUBLE	T
Class A TBL	Monitor Zone TROUBLE	T
Detailed Description: Used to connect two types of alarm devices on the same zone. For example, nurse call type devices and fire alarm devices. The emergency alarm devices (nurse call) will require the use of a current limiting resistor. Emergency devices cause a supervisory service condition.		

Figure 5-19. EMERG Point Type

Pt. TYPE: GENMON	Description: Generator Monitor (No Supervisory)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Generator Monitor OFF	
Limited	Generator Monitor OFF	
Open	Generator Monitor TROUBLE	T
Short	Generator Monitor SUPERVISORY	S
Disable TBL	Generator Monitor TROUBLE	T
Class A TBL	Generator Monitor TROUBLE	T
Detailed Description: Used when Emergency generator monitoring is required. The shorted condition of the circuit indicates an abnormal status and is indicated by the Supervisory Service LED. The current limited condition of the circuit will indicate generator is running in the alphanumeric display (if the <▶> key is pressed) and can be tracked with an LED (must be programmed). A current limiting resistor must be installed for this operation.		

Figure 5-20. GENMON Point Type

Point Type Messages for Monitor Points, *Continued*

Monitor Points *(continued)*

Pt. TYPE: SGENMON	Description: Generator Monitor (Supervisory)	
Circuit Status	**LCD Readout (2ⁿᵈ line)**	**LED**
Normal	Generator Monitor NORMAL	
Limited	Generator Monitor SUPERVISORY	S
Open	Generator Monitor TROUBLE	T
Short	Generator Monitor SUPERVISORY	S
Disable TBL	Generator Monitor TROUBLE	T
Class A TBL	Generator Monitor TROUBLE	T
Detailed Description: Same as GENMON except generator running will be automatically displayed and require operator acknowledgement.		

Figure 5-21. SGENMON Point Type

Pt. TYPE: FPUMP	Description: Fire Pump Monitor (No Supervisory)	
Circuit Status	**LCD Readout (2ⁿᵈ line)**	**LED**
Normal	Fire Pump Monitor OFF	
Limited	Fire Pump Monitor OFF	
Open	Fire Pump Monitor TROUBLE	T
Short	Fire Pump Monitor SUPERVISORY	S
Disable TBL	Fire Pump Monitor TROUBLE	T
Class A TBL	Fire Pump Monitor TROUBLE	T
Detailed Description: Used to monitor Fire Pump conditions. The shorted condition will indicate Fire Pump abnormal (if the <▶> key is pressed). A current limited condition equals Fire Pump running (if the <▶> key is pressed).		

Figure 5-22. FPUMP Point Type

Pt. TYPE: SFPUMP	Description: Fire Pump Monitor (Supervisory)	
Circuit Status	**LCD Readout (2ⁿᵈ line)**	**LED**
Normal	Fire Pump Monitor NORMAL	
Limited	Fire Pump Monitor SUPERVISORY	S
Open	Fire Pump Monitor TROUBLE	T
Short	Fire Pump Monitor SUPERVISORY	S
Disable TBL	Fire Pump Monitor TROUBLE	T
Class A TBL	Fire Pump Monitor TROUBLE	T
Detailed Description: Same as FPUMP except that fire pump running will require operator acknowledgement.		

Figure 5-23. SFPUMP Point Type

Monitor Points *(continued)*

Pt. TYPE: S2STAGE	Description: 2 Stage Monitor	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	2 Stage Monitor NORMAL	
Limited	2 Stage Monitor ALARM	A
Open	2 Stage Monitor TROUBLE	T
Short	2 Stage Monitor ALARM	A
Disable TBL	2 Stage Monitor TROUBLE	T
Class A TBL	2 Stage Monitor TROUBLE	T
Detailed Description: Used for 2 Stage Alarms. The current limited operation of any device will indicate a STAGE 1 ALARM (press the <▶> key to display). The shorting of the circuit, such as a key switch operation, will cause a STAGE 2 ALARM (press the <▶> key to display).		

Figure 5-24. S2STAGE Point Type

Pt. TYPE: SO	Description: Sprinkler Supv (normally open)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Sprinkler Monitor NORMAL	
Limited	Sprinkler Monitor SUPERVISORY	S
Open	Sprinkler Monitor TROUBLE	T
Short	Sprinkler Monitor SUPERVISORY	S
Disable TBL	Sprinkler Monitor TROUBLE	T
Class A TBL	Sprinkler Monitor TROUBLE	T
Detailed Description: Used to indicate sprinkler abnormal conditions such as the operating of a PIV or OS&Y tamper switch. Must be used with normally open contacts only.		

Figure 5-25. SO Point Type

Pt. TYPE: SC	Description: Sprinkler Supv (normally closed)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Sprinkler Monitor SUPERVISORY	S
Limited	Sprinkler Monitor NORMAL	
Open	Sprinkler Monitor TROUBLE	T
Short	Sprinkler Monitor TROUBLE	T
Disable TBL	Sprinkler Monitor TROUBLE	T
Class A TBL	Sprinkler Monitor TROUBLE	T
Detailed Description: Used the same as SO except the contacts monitored must be normally closed and a shunt resistor used. This type assures the zone will not go into alarm with multiple tamper valves activated. Refer to Field Wiring Diagram page 7 if 4-Point IDC 565-473 is used; or page 11 for a 4-Point IDC 565-610.		

Figure 5-26. SC Point Type

Point Type Messages for Monitor Points, *Continued*

Monitor Points *(continued)*

Pt. TYPE: WSO	Description: Combination Waterflow/Sprinkler (normally open)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Sprinkler Monitor NORMAL	
Limited	Sprinkler Monitor SUPERVISORY	S
Open	Sprinkler Monitor TROUBLE	T
Short	Sprinkler Monitor ALARM	A
Disable TBL	Sprinkler Monitor TROUBLE	T
Class A TBL	Sprinkler Monitor TROUBLE	T
Detailed Description: Where permitted by the AHJ, this circuit will operate with both waterflows and tampers on the same circuit. All tamper switches (N.O. contacts) must be connected with a current limiting resistor according to Field Wiring Diagram page 10 for a 4-Point IDC 565-473; or page 12 for a 4-Point IDC 565-610. A short condition will indicate a WATERFLOW ALARM.		

Figure 5-27. WSO Point Type

Pt. TYPE: WSC	Description: Combination Waterflow/Sprinkler (normally closed)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Sprinkler Monitor SUPERVISORY	S
Limited	Sprinkler Monitor NORMAL	
Open	Sprinkler Monitor TROUBLE	T
Short	Sprinkler Monitor ALARM	A
Disable TBL	Sprinkler Monitor TROUBLE	T
Class A TBL	Sprinkler Monitor TROUBLE	T
Detailed Description: Same operation as WSO except that all tamper switches must have normally closed contacts. A 1K ohm shunt resistor must be installed across the tamper switch and a 1.2K ohm end-of-line resistor must be used for the 4-Point IDC 565-473 (Field Wiring Diagram page 8).		

Figure 5-28. WSC Point Type

Point Type Messages for Monitor Points, *Continued*

Monitor Points *(continued)*

Pt. TYPE: SUPV	Description: Supervisory Monitor (no alarm)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Supervision Monitor　　　　NORMAL	
Limited	Supervision Monitor　　　SUPERVISORY	S
Open	Supervision Monitor　　　　TROUBLE	T
Short	Supervision Monitor　　　SUPERVISORY	S
Disable TBL	Supervision Monitor　　　　TROUBLE	T
Class A TBL	Supervision Monitor　　　　TROUBLE	T
Detailed Description: Used to monitor any supervisory type device where operator acknowledgement is required.		

Figure 5-29. SUPV Point Type

Pt. TYPE: UTIL	Description: Utility Monitor with Tri-State (no alarm)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Utility Monitor　　　　　　OFF	
Limited	Utility Monitor　　　　　　ON	
Open	Utility Monitor　　　　TROUBLE	T
Short	Utility Monitor　　　　　　ON	
Disable TBL	Utility Monitor　　　　TROUBLE	T
Class A TBL	Utility Monitor　　　　TROUBLE	T
Detailed Description: Used to monitor and supervise any condition. Operator acknowledgement is not required.		

Figure 5-30. UTIL Point Type

Pt. TYPE: LATSUPV	Description: Supervisory Latching	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Supervisory Monitor　　　　NORMAL	
Limited	Supervisory Monitor　　　SUPERVISORY	S
Open	Supervisory Monitor　　　　TROUBLE	T
Short	Supervisory Monitor　　　SUPERVISORY	S
Disable TBL	Supervisory Monitor　　　　TROUBLE	T
Class A TBL	Supervisory Monitor　　　　TROUBLE	T
Detailed Description: Used for generic supervisory alarm.		

Figure 5-31. LATSUPV Point Type

Point Type Messages for Monitor Points, *Continued*

Monitor Points *(continued)*

Pt. TYPE: TROUBLE	Description: Trouble Monitor (no alarm)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Trouble Monitor NORMAL	
Limited	Trouble Monitor TROUBLE	T
Open	Trouble Monitor TROUBLE	T
Short	Trouble Monitor TROUBLE	T
Disable TBL	Trouble Monitor TROUBLE	T
Class A TBL	Trouble Monitor TROUBLE	T
Detailed Description: Used for monitoring only.		

Figure 5-32. TROUBLE Point Type

Pt. TYPE: STYLEC	Description: Monitor-Style C Monitor	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Monitor Zone NORMAL	
Limited	Monitor Zone ALARM	A
Open	Monitor Zone TROUBLE	T
Short	Monitor Zone TROUBLE	T
Disable TBL	Monitor Zone TROUBLE	T
Class A TBL	Monitor Zone TROUBLE	T
Detailed Description: Used when only current limited devices are connected to the circuit. A short circuit is reported as a TROUBLE.		

Figure 5-33. STYLEC Point Type

Point Type Messages for Signal Points

Signal Points

Signal Points are described in Figures 5-34 through 5-51.

Pt. TYPE: TSIGNAL	Description: Trouble / Supervisory Signal (until clear)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Trouble Signal ON	
Normal	Trouble Signal OFF	
Normal	Trouble Signal CODING	
Open	Trouble Signal TROUBLE	T
Short	Trouble Signal TROUBLE	T
Disable TBL	Trouble Signal TROUBLE	T
Off Auto TBL	Trouble Signal TROUBLE	T
Detailed Description: Used when an audible signal should activate on any system Trouble or Supervisory condition and remain ON until the Trouble or Supervisory condition as cleared.		

Figure 5-34. TSIGNAL Point Type

Pt. TYPE: BSIGNAL	Description: Trouble / Supervisory Signal (until acknowledge)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Trouble Signal ON	
Normal	Trouble Signal OFF	
Normal	Trouble Signal CODING	
Open	Trouble Signal TROUBLE	T
Short	Trouble Signal TROUBLE	T
Disable TBL	Trouble Signal TROUBLE	T
Off Auto TBL	Trouble Signal TROUBLE	T
Detailed Description: Used when an audible signal should activate on any Trouble or Supervisory condition and remain ON only until the condition has been acknowledged.		

Figure 5-35. BSIGNAL Point Type

Point Type Messages for Signal Points, *Continued*

Signal Points *(continued)*

Pt. TYPE: CODED	Description: Coded Signal	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Coded Signal ON	
Normal	Coded Signal OFF	
Normal	Coded Signal CODING	
Open	Coded Signal TROUBLE	T
Short	Coded Signal TROUBLE	T
Disable TBL	Coded Signal TROUBLE	T
Off Auto TBL	Coded Signal TROUBLE	T
Detailed Description: Used to indicate that the circuit will track a PNIS code. **NOTE**: The 4005 does not support PNIS coding at this time.		

Figure 5-36. CODED Point Type

Additional information about the circuit status can always be obtained. For instance, a circuit that has the point type of CODED and has either a bad relay or an open in the field wiring will display the screens shown in Figure 5-37.

```
I/O Card 3 Output=1
Coded Signal        TROUBLE        1/2
```

<◀▶> key…

```
Device=SIGB         Card=20    Point=1
Coded Signal        OFF
```

<◀▶> key…

```
Physical Status=OPEN            ENABLED
Priority=15                Auto Control
```

<◀▶> key…

```
Correct Drive              Relay=OFF
Class A=NORMAL
```

Figure 5-37. Series of CODED Point information displays

Continued on next page

Point Type Messages for Signal Points, *Continued*

Signal Points *(continued)*

Pt. TYPE: SSIGNAL	Description: Alarm Signal (on until silence) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Signal Circuit ON	
Normal	Signal Circuit OFF	
Normal	Signal Circuit CODING	
Open	Signal Circuit TROUBLE	T
Short	Signal Circuit TROUBLE	T
Disable TBL	Signal Circuit TROUBLE	T
Off Auto TBL	Signal Circuit TROUBLE	T
Detailed Description: Used for all audible / visible units that are required ON until the alarm silence key is pressed.		

Figure 5-38. SSIGNAL Point Type

Pt. TYPE: RSIGNAL	Description: Alarm Signal (on until reset) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Signal Circuit ON	
Normal	Signal Circuit OFF	
Normal	Signal Circuit CODING	
Open	Signal Circuit TROUBLE	T
Short	Signal Circuit TROUBLE	T
Disable TBL	Signal Circuit TROUBLE	T
Off Auto TBL	Signal Circuit TROUBLE	T
Detailed Description: Used for any signaling device that is required ON until the system reset key is pressed.		

Figure 5-39. RSIGNAL Point Type

Pt. TYPE: SIGNAL	Description: Generic Signal (no default operation)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Signal Circuit ON	
Normal	Signal Circuit OFF	
Normal	Signal Circuit CODING	
Open	Signal Circuit TROUBLE	T
Short	Signal Circuit TROUBLE	T
Disable TBL	Signal Circuit TROUBLE	T
Off Auto TBL	Signal Circuit TROUBLE	T
Detailed Description: SMPL is required to turn on a SIGNAL point.		

Figure 5-40. SIGNAL Point Type

Signal Points *(continued)*

Pt. TYPE: SVISUAL	Description: Visual (on until silence) Operates on General Alarm		
Circuit Status	**LCD Readout (2nd line)**		**LED**
Normal	Visual	ON	
Normal	Visual	OFF	
Normal	Visual	CODING	
Open	Visual	TROUBLE	T
Short	Visual	TROUBLE	T
Disable TBL	Visual	TROUBLE	T
Off Auto TBL	Visual	TROUBLE	T
Detailed Description: Used only with visuals that are required ON until the alarm silence key is pressed.			

Figure 5-41. SVISUAL Point Type

Pt. TYPE: RVISUL	Description: Visual (on until silence) Operates on General Alarm		
Circuit Status	**LCD Readout (2nd line)**		**LED**
Normal	Visual	ON	
Normal	Visual	OFF	
Normal	Visual	CODING	
Open	Visual	TROUBLE	T
Short	Visual	TROUBLE	T
Disable TBL	Visual	TROUBLE	T
Off Auto TBL	Visual	TROUBLE	T
Detailed Description: Used only with visuals that must remain ON until the system reset key is pressed.			

Figure 5-42. RVISUL Point Type

Pt. TYPE: SWATER	Description: Water Signal (on until Silence)		
Circuit Status	**LCD Readout (2nd line)**		**LED**
Normal	Waterflow Signal	ON	
Normal	Waterflow Signal	OFF	
Normal	Waterflow Signal	CODING	
Open	Waterflow Signal	TROUBLE	T
Short	Waterflow Signal	TROUBLE	T
Disable TBL	Waterflow Signal	TROUBLE	T
Off Auto TBL	Waterflow Signal	TROUBLE	T
Detailed Description: Used in applications where a waterflow signal circuit is required which will remain activated until the silence key is pressed. Activated from any WATER point type.			

Figure 5-43. SWATER Point Type

Point Type Messages for Signal Points, *Continued*

Signal Points *(continued)*

Pt. TYPE: RWATER	Description: Water Signal (on until Reset)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Waterflow Signal _____ ON	
Normal	Waterflow Signal _____ OFF	
Normal	Waterflow Signal _____ CODING	
Open	Waterflow Signal _____ TROUBLE	T
Short	Waterflow Signal _____ TROUBLE	T
Disable TBL	Waterflow Signal _____ TROUBLE	T
Off Auto TBL	Waterflow Signal _____ TROUBLE	T
Detailed Description: Used in applications where a waterflow signal circuit is required which will remain activated until the reset key is pressed. Activated from any WATER point type.		

Figure 5-44. RWATER Point Type

Pt. TYPE: SUPV	Description: Sprinkler Supervisory Signal (until acknowledged)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Supervisory Signal _____ ON	
Normal	Supervisory Signal _____ OFF	
Normal	Supervisory Signal _____ CODING	
Open	Supervisory Signal _____ TROUBLE	T
Short	Supervisory Signal _____ TROUBLE	T
Disable TBL	Supervisory Signal _____ TROUBLE	T
Off Auto TBL	Supervisory Signal _____ TROUBLE	T
Detailed Description: Used in applications where a supervisory signal circuit is required which will remain ON until acknowledged.		

Figure 5-45. SUPV Point Type

Point Type Messages for Signal Points, *Continued*

Signal Points *(continued)*

Pt. TYPE: PRIMARY	Description: Elevator Capture (primary) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Pri Elevator Capture ON	
Normal	Pri Elevator Capture OFF	
Normal	Pri Elevator Capture CODING	
Open	Pri Elevator Capture TROUBLE	T
Short	Pri Elevator Capture TROUBLE	T
Disable TBL	Pri Elevator Capture TROUBLE	T
Off Auto TBL	Pri Elevator Capture TROUBLE	T
Detailed Description: Used for any relay connected to the elevator controls to provide primary floor elevator capture. By default, these relays pick on any alarm.		

Figure 5-46. PRIMARY Point Type

Pt. TYPE: ALTERN	Description: Elevator Capture (alternate)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Alt Elevator Capture ON	
Normal	Alt Elevator Capture OFF	
Normal	Alt Elevator Capture CODING	
Open	Alt Elevator Capture TROUBLE	T
Short	Alt Elevator Capture TROUBLE	T
Disable TBL	Alt Elevator Capture TROUBLE	T
Off Auto TBL	Alt Elevator Capture TROUBLE	T
Detailed Description: Used for any relay connected to the elevator controls to provide alternate floor elevator capture.		

Figure 5-47. ALTERN Point Type

Pt. TYPE: AHUR	Description: AHU On / Off (single relay control) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	AHU Relay ON	
Normal	AHU Relay OFF	
Normal	AHU Relay CODING	
Open	AHU Relay TROUBLE	T
Short	AHU Relay TROUBLE	T
Disable TBL	AHU Relay TROUBLE	T
Off Auto TBL	AHU Relay TROUBLE	T
Detailed Description: Used where one auxiliary relay performs AHU ON and OFF control.		

Figure 5-48. AHUR Point Type

Point Type Messages for Signal Points, *Continued*

Signal Points *(continued)*

Pt. TYPE: AHUO	Description: AHU On (dual relay control) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	AHU On Relay ON	
Normal	AHU On Relay OFF	
Normal	AHU On Relay CODING	
Open	AHU On Relay TROUBLE	T
Short	AHU On Relay TROUBLE	T
Disable TBL	AHU On Relay TROUBLE	T
Off Auto TBL	AHU On Relay TROUBLE	T
Detailed Description: Used where two auxiliary relays are used to perform AHU control. One relay for ON and one relay for Off.		

Figure 5-49. AHUO Point Type

Pt. TYPE: AHUF	Description: AHU Off (dual relay control)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	AHU Off Relay ON	
Normal	AHU Off Relay OFF	
Normal	AHU Off Relay CODING	
Open	AHU Off Relay TROUBLE	T
Short	AHU Off Relay TROUBLE	T
Disable TBL	AHU Off Relay TROUBLE	T
Off Auto TBL	AHU Off Relay TROUBLE	T
Detailed Description: Used where two auxiliary relays are used to perform AHU control. Works in conjunction with the AHUO point type.		

Figure 5-50. AHUF Point Type

Pt. TYPE: DHOLDER	Description: Door Holder Control (normally Off) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
Normal	Door holder ON	
Normal	Door holder OFF	
Normal	Door holder CODING	
Open	Door holder TROUBLE	T
Short	Door holder TROUBLE	T
Disable TBL	Door holder TROUBLE	T
Off Auto TBL	Door holder TROUBLE	T
Detailed Description: used when the auxiliary relay is connected to door holders. The relay energizes an alarm, loss of AC power, or when programmed.		

Figure 5-51. DHOLDER Point Type

Point Type Messages for Auxiliary Relay Points

Auxiliary Relay Points

Auxiliary Relay Points are described in Figures 5-52 through 5-68.

Pt. TYPE: RRELAY	Description: Alarm Relay (on until reset) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Alarm Relay ON	
Off	Alarm Relay OFF	
	Alarm Relay CODING	
Disabled TBL	Alarm Relay TROUBLE	T
Off Auto TBL	Alarm Relay TROUBLE	T
Detailed Description: Used for any relay that must be ON until the system reset key is pressed.		

Figure 5-52. RRELAY Point Type

Pt. TYPE: SRELAY	Description: Alarm Relay (on until silence) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Alarm Relay ON	
Off	Alarm Relay OFF	
	Alarm Relay CODING	
Disabled TBL	Alarm Relay TROUBLE	T
Off Auto TBL	Alarm Relay TROUBLE	T
Detailed Description: Used for any relay that must be ON until the alarm silence key is pressed.		

Figure 5-53. SRELAY Point Type

Pt. TYPE: TRELAY	Description: Trouble / Supervisory Relay (On until clear) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Alarm Relay ON	
Off	Alarm Relay OFF	
	Alarm Relay CODING	
Disabled TBL	Alarm Relay TROUBLE	T
Off Auto TBL	Alarm Relay TROUBLE	T
Detailed Description: Used for any audible or visual device (Trouble or Supervisory) that must be ON until the condition clears.		

Figure 5-54. TRELAY Point Type

Auxiliary Relay Points
(continued)

Pt. TYPE: BRELAY	Description: Trouble / Supervisory Relay (on until acknowledge) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Alarm Relay ON	
Off	Alarm Relay OFF	
	Alarm Relay CODING	
Disabled TBL	Alarm Relay TROUBLE	T
Off Auto TBL	Alarm Relay TROUBLE	T
Detailed Description: Used for trouble Relay ON (for Trouble or Supervisory) until the condition is acknowledged.		

Figure 5-55. BRELAY Point Type

Pt. TYPE: DHOLDER	Description: Door holder Control (normally off) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Door Holder ON	
Off	Door Holder OFF	
	Door Holder CODING	
Disabled TBL	Door Holder TROUBLE	T
Off Auto TBL	Door Holder TROUBLE	T
Detailed Description: Used when the auxiliary relay is connected to door holders. The relay energizes on alarm or on loss of AC Power. Relays stays energized until reset.		

Figure 5-56. DHOLDER Point Type

Pt. TYPE: SVISUAL	Description: Visual (on until silence) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Visual ON	
Off	Visual OFF	
	Visual CODING	
Disabled TBL	Visual TROUBLE	T
Off Auto TBL	Visual TROUBLE	T
Detailed Description: Used on visual alarm device circuits that must be ON until the alarm silence key is pressed (not supervised).		

Figure 5-57. SVISUAL Point Type

Point Type Messages for Auxiliary Relay Points, *Continued*

Auxiliary Relay Points
(continued)

Pt. TYPE: RVISUAL	Description: Visual (on until reset) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Visual ON	
Off	Visual OFF	
	Visual CODING	
Disabled TBL	Visual TROUBLE	T
Off Auto TBL	Visual TROUBLE	T
Detailed Description: Used on visual alarm device circuits that must be ON until the system reset key is pressed (not supervised).		

Figure 5-58. RVISUAL Point Type

Pt. TYPE: CODED	Description: Coded Relay (PNIS)(normally off) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Coded Relay ON	
Off	Coded Relay OFF	
	Coded Relay CODING	
Disabled TBL	Coded Relay TROUBLE	T
Off Auto TBL	Coded Relay TROUBLE	T
Detailed Description: Relay will track any PNIS code zone. **NOTE:** PNIS is not available with the 4005 at this time.		

Figure 5-59. CODED Point Type

Pt. TYPE: SWATER	Description: Waterflow Relay (on until silence) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	WaterFlow Relay ON	
Off	WaterFlow Relay OFF	
	WaterFlow Relay CODING	
Disabled TBL	WaterFlow Relay TROUBLE	T
Off Auto TBL	WaterFlow Relay TROUBLE	T
Detailed Description: Used in applications where a waterflow signal circuit is required which will remain activated until the silence key is pressed. Activated from a zone with the point type WATER.		

Figure 5-60. SWATER Point Type

Point Type Messages for Auxiliary Relay Points, *Continued*

Auxiliary Relay Points
(continued)

Pt. TYPE: RWATER	Description: Waterflow Relay (on until reset) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	WaterFlow Relay ON	
Off	WaterFlow Relay OFF	
	WaterFlow Relay CODING	
Disabled TBL	WaterFlow Relay TROUBLE	T
Off Auto TBL	WaterFlow Relay TROUBLE	T
Detailed Description: Used in applications where a waterflow signal circuit is required which will remain activated until the reset key is pressed. Activated from a zone with the point type WATER.		

Figure 5-61. RWATER Point Type

Pt. TYPE: SUPV	Description: Sprinkler Supervisory Relay (on until acknowledged)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Supervisory Relay ON	
Off	Supervisory Relay OFF	
	Supervisory Relay CODING	
Disabled TBL	Supervisory Relay TROUBLE	T
Off Auto TBL	Supervisory Relay TROUBLE	T
Detailed Description: used in applications where a Supervisory signal circuit is required which will remain ON until acknowledged.		

Figure 5-62. SUPV Point Type

Pt. TYPE: RELAY	Description: Generic Relay (no default operation)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Auxiliary Relay ON	
Off	Auxiliary Relay OFF	
	Auxiliary Relay CODING	
Disabled TBL	Auxiliary Relay TROUBLE	T
Off Auto TBL	Auxiliary Relay TROUBLE	T
Detailed Description: Used for all relay applications that are not defined by a specific point type.		

Figure 5-63. RELAY Point Type

Point Type Messages for Auxiliary Relay Points, *Continued*

Auxiliary Relay Points
(continued)

Pt. TYPE: PRIMARY	Description: Elevator Capture (primary) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Pri Elevator Relay ON	
Off	Pri Elevator Relay OFF	
	Pri Elevator Relay CODING	
Disabled TBL	Pri Elevator Relay TROUBLE	T
Off Auto TBL	Pri Elevator Relay TROUBLE	T
Detailed Description: Used for any relay connected to the elevator controls to provide primary floor elevator capture. By default, these relays pick on any alarm.		

Figure 5-64. PRIMARY Point Type

Pt. TYPE: ALTERN	Description: Elevator Capture (alternate)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	Alt Elevator Relay ON	
Off	Alt Elevator Relay OFF	
	Alt Elevator Relay CODING	
Disabled TBL	Alt Elevator Relay TROUBLE	T
Off Auto TBL	Alt Elevator Relay TROUBLE	T
Detailed Description: Used for any relay connected to the elevator controls to provide alternate floor elevator capture.		

Figure 5-65. ALTERN Point Type

Pt. TYPE: AHUR	Description: AHU On / Off (single relay control) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	AHU Relay ON	
Off	AHU Relay OFF	
	AHU Relay CODING	
Disabled TBL	AHU Relay TROUBLE	T
Off Auto TBL	AHU Relay TROUBLE	T
Detailed Description: Used where one auxiliary relay performs AHU ON and OFF control.		

Figure 5-66. AHUR Point Type

Point Type Messages for Auxiliary Relay Points, *Continued*

Auxiliary Relay Points
(continued)

Pt. TYPE: AHUO	Description: AHU On (dual relay control) Operates on General Alarm	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	AHU On Relay ON	
Off	AHU On Relay OFF	
	AHU On Relay CODING	
Disabled TBL	AHU On Relay TROUBLE	T
Off Auto TBL	AHU On Relay TROUBLE	T
Detailed Description: Used where two auxiliary relays are used to perform AHU control. One relay for ON and one relay for Off.		

Figure 5-67. AHUO Point Type

Pt. TYPE: AHUF	Description: AHU Off (dual relay control)	
Circuit Status	**LCD Readout (2nd line)**	**LED**
On	AHU Off Relay ON	
Off	AHU Off Relay OFF	
	AHU Off Relay CODING	
Disabled TBL	AHU Off Relay TROUBLE	T
Off Auto TBL	AHU Off Relay TROUBLE	T
Detailed Description: Used where two auxiliary relays are used to perform AHU control. Works in conjunction with the AHUO point type.		

Figure 5-68. AHUF Point Type

Pseudo Point Types

Digital Pseudo Points

Figure 5-69 provides a list of Digital Pseudo Point Types and their description.

Point TYPE	Description
UTILITY	Utility Point (no acknowledge)
ALARM	Alarm Point
TROUBLE	Trouble Point
SUPERVISE	Supervisory Point

Figure 5-69. Digital Pseudo Point Types

Analog Pseudo Points

Figure 5-70 provides a list of Analog Pseudo Point Types and their description.

Point TYPE	Description
TIMER	Timer (seconds)
COUNTER	Counter (counts)
ANALOG	Analog value (generic)

Figure 5-70. Analog Pseudo Point Types

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Chapter 6
Programming Guides and Reference Information

Introduction

This chapter provides information and aids to help you program the 4005 Fire Alarm.

System Programming Worksheet

Use the following sheet as an aid when programming the 4005 Fire Alarm.

Simplex

4005 SYSTEM PROGRAMMING WORKSHEET

PROJECT NAME: _____   DATE: _____

CUST. CONTACT: _____   BRANCH NO.: _____

ORDER NO.: _____   STR REP.: _____

SECTION 1	SECTION 2
CHECK AS REQUIRED	CHECK AS REQUIRED
_____ GENERAL ALARM	_____ SELECTIVE SIGNAL OPERATION
_____ ALARM VERIFICATION	
	_____ SELECTIVE RELAY CONTROL
_____ WATERFLOW	
_____ SPRINKLER SUPERVISION (TAMPER)	_____ SELECTIVE DOOR HOLDER RELAY CONTROL
_____ SIGNAL CUTOUT 0-60 MINS.	
_____ SIGNAL SILENCE INHIBIT 0-60 MINS.	_____ SELECTIVE SWITCH OPERATION
	_____ CUSTOM FAN/DAMPER RELAY CONTROL
SIGNAL OPERATION (CHECK ONE)	
MARCH TIME	_____ CROSS ZONING
_____ SLOW MARCH TIME	
_____ TEMPORAL	_____ NON-ALARM MONITOR POINTS
	_____ NON-LATCHING MONITOR POINTS (TRACKING)
CITY CONNECTION (CHECK ONE)	
_____ LOCAL ENERGY	_____ AC POWER FAIL (CONTROL)
_____ FORM C	
_____ REVERSE POLARITY	_____ SCU/RCU MEMORY POINT MATRIX (ZONE GROUPING)
ANNUNCIATOR REQUIREMENTS (CHECK AS REQUIRED)	_____ ELEVATOR RECALL (ALT FLOOR) OPERATION
_____ SERIAL: LIST QUANTITY ON SYSTEM_____	
_____ HARDWIRED	_____ POINT TYPE
_____ SUPERVISION	

Continued on next page

Programming Guides, *Continued*

4005 Module Identification and Placement Chart

Table 6-1 shows the Part Number and Product Identification (PID) Number for the available 4005 modules.

Figure 6-1 indicates the I/O Card placement on the 4005 base panel.

Table 6-1. 4005 Module Identification Chart

| DESCRIPTION	PART NUMBER	PID NUMBER
4-Point IDC Low-Current Card	565-473	4005-9804
4-Point IDC High-Current Card	565-610	4005-9824
4-Point NAC/Relay Card	565-477	4005-9805
2-IDC & 2-NAC/Relay Card	565-552	4005-9803
Class A Adaptor Card	565-556	4005-9806
8-Point I/O Card	565-554	4005-9808
City Circuit Card	565-550	4005-9809
Expansion Power Supply	565-481	4005-9813
Power Distribution Card	565-471	4005-9807
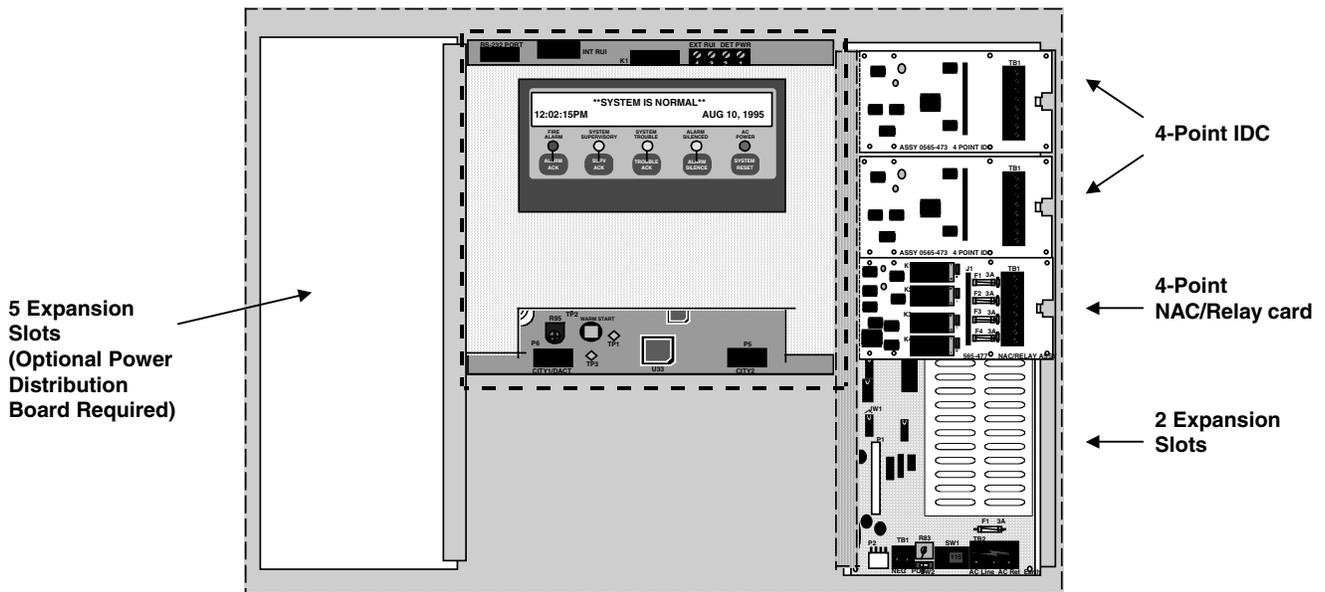
**Figure 6-1. 4005 I/O Card Placement
(Base Panel Shown)**

Front Panel Programming

Menu Structure

Figure 6-2 shows the menu structure of the Front Panel Programmer.

```
PROGRAMMING MENU ──────┬────── EDIT POINT
                       ├────── EDIT CARDS
                       ├────── EDIT SMPL
                       ├────── SYSTEM OPTIONS
                       ├────── ACCESS LEVELS
                       ├────── PASSCODES
                       ├────── RESTORE CFIG (Clear Edit Buffer)
                       └────── SAVE TO CFIG
```
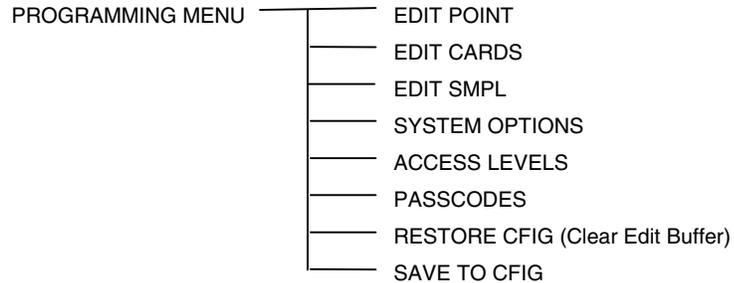
Figure 6-2. 4005 Programming Menu Structure

Edit Point

The Edit Point function includes the following:

- Custom Label - 40 Characters
- Point Type
- Modes (valid for RCU/SCU/LCD annunciators and 8-point output only)

  – *Valid Switch (control) Modes:*

SMPL:	No mode (point used by SMPL)
ACK:	Ack all points (global)
FIREACK:	Ack all Fire alarms
SUPVACK:	Ack all Supervisory alarms
TBLACK:	Ack all Trouble alarms
RESET:	Perform a system reset
SILENCE:	Perform an alarm silence

TOF:	Toggle ON/OFF point	
PBT:	Push button track point	
PBH:	Push button hold point	*Inputs*
OFF:	Turn point OFF	
TDE:	Toggle disable/enable point	

  – *Valid LED (tracking) modes:*

SMPL:	No mode (point used by SMPL)
FIRE:	Track the Fire alarm state
SUPERVISORY:	Track the Supervisory alarm state
TROUBLE:	Track the Trouble alarm state
DISABLE:T	rack the Disable state
ON:	Track the ON state
OFF:	Track the OFF state

- List Contents - For list pseudos, the operator can add points to or delete points from the list.

Edit Cards

The Edit Cards function includes the following:

- Add I/O Cards - Cards 18-20 exist in the default configuration (10 cards maximum in the system)
- Add RUI Cards (Annunciators) - Add RCU/SCU RUI annunciator at addresses 1-16
- Delete Cards
- Edit Device (Circuit) Types – Allows circuit type modification for those cards that support it (NAC/Relay). Otherwise, device types are fixed based on card type

SMPL Programming

Edit SMPL

The Edit SMPL function has the following parameters:

- Max. number of Equations: 40
- Max. number of Statements (Input or Output combined) per Equation: 6

Sample Program

01: *Input Side*
    ALARM 18-01
    OR DETECT 18-04
    End of Input
    HOLD ON 20-01 PRI 9,9
    End of Output

02: *Input Side*
    ON 28-01
    End of Input
    HOLD OFF 20-01 PRI 9,9
    End of Output

(where 18 is the card address number and 01/ 04 is the point number)

(where 9,9 indicates the point's set and reset priorities respectively)

Valid Operator Codes and Parameter Tables

Tables 6-2 through 6-4 show valid operator codes that are supported from front panel programming.

Table 6-2. SMPL Input Qualifiers Table

OPCODE (Qualifier)	DESCRIPTION
FIRE DET	Fire Detect State
FIRE	Fire State
FIRE ACK	Fire Acknowledge State
SUPV	Supervisory State
SUPV ACK	Supervisory Acknowledge State
TBL	Trouble State
TBL ACK	Trouble Acknowledge State
ON/CODE	Oncoding State
COMP CNST	Compare to a constant value
OFF	Off State
ANY	Any Number of elements in a List
ALL	All element in a List
DELAY CNST	Delay for a constant value

Table 6-3. SMPL Input Operators Table

OPCODE	MNEMONIC	DESCRIPTION
29	NOT	NOT operator
31	AND	AND operator
30	OR	OR operator

SMPL Programming, *Continued*

**Valid Operator Codes and
Parameter Tables** *(continued)*

Table 6-4. SMPL Output Operators Table

OPCODE	MNEMONIC	DESCRIPTION
04	TRACK ON	Track Point On
05	TRACK OFF	Track Point Off
07	HOLD ON	Hold Point On
08	HOLD OFF	Hold Point Off
10	ACK	Acknowledge Point
24	S MARCH	Slow March Output Code
26	TEMPORAL	Temporal Output Code
25	MARCH	March Output Code

SMPL Equations

Use the following lines to record your SMPL equations.

6-6

SMPL Equations *(continued)*

_____

_____

_____

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Continued on next page

SMPL Programming, *Continued*

SMPL Equations *(continued)*

SMPL Programming, *Continued*

SMPL Equations *(continued)*

System Options

System Option Chart

Table 6-5 shows each System Option, the valid values (ranges) and the default value for the option.

Table 6-5. System Options Chart

Option Name	Value or Range	Default Value
Time/Date Format	• 12-Hour • 24-Hour	12-Hour
Active Point Reminder (ALM, SUPV, TBL) sounds every 8 hours	• YES • NO	NO
Alarm Silence/Reset Inhibit Timer	• 0 – 60 minutes	0
Alarm Signal Cutout Time	• 0 – 60 minutes	0 with no cutout
Doorholder drop on Alarm	• 0 – 60 seconds	0
Doorholder drop on AC loss	• 0 – 60 minutes	5 minutes
Audible Signal Operation	• Steady • Slow March Time • Fast March Time • Temporal	Steady
Visible Signal Operation	• Steady • Slow March Time • Fast March Time • Temporal	Steady
Enable City Circuit 1	• YES • NO	NO
Enable City Circuit 2	• YES • NO	NO
Expansion Power Supply	• ON • OFF	ON

Edit Access Levels

Refer to the '*Changing Access Level*' section of this document (*Chapter 2*) for information regarding Access Levels.

Edit Passcodes

Refer to the '*Changing Passcodes*' section of this document (*Chapter 2*) for information regarding Passcodes.

Restore CFIG (Clear Edit Buffer)

Refer to the '*Canceling the Editing Changes*' section of this document (*Chapter 2*) for information on the Restore CFIG option.

Save to CFIG

Refer to the '*Saving Editing Changes*' section of this document (*Chapter 2*) for information on the Save CFIG option.

Initiating Device Circuit (IDC) Zones

Recording your System's IDC Zones   Use the following Table to record your Initiating Device Circuit (IDC) zones.

Table 6-6. IDC Zones and Descriptions

INITIATING DEVICE CIRCUIT (IDC) TYPE — 38 ZONES MAXIMUM			
ZONE	**DESCRIPTION**	**ZONE**	**DESCRIPTION**
1		20	
2		21	
3		22	
4		23	
5		24	
6		25	
7		26	
8		27	
9		28	
10		29	
11		30	
12		31	
13		32	
14		33	
15		34	
16		35	
17		36	
18		37	
19		38	

Monitor Point and Signal Point Types

Monitor Point Types

Table 6-7 lists available Monitor Point types.

Table 6-7. Monitor Point Types

Monitor Point	Description	Monitor Point	Description
FIRE	Fire Monitor Zone	FPUMP	Fire Pump Monitor
WATER	WaterFlow Monitor	SFPUMP	Supervised Fire Pump
HEAT	Heat Detector	S2STAGE	2 Stage Monitor
DUCT	Duct Detector	SO	Sprinkler Normally Open
FLAME	Flame Detector	SC	Sprinkler Normally Closed
PULL	Manual Pull Station	WSO	Waterflow/Sprinkler Open
SMOKE	Smoke Detector	WS:	Waterflow/Sprinkler Closed
EMERG	Monitor-Fire Emergency	SUPV	Supervisory Monitor
SFIRE	Monitor-Smoke/Fire	UTIL	Utility Monitor
VFIRE	Monitor-Verified Smoke/Pull	TROUBLE	Trouble Monitor
SPULL	Monitor-Smoke/Pull	VSMOKE	Verified Smoke Detector
VSPULL	Verified Smoke/Pull	GVMON	Generic Verified Zone
GENMON	Generator Monitor	LATSUPV	Supervisory Latching
SGENMON	Supervisory Generator	STYLEC	Monitor-Style C Monitor

Signal Point Types

Table 6-8 lists available Signal Point types.

Table 6-8. Signal Point Types

Signal Point	Description
SSIGNAL:	Fire Signal (On Til Silence)
RSIGNAL:	Fire Signal (On Til Reset)
TSIGNAL:	Trouble (On Til Clear)
BSIGNAL:	Trouble (On Til ACK)
SVISUAL:	Visual (On Til Silence)
RVISUAL:	Visual (On Til Reset)
CODED:	Coded Signal
SIGNAL:	Signal Circuit
SWATER:	WaterFlow (On Til Silence)
RWATER:	WaterFlow (On Til Reset)
SUPV:	Sprinkler Supervisory Signal
PRIMARY:	Elevator Capture (primary
ALTERN:	Elevator Capture (alternate)
AHUR:	AHU Relay
AHUO:	AHU On Relay
AHUF:	AHU Off Relay
DHOLDER:	Door Holder r

NAC/Relay Circuits

Recording your System's NAC/Relay Points

Use Table 6-9 to record your Notification Appliance Circuit (NAC)/Relay points.

Table 6-9. NAC/Relay Circuits and Descriptions

NAC/Auxiliary Relay Type — 34 NACs/Relays Maximum			
RELAY	**DESCRIPTION**	**RELAY**	**DESCRIPTION**
1		18	
2		19	
3		20	
4		21	
5		22	
6		23	
7		24	
8		25	
9		26	
10		27	
11		28	
12		29	
13		30	
14		31	
15		32	
16		33	
17		34	

Relay Point Types

Table 6-10 lists available Relay Point types.

Table 6-10. Relay Point Types

Relay Point	Description
RELAY	Auxiliary Relay
PRIMARY	Elevator Capture (Primary)
ALTERN	Elevator Capture (Alternate)
AHUR	AHU Relay
AHUO	AHU On Relay
AHUF	AHU Off Relay
SRELAY	Fire Relay (On Til Silence)
RRELAY	Fire Relay (On Til Ack)
TRELAY	Trouble Relay (On Til Clear)
BRELAY	Trouble Relay (On Til Ack)
DHOLDER	Door Holder
SVISUAL	Visual (On Til Silence)
RVISUAL	Visual (On Til Reset)
CODED	Coded Relay
WaterFlow	Waterflow Relay
SUPV	Supervisory Relay

Custom Labeling

Recording your System's Custom Labels

Use Table 6-11 to record your Custom Labels for each zone.

Table 6-11. Custom Labels

ZONE	Custom Label (40 Characters Maximum)
Initiating Device Circuit Labeling — 38 Zone Maximum	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	

Available Characters:
- Digits: **0-9**
- Alpha: **A-Z** and **a-z**
- Punctuation **space comma period & ') (* + - / : #**

6-14

Reference Information

CPU Card

Table 6-12 describes the Points associated with the CPU Card (System Address 0).

Table 6-12. CPU Card (System Address 0)

Point Number: Description	Device Type	Point Type	Purpose
1: City Circuit 1/DACT Monitor	Generic Input	Utility	Detect abnormal condition on city circuit 1 or DACT
2: City Circuit 2 Monitor	Generic Input	Utility	Detect abnormal condition on city circuit 2
3: External RUI Monitor	Generic Input	Utility	Monitor RUI comm channel for short
4: Channel 1 Output	Generic Output	Control	Annunciates system fire condition
5: Channel 2 Output	Generic Output	Control	Annunciates system priority 2 conditions
6: Channel 3 Output	Generic Output	Control	Annunciates system supervisory conditions
7: Channel 4 Output	Generic Output	Control	Annunciates system trouble conditions
8: AC Failure Output	Generic Output	Control	Annunciates system AC fail conditions
9: 4-wire Detector Power	Generic Output	Control	Supplies 4-wire power to detectors
10: LCD Backlight Control	Generic Output	Control	Turns on/off LCD backlight
11: Front Panel Piezo Control	Generic Output	Piezo	Controls front panel piezo
12: Fire Alarm LED	Generic Output	Led	Controls front panel fire alarm led
13: Supervisory LED	Generic Output	Led	Controls front panel supervisory led
14: Trouble LED	Generic Output	Led	Controls front panel trouble led
15: Alarm Silence LED	Generic Output	Led	Controls front panel alarm silenced led
16: AC Power LED	Generic Output	Led	Controls front panel AC power led
17: RUI Disconnect Control	Generic Output	Control	Isolates internal from external RUI

Reference Information, *Continued*

RCU/SCU Addresses
Addresses 1 through 16 are reserved for RCU, SCU, and RCU/SCU graphic drive Annunciators. Address 17 is reserved for a test RCU.
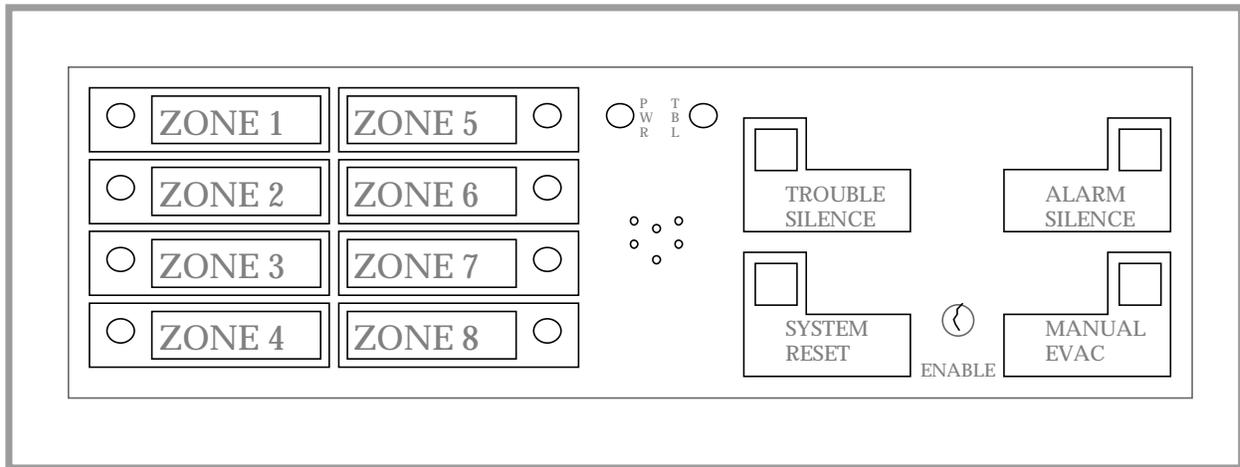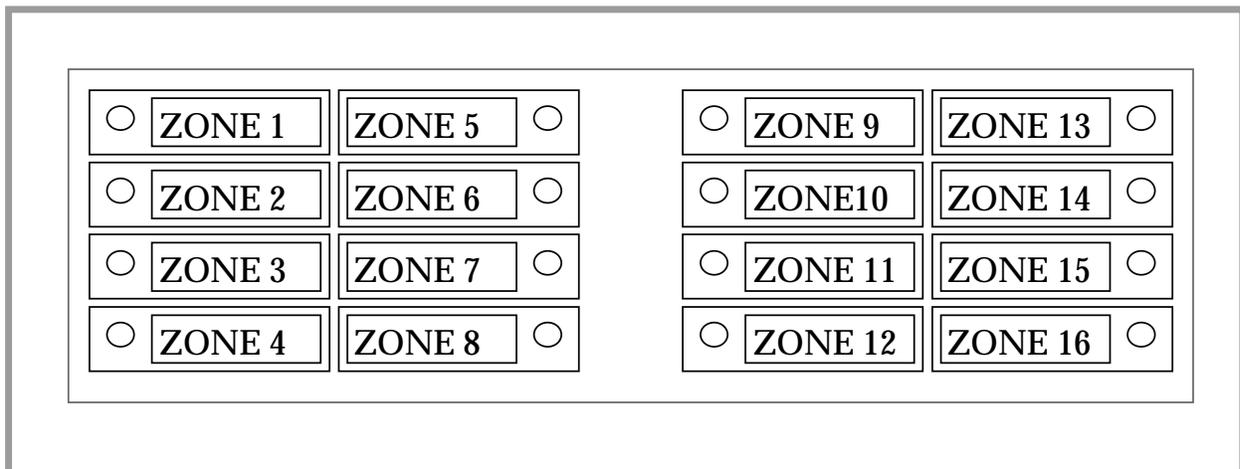

Figure 6-3. RCU

Figure 6-4. SCU

6-16

Reference Information, *Continued*

Input/Output Card Addresses   I/O Card addresses are 18 through 27.

Card Address 27 → 27   18 ← Card Address 18
(Slot # 10)   (Slot # 1)

Card Address 26 → 26   19 ← Card Address 19
(Slot # 9)   (Slot # 2)

Card Address 25 → 25   20 ← Card Address 20
(Slot # 8)   (Slot # 3)

Card Address 24 → 24   21 ← Card Address 21
(Slot # 7)   (Slot # 4)

Card Address 23 → 23   22 ← Card Address 22
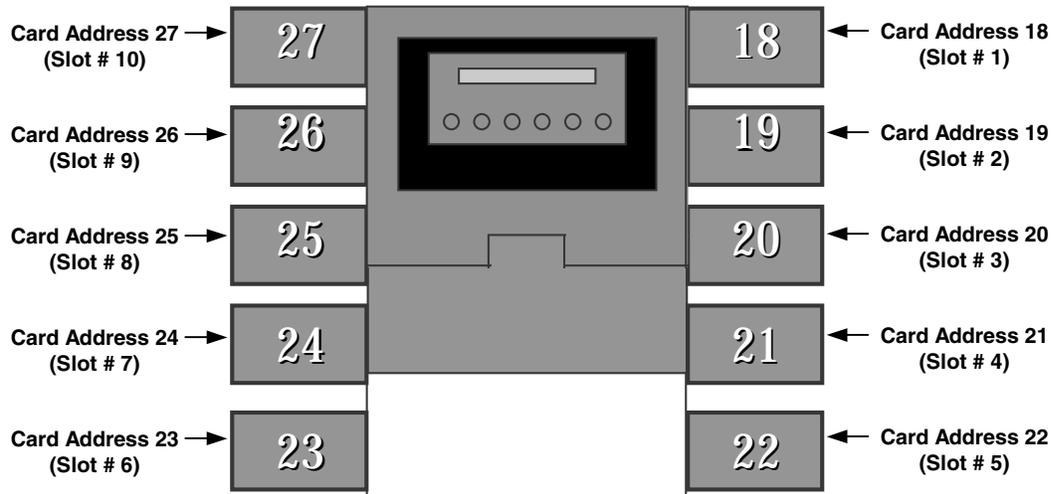(Slot # 6)   (Slot # 5)

Figure 6-5. I/O Card Address/Locations

6-17

Reference Information, *Continued*

Power Supply Card

Table 6-13 describes the Points associated with the Power Supply Card (System Address 28).

Table 6-13. Power Supply Card (System Address 28)

Point Number: Description	Device Type	Point Type	Purpose
1: Battery Voltage Monitor	Generic Input	Utility	Low battery monitor input
2: Battery Depleted Monitor	Generic Input	Utility	Depleted battery monitor input
3: Battery Missing Monitor	Generic Input	Trouble	Missing battery monitor input
4: Battery Charge Current	Generic Input	Utility	Battery charger current
5: Battery Supervision	Generic Input	Utility	Battery supervision monitor
6: Earth/Ground Fault	Generic Input	Trouble	Earth/Ground fault monitor
7: Main Supply Overcurrent	Generic Input	Trouble	Main supply overcurrent monitor
8: AC Failure Monitor	Generic Input	Trouble	AC failure monitor
9: Charger Failure	Generic Input	Trouble	Battery Charger Failure
10: Right Backplane Overcurrent	Generic Input	Trouble	Right backplane overcurrent monitor
11: Left Backplane Overcurrent	Generic Input	Trouble	Left backplane overcurrent monitor
12: Main Power Tap Control	Generic Output	Control	Main power tap control (on/off)
13: Battery Charger State	Generic Output	Control	Battery charger state (on/off)
14: Battery Charger Rate	Generic Output	Control	Battery charger rate (high/trickle)
15: Expansion Power Tap Control	Generic Output	Control	Expansion power tap control (on/off)

Digital Pseudo Card

Table 6-14 describes the Points associated with the Digital Pseudo Card (System Address 29).

Table 6-14. Digital Pseudo Card (System Address 29)

Point Number Description	Device Type	Point Type	Purpose
1: Unacked Fire in System	Digital Pseudo	Utility	Indicates an unacknowledged fire alarm exists in the system.
2: Unacked Supervisory in System	Digital Pseudo	Utility	Indicates an unacknowledged supervisory exists in the system.
3: Unacked Trouble in System	Digital Pseudo	Utility	Indicates an unacknowledged trouble exists in the system.
4: Extra RUI Card in System	Digital Pseudo	Trouble	Indicates RUI card that is not configured is responding.
5: Extra I/O Card in System	Digital Pseudo	Trouble	Indicates I/O card that is not configured is responding.
6: RUI Communication Trouble	Digital Pseudo	Trouble	Annunciates RUI short circuit.
7: User SMPL Program Control	Digital Pseudo	Utility	Turns on/off user SMPL program
8: Cold Start	Digital Pseudo	Trouble	Indicates cold restart of panel.
9: Warm Start	Digital Pseudo	Trouble	Indicates warm restart of panel.
10: Manual Evacuation	Digital Pseudo	Fire	Indicates manual evacuation condition.
11: Time/Date Incorrect	Digital Pseudo	Trouble	Indicates time/date is not set.
12: Simplex Service Mode	Digital Pseudo	Trouble	Simplex service mode (level 4)
13: Keypad Inactivity Disable	Digital Pseudo	Utility	Disables keyboard inactivity timer
14: Active List Overflow	Digital Pseudo	Trouble	Indicates one of the active lists has overflowed, system events lost.
15: Low Battery	Digital Pseudo	Trouble	Annunciates low battery trouble
16: City Circuit Disconnect	Digital Pseudo	Trouble	Indicates city circuit disconnect trouble
17: City Circuit 1/DACT Trouble	Digital Pseudo	Trouble	Indicates city circuit 1/DACT supervision trouble
18: City Circuit 2 Trouble	Digital Pseudo	Trouble	Indicates city circuit 2 supervision trouble
19: Expansion Power Supply Failure	Digital Pseudo	Trouble	Indicates expansion power supply status
20: Control Point Bypass	Digital Pseudo	Trouble	Indicates control point bypass trouble
21: Elevator Bypass	Digital Pseudo	Trouble	Indicates elevator bypass trouble
22: Doorholder Bypass	Digital Pseudo	Trouble	Indicates doorholder bypass trouble
23: Verification Tally Limit Exceeded	Digital Pseudo	Trouble	Indicates verification tally limit has been exceeded on a system verification monitor
24: Degraded Battery	Digital Pseudo	Trouble	Indicates battery degraded trouble
25: Battery Charger	Digital Pseudo	Trouble	Indicates battery charger trouble
26: Walktest Active	Digital Pseudo	Trouble	Indicates Walk Test active trouble
27-50: User Definable	Digital Pseudo	Utility	Open for specific job needs and requirements

Reference Information, *Continued*

Analog Pseudo Card
Table 6-15 describes the Points associated with the Analog Pseudo Card (System Address 30).

Table 6-15. Analog Pseudo Card (System Address 30)

Point Number: Description	Device Type	Point Type	Purpose
1: Fire Alarm Count	Analog Pseudo	Analog	Indicates the current number of fire alarms in the system.
2: Supervisory Count	Analog Pseudo	Analog	Indicates the current number of supervisories in the system.
3: Trouble Count	Analog Pseudo	Analog	Indicates the current number of troubles in the system
4: System Startup	Analog Pseudo	Analog	Turns on for one poll cycle at system startup for user specific initialization needs
5-25: User Definable	Analog Pseudo	Analog	Open for specific job needs and requirements

List Pseudo Card
Table 6-16 describes the Points associated with the List Pseudo Card (System Address 31).

Table 6-16. List Pseudo Card (System Address 31)

Point Number Description	Device Type	Point Type	Purpose
1: System Monitors and Manual Evacuation	List Pseudo	List	Contains all monitor zones and the manual evacuation pseudo point (not user editable)
2: Waterflow Monitors	List Pseudo	List	Contains all waterflow monitors (not user editable)
3: Sprinkler Monitors	List Pseudo	List	Contains all sprinkler monitors (not user editable)
4: Primary Elevator Capture Monitors	List Pseudo	List	User editable list for placing primary elevator capture monitor zones into
5: Alternate Elevator Capture Monitors	List Pseudo	List	User editable list for placing alternate elevator capture monitor zones into
6: Points Off with Silence	List Pseudo	List	User editable list for placing points which should be turned off with a signal silence operation
7: Points Off with Reset	List Pseudo	List	User editable list for placing points which should be turned off with a successful system reset
8-25: User Definable	List Pseudo	List	Open for specific job needs and requirements

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