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## **Programming Guide**

### **1.0 Notice**

- The material and instructions covered in this manual have been carefully checked for accuracy and are presumed to be reliable. However, the manufacturer assumes no responsibility for inaccuracies and reserves the right to modify and revise this document without notice.
- These instructions are the guide to commissioning and programming the D8024, D9024 and D10024 Fire Alarm Control Panels (FACP). See the separate Installation Instructions for information on installation and powering the D8024 and D9024/D10024 FACP's. See the separate Operator's Manual for information on the normal operation of each system.

### **2.0 Warnings and Cautions**



These instructions contain procedures to follow in order to avoid injury and damage equipment.

### **3.0 FCC Notices**

#### **Part 15**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy, and, if not installed in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and the receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

### **4.0 UL/NFPA Notices**

- UL listed for NFPA 72, Local.
- *All references to NFPA and related requirements* are based upon compliance with the 1993 edition of NFPA 72, National Fire Alarm Code. Since installation specifications are nearly always based upon a specific edition of a standard that has been legally adopted by the Authority Having Jurisdiction (AHJ), earlier editions of NFPA standards will generally apply. Consult with the appropriate AHJ for confirmation.

## 5.0 Control Levels

### 5.1 Level Distinction

- The D8024, D9024 and D10024 each have three available control levels. At all three levels the LED Display indicates condition, the ZONE/AREA LEDs indicate location and detailed alarm/trouble information is displayed alphanumerically.
- Control Level One, the Display Level, inhibits the system control keys, limiting the front panel function to annunciation.
- Control Level Two, the Controller Level, allows system control for Fire Drill, Alarm Silence, Trouble Silence, and System Reset; and allows Test and Enable/Disable operations, but does not allow access to configuration or programming functions. At Level Two, the Alphanumeric Display becomes interactive and prompts for system checks, log functions, and key status. Level Two is reached by entering a pass code from Level One.
- Control Level Three, the programmer's level, allows full system configuration information and is used to program or modify the system program.

### 5.2 Passcodes

- Ten passcodes are available for D8024, D9024 and D10024 Controllers. Passcodes are programmable. Level Two passcodes are assigned or changed from Level Three and will not allow access to Level Three. See Option 4) Passwords on Commission Menu Two for information on assigning Level Two Passcodes.



The default Level 2 passcode is 9898, which is the same passcode for Level 3. Be sure to change the Level 2 passcode in order to provide a higher level of panel security. See Section 11.5 to modify the Level 2 passcode.



The Level 3 passcode is 9898. In order to provide a higher level of panel security, make sure only authorized personnel have access to the passcodes for Levels 2 and 3.

## 6.0 Controls and Displays

The D8024, D9024 and D10024 control panels have two rows of control keys. The Control Keys row contains the four System Control Keys for Fire Drill, Alarm Silence, Trouble Silence and System Reset. The Zone/Area display provides access to the alphanumeric Keys and the three Program/Interactive Keys. The Alphanumeric Keys normally function as number keys. They can be toggled to Letter Keys by pressing the Change Key at the right end of the Alphanumeric Key row. The Shift Key at the left end of the Alphanumeric Keys toggles between an upper and lower row of letters. Hold the Shift Key while entering another key to enter the bottom letter.

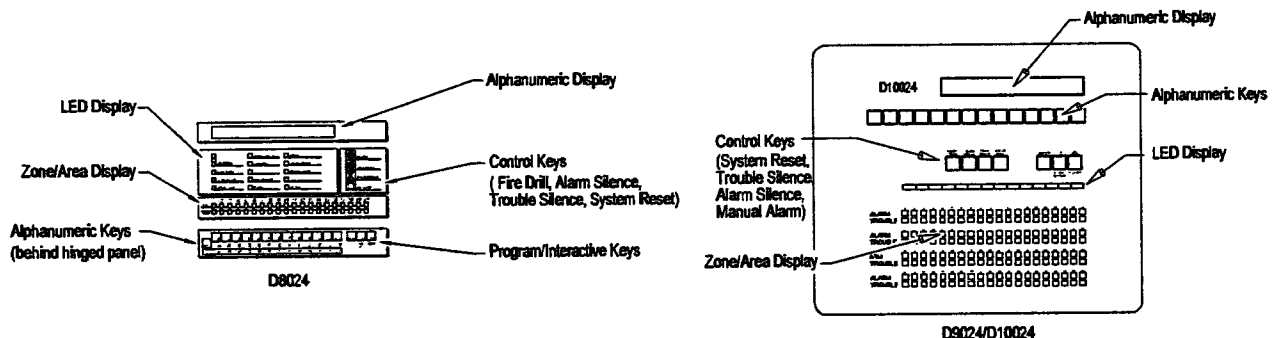
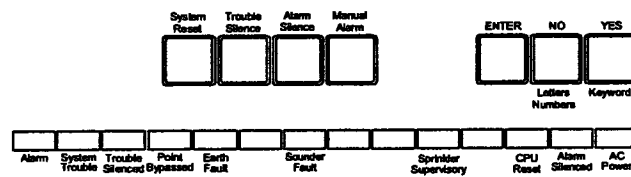


Figure 1: Front Panel Displays



D9024/D10024

<input type="checkbox"/> <b>ALARM</b>	<input type="checkbox"/> Sprinkler Supervisory	<input type="checkbox"/> CPU Reset
<input type="checkbox"/> System Trouble	<input type="checkbox"/> Sounder Fault	<input type="checkbox"/> Sounders Disabled
<input type="checkbox"/> Trouble Silenced	<input type="checkbox"/> Relays Bypassed	<input type="checkbox"/> Sounders Silenced
<input type="checkbox"/> Point Bypassed	<input type="checkbox"/> Earth Fault	<input type="checkbox"/> AC Power

Fire Drill
Alarm Silence
Trouble Silence
System Reset

D8024

Figure 2: Status LED's

Table 1: Control Key Functions

Key Label	Function
Fire Drill	Turns on ALL notification appliances.
Alarm Silence	Press to silence all notification appliances. Press again to activate all notification appliances.
Trouble Silence	Acknowledges events and silences the internal buzzer.
System Reset	Cancels all alarm conditions and resets the panel.

Table 2: Alphanumeric and Program/Interactive Key Functions

Key Label	Function
Shift	Shows user options on Alphanumeric Display used in programming to allow letters N to Z.
0,1,2,3,4,5,6,7,8,9	Press the No Key to toggle between letters and numbers used in programming.
>,<	Scrolls through fires/faults on the Alphanumeric Display.
Change	Changes a display option.
Enter	Enters the selection.
No	To answer No or to terminate an option.
Yes	To answer Yes or step through an option.

- The upper display, the **Alphanumeric Display**, is an illuminated two-line, 80-character, LCD display that gives detailed information on system events and status, and displays interactive prompts. The middle display, the **LED Display**, indicates the type of system event and status. The lower display, the **Zone/Area LED Display**, indicates the location and type (alarm or trouble) of event. Table 3 describes the function and meaning of the status LED's on the D8024, D9024 and D10024 FACP's.

**Table 3: System Status LED Functions**

Status LED	Function	How to Clear the LED
Alarm	An input is in an alarm state, or has latched into an alarm state, or an operator has manually sounded the alarm (FIRE DRILL).	Correct the condition causing the alarm, and then perform a manual reset.
System Trouble	There is a fault in the system, a wiring fault, a power fault, a detector fault, etc.	Correct the fault condition, and then perform a manual reset.
Trouble Silenced	The internal annunciator (indicating an alarm or trouble) has been silenced by the operator (TROUBLE SILENCE).	Correct the fault or alarm condition, and then perform a manual reset. <b>NOTE:</b> If another fault or alarm condition occurs, the internal annunciator automatically resounds.
Point Bypassed	One or more inputs or outputs have been disabled manually by the operator.	Re-enable the device(s). The system automatically resets.
+ Sounders Disabled and/or + Relays Bypassed	Notification appliance circuits/output relays have been disabled manually by the operator.	Re-enable the sounder/ relay. The system automatically resets.
Earth Fault	The system has a short circuit wiring fault to a foreign ground such as an SLC conductor shorted to a heating duct.	Correct the fault condition, and then perform a manual reset.
Sounder Fault	This indicates a wiring fault (other than an earth fault) with a notification appliance circuit.	Correct the fault condition, and then perform a manual reset.
Sounders Silenced	Notification circuits have been manually turned off by the operator (ALARM SILENCE), but the system is still in an alarm state.	Correct the alarm condition, and then perform a manual reset. <b>NOTE:</b> Resound the alarms by pressing ALARM SILENCE again. The alarms will resound if another alarm condition occurs.
Sprinkler Supervisory	This indicates a closed sprinkler supervisory valve, pressure switch, or a sprinkler system trouble condition (generated by Event 100).	Correct the supervisory condition, and then perform a manual reset.
CPU Reset	The system detected an improper operation of the CPU or in the integrity of memorized data, and has restarted automatically.	Correct the problem, if appropriate, and then perform a manual reset.
Alarm Silenced	Notification circuits have been manually turned off by an operator, but the system is still in an alarm state.	Reset the system.
AC Power	STEADY: Indicates that an acceptable AC power supply is present. FLASHING: Indicates that AC power is not present, or there is a power supply fault.	N/A



The D8024 can support up to 252 addresses, the D9024 can support up to 378 addresses and the D10024 can support up to 630 addresses.

## 6.1 Memory Lock

- To make any changes that affect the configuration of the system, such as adding sensors, the programmer must unlock the system memory using the Memory Lock switch (see Figure 3). Open the panel and move the memory lock switch to the lower position.

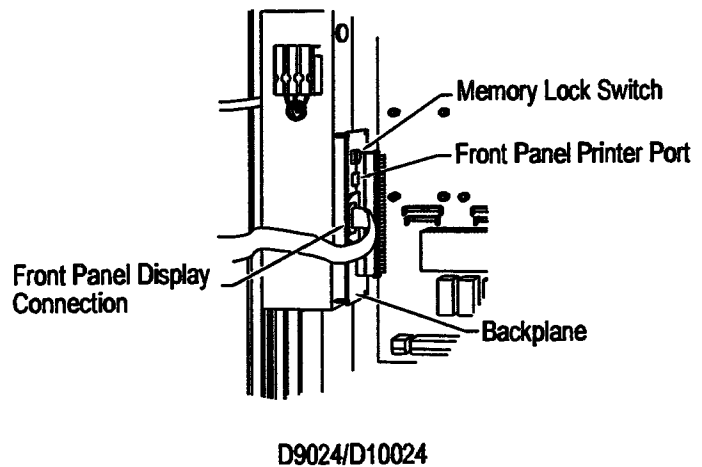
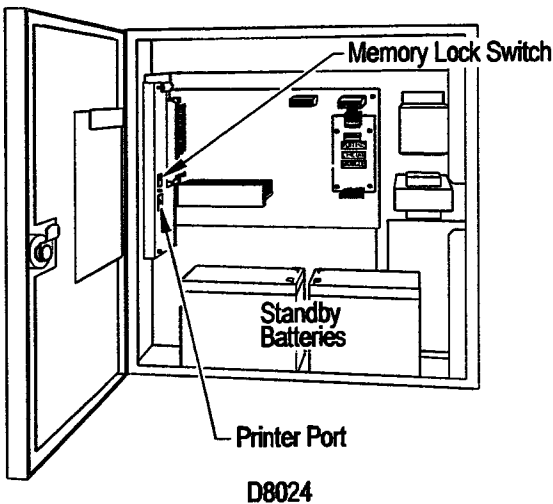


Figure 3: Memory Lock Switch Location



Make sure to unlock the system memory before commissioning the FACP. The system memory must then be locked upon completion of panel commissioning.

## 7.0 Commissioning New Installations

- Use the keys on the front panel or a PC to program the Fire Alarm Control Panel (FACP). See Section 13.0 for complete instructions on PC programming.

### 7.1 Front Panel Keys and Programming

- If the keypad is unused for over a minute, the display automatically reverts to the normal display that shows time/date, or a display of faults on the system. Press the ">" key to restore the interactive display. When the system requires information, it will display a message followed by a question mark. Press YES, NO, or key in letters or numbers and press ENTER. To see the next item (sensor, menu page, etc.) press the YES key. To terminate an option, press the NO key (certain commissioning procedures do not allow premature termination).

### 7.2 Setup

- This procedure is necessary to complete the basic setup for panel operation. there are 8 Setup functions: **Language Settings, Number of Polling Circuits, Calibration of Time Setting, AC Fail Timer, Reset Inhibit, Name Settings, Service Phone Number Setting, Memory Lock Check and Log Mode Settings.**
- Selecting **Setup** results in a series of prompts answered in sequence. Press the ">" key to repeat the sequence as necessary to change an answer. To reach **Setup**, press the **Shift** key to display the first Level Two Entry Menu.

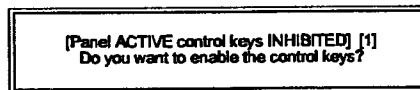


Figure 4: The First Level-Two Entry Menu

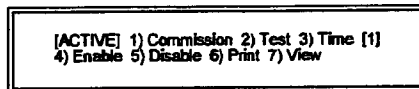
- Press **Yes**. The panel displays the second Level Two Entry Menu.



Figure 5: The Second Level-Two Entry Menu

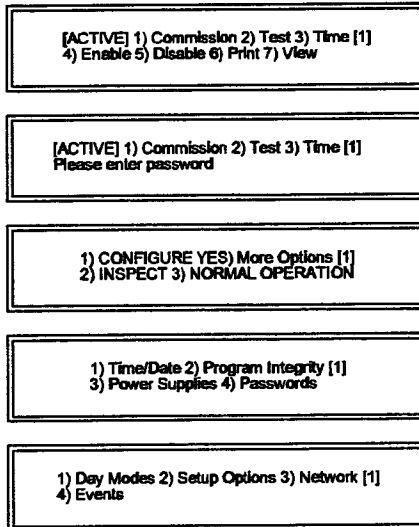
- Enter the Level Three Pass Code.
- The panel displays the Main Menu.





**Figure 6: Main Menu**

- Select Option 1) Commission, by pressing the "1" key. The display prompts, "Please enter your password". Enter the Level Three Pass Code (9898).



**Figure 7: Path Through Commission Menus to Setup**

The display shows the first of the three Commission Menus. Press **YES** twice to page to Commission Menu Three. Press 2 to enter Setup options. The display prompts: "Memory is locked!" Unlock the memory using the Memory Lock Switch (see Figure 3). If no input is entered for over a minute while the memory is unlocked, the panel buzzer will sound and the alphanumeric display will read: "Panel left in commission mode." Press the ">" key to silence the buzzer. Press 2 to enter the first Setup function.

### Language Settings

- The panel display prompts, "ENGLISH?" Press **YES**. The display prompts "ENGLISH USA?" For installations in the USA, press **YES**. The display prompts, "Quantity of Loop drivers = (1 or 2) OK?"

### Number of Polling Circuits

- This number is set to one. Verify that it is correct and change the number if necessary. Press **YES** to accept. To change, press **NO**, change the quantity to equal the number of D9067 Polling Circuit Modules present in the FACP, and press **ENTER** as prompted. The display prompts "Detectors [Hochiki ESP] OK?" Press **YES**.



**Radionics detectors require that the detector protocol be set to Hochiki ESP. Failure to do so will result in faulty operation of the FACP.**

### Calibration Time Setting

- The FACP will automatically check device calibration at the time set in this option. If the time is set to the default 0:00, automatic calibration is disabled. The display prompts "Device calibration/time check = 0:00 ?" Press **YES** to confirm that automatic calibration is disabled. To set a calibration time, press **NO**. The display prompts for the time. Enter the desired calibration time in terms of a 24-hour clock (9:00 PM = 2100). Press **YES** to confirm the new time.



The panel recognizes time based on a 24-hour clock (for example, 4:00PM = 1600).

### AC Fail Timer

- The time taken for the main power source failure to be latched and permanently displayed as a fault can be set from the display. If the main power source is restored before the timer has expired, then the panel will automatically cancel the audible and visual indications. A corresponding System Event can also be generated (see Section 9.1, "General Events"). The display will prompt, "AC Fail Timer = 1 minutes?" To accept the prompt, press **YES**. To change the time, press **NO** and enter the desired value.



In order to comply with NFPA regulations, the time set for the AC Fail Timer should not exceed 3 minutes.

### Reset Inhibit

- The Reset Inhibit time prevents the user from hitting the reset button immediately after a fire has been detected. The display will prompt, "Reset Inhibit time = 0 seconds?" Press **NO** and enter the desired value. Press **YES** to accept the prompt.

### Name Settings

- The Normal Display shows the date and time on the upper level and the name that is entered during this setup step on the lower level. The name display alternates with the message, "All devices are inside working limits."



Figure 8: Name Settings

- To enter or alter the Name Setting, press the ">" key. The display will show the Letters Submenu. In this submenu, the **NO** key becomes the Letters/Numbers key. Use this key to toggle between the Letters Submenu and the Numbers/erase Submenu. The **YES** key becomes the KeyWord key. Use this key to toggle through the three KeyWord submenus.

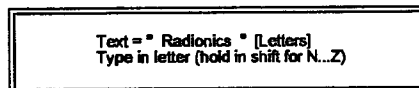


Figure 9: Letters and Numbers Submenus

- To move the cursor, toggle to the Numbers Submenu and use the "<" and ">" keys. Use the shift key with the letter key to type the letters N through Z (the lower row). To leave this submenu press the **ENTER** key. If an error is made when setting the name, press the **NO** key and use the < key to erase any mistake. Press **YES** again to enter the desired name. Press **YES** to confirm the changes and move to the next setup option, Service Phone Number Setting.

### Service Phone Number Setting

- The message, "For service phone . . ." followed by the service phone number is displayed when a fault occurs in the system. To enter or alter this message, press the ">" key and use the same procedures used in Section 7.2, "Name Settings." Press **YES** to confirm and move to the next Setup option.

## Memory Lock Check

The display prompts "Memory Lock Check [Yes] OK?" Press **YES** to confirm. In normal operation, the panel buzzer will sound if the memory is left unlocked. This may be inconvenient during some programming operations. Changing the Memory Lock Check to [No] allows the operator to exit the system configuration and resume normal operation with the memory unlocked without the buzzer sounding. See Figure 3 for the location of the memory lock switch on the D8024, D9024 and D10024. Press **YES** to confirm and move to the final Setup option.

## Log Mode Settings

- Whenever the system is powered up, the Event Log is automatically set to normal. During setup, it can be set to either the **diagnostic mode** or the **normal mode**. The panel will not initiate a Trouble or Alarm until a device fails three successive polls. This reduces the chance that line interference or a faulty detector will lead to an alarm. The panel logs system events in the normal mode.
- The panel reads every event in the diagnostic mode, including single response failures from devices. The panel also performs a circuit integrity test every minute while in the diagnostic mode. This test checks to see if the panel can read every device from either end of the circuit. If the panel finds a break in a circuit, it logs it in the Event Log (see Section 8.4, "System Operation", of the D8024 Operator's Guide or Section 8.4, "Operator's Menu", of the D9024/D10024 Operator's Guide). A break in a circuit will result in two entries identified as "Break Test 1" and "Break Test 2", which will identify the device(s) that have not replied to the panel's poll.
- From the Log Settings submenu, use the **NO** key to toggle between "normal" and "diagnostic" prompts, and the **YES** key to accept the prompt.

## Exiting the Setup Menu

- Pressing the **YES** key at the Log Settings submenu returns the display to Commission Menu Three. Press **NO** to return to Commission Menu One. Lock the memory by moving the Memory Lock Switch to the up position. Select Option 3) NORMAL OPERATION. The display will return to normal.

## 7.3 System Configuration, Polling Circuits

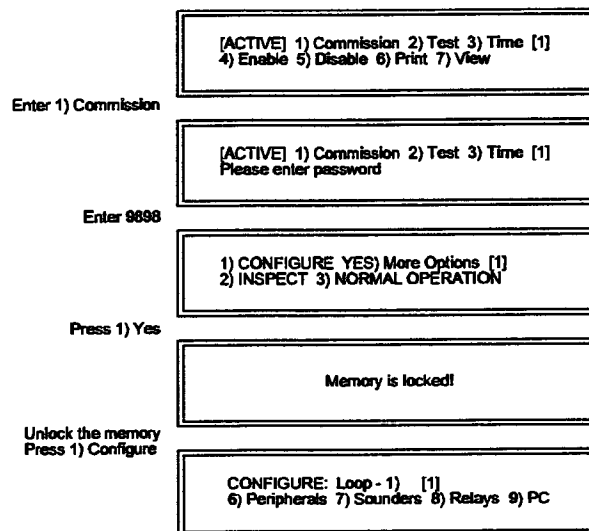


The D8024 has a capacity of 2 polling circuits, the D9024 has a capacity of 3 polling circuits and the D10024 may have a capacity of 5 polling circuits. A D9067 Polling Circuit Module must be installed for each polling circuit.

- Once the system setup is complete, configure the polling circuits. Specific instructions for **Zone Configuration** and **Device Configuration** follow the **Auto Learn Polling Circuit** section. Use Auto Learn to save time in Setup or when changing sensor configuration. Press the **Shift** key to display the first Level Two Entry Menu.
- Select Option 1) Commission, by pressing the "1" key. The display prompts, "Please enter password". Enter the Level Three Pass Code (9898). Press 1)Commission.

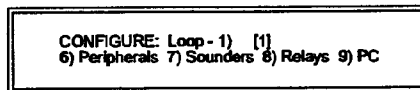


If the memory is locked, the display prompts, "Memory is locked!" Unlock the memory using the Memory Lock Switch (see Figure 3).



**Figure 10: Path Through Commission Menu to Configure**

- The number of polling circuits in the system is entered during the setup procedure (see Section 7.2, "Number of Polling Circuits"). To configure these circuits, select Option 1) Configure from Commission Menu One. The display shows the Configure Submenu.

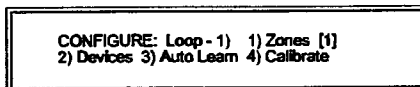


**Figure 11: Configure Submenu**



The D8024 has a capacity of 2 polling circuits, the D9024 has a capacity of 3 polling circuits and the D10024 may have a capacity of 5 polling circuits.

- The menu will prompt for as many polling circuits as were entered in Setup. Options one through five are reserved for these circuits. Select Option 1) to display the Configure Submenu for Polling Circuit One.



**Figure 12: Configure Submenu for Polling Circuit One**

### Auto Learn Polling Circuit

- The system uses Auto Learn to find what devices have been installed on a particular circuit. Repeat the Auto Learn sequence for each polling circuit. It can be used as many times as required and does not affect the text used to describe the location of each sensor. Select Option 3) Auto Learn. The FACP displays Auto Learn Submenu One.



**Figure 13: Auto Learn Submenu One**

- Pressing **NO** will cause the panel to simply calibrate all the devices on the circuit and display the number and types of devices (see Figure 13). Press any key to return to the Configure Submenu (see Figure 15).
- To proceed with **Auto Learn**, press the **YES** key. The display confirms by displaying "program running." The FACP may take up to 30 seconds to learn a circuit. Each possible detector address is checked to see if it is occupied and by what type of detector. If more than one detector is located at a single address or the detector type code is invalid, a warning message will appear on the display.



**Do not press any key until the display changes to Auto Learn Submenu Two.**

- When the panel has learned what devices are on the polling circuit it calibrates devices and displays a "Calibrating Devices" message. After calibration, the panel displays Auto Learn Submenu Two, a summary of what it found on the circuit. Compare this display with the installation sheets to ensure that the system has found the correct number of devices.

Ion	Opto	Temp	Sounder	MCP	Conventl	Other
37	24	2	8	14	2	3

**Figure 14: Typical Auto Learn Submenu Two**

**Table 4: Device Type Table**

Device Type	Description	Model Number
Ion	Ionization Detector	D324A
Opto	Photoelectric Detector	D323A
Temp	Heat Detector	D322A
Sounder	Indicating Circuit Module	D327A
MPS	Manual Pull station	D325A

- Press ENTER to continue. The panel display returns to the Configure Submenu for this circuit.

CONFIGURE: Loop - 1) 1) Zones (1) 2) Devices 3) Auto Learn 4) Calibrate
--

**Figure 15: Configure Submenu for Polling Circuit One**

- After the panel has used Auto Learn to configure and calibrate the devices on this polling circuit, press **NO** to return to the Configure Submenu (see Figure 15). Option 1) Zones allows the programmer to assign sensors to specific zones. Options 2) Devices (section 7.4 "Peripheral Device Configuration") and 4) Calibrate (section 7.4 "Calibrate Peripheral Devices") allow detailed configuration and calibration of specific devices.

### Zone Configuration



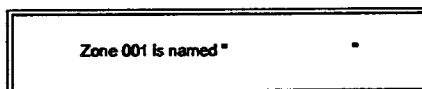
The D8024 can be divided up into 20 zones, the D9024 can be divided up into 40 zones and the D10024 can be divided up into as many as 80 zones with the D9054 LED Extension Card. Without the D9054 LED Extension Card, the D10024 FACP can only be divided up into 40 zones.

- Use the Configure Zones option to assign alarm initiating devices to the appropriate zone. The default condition is that all devices are in zone one. The display flashes the item that can be changed.

All devices on Loop 1 from address [001] to [126] are in zone [001]
--

**Figure 16: Zone Configuration Submenu**

- To change a value move the cursor to the desired location using the ">" and "<" keys, enter the desired number(s), and press **Yes** or **Enter** to move to the next field. The configuration shown on the display becomes effective immediately after pressing the **Enter** or **Yes** key. Pressing the **No** key at any time during the zone configuration terminates zone configuration and returns the display to the configure submenu for this particular polling circuit. If the "to address" value is less than 126, the **Yes** or **Enter** key automatically advances to the next zone to be defined. When all of the devices for the circuit being configured are assigned to zones, the program will advance to the zone description entry menu.



**Figure 17: Zone Description Submenu**

- Each zone can have a 20-character description assigned to it to identify the area covered by the zone. This description will appear on the Alphanumeric Display if a fault or fire is detected by any sensor in the zone. Change the description by highlighting the text (using the ">" and "<" keys ) pressing **Change** and entering either letters, numbers or Keywords. This procedure is the same as described in sections 7.2 "Name Settings" and 7.3 "Sensor Text". Pressing the **Yes** or **Enter** keys saves the change.



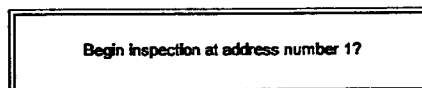
**Devices assigned to zones 99 and 100 will activate the Sprinkler Supervisory LED in the LED Display. See Table 3 for Sprinkler LED details.**

### Exiting the Zone Configuration Option

- Press **No** to exit the Zone Configuration option. The display will return to the Configure Submenu for this particular polling circuit. Press the **No** key to return to the main Configure Submenu.

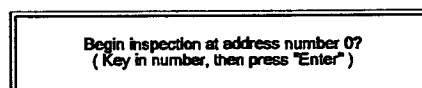
### Device Configuration

- Option 2) Devices provides information on individual devices on the circuit by device address. It allows the programmer to insert or change device descriptions, alarm thresholds and system reaction to device input. The Device Configuration section will describe how to set **Sensor Text**, **Device Zone**, **Alarm Thresholds** and **Device Action** information for each device on the polling circuit. Press 2) Devices from the Configure Submenu for the polling circuit to display Device Submenu One.



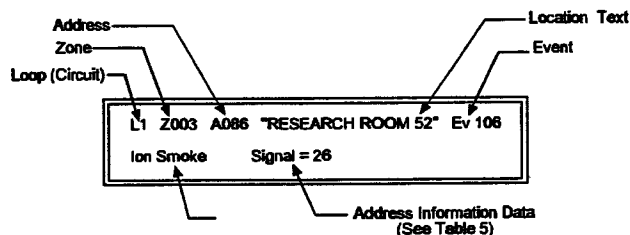
**Figure 18: Device Submenu One**

- Press **Yes** to accept. The display changes to the Address Information Display (see Figure 20). To change the address to be inspected, press the **Change** key. The display shows the Device Inspection Address Change Submenu.



**Figure 19: Device Inspection Address Change Submenu**

- Key in the address and press **Enter**. The Address Information Display shows detailed information about the device at the chosen address.



**Figure 20: Address Information Display**

- Use the ">" and "<" keys to move up and down the addresses on this circuit. Press **Change** to change device information. The display will change to the Device Information Change Submenu (If only the text can be changed, the Device Text Submenu is displayed when **Change** is entered). The panel allows changes to the alphanumeric text display and the assigned zone. Option 3) Event allows the connection of individual devices to system events. If the device is a smoke or heat detection device, alarm thresholds may be changed from this menu (see Figure 21).

1) Sensor Text	2) Zone	3) Event
4) Alarm Thresholds		

Figure 21: Detection Device Information Change Submenu

- Devices other than Smoke and Heat detectors may be programmed to display actions other than an alarm. Instead of 4) Alarm Thresholds, these devices will offer Option 6) Action on the Device Information Change Submenu (see Figure 21). Device Action programming is covered in section 7.3 "Device Configuration."



Assign sprinkler monitoring devices to Event 100.

- Select Option 3) Event for each sprinkler monitoring device and assign it to Event 100. Select 6) Action and assign the sprinkler monitoring device to **Sprinkler Supervisory**. When the sprinkler monitoring devices activates the Sprinkler Supervisory LED will light, the LCD display will show the location and the internal buzzer will sound.

1) Sensor Text	2) Zone	3) Event
6) Actions		

Figure 22: Detection Device Information Change Submenu

### Sensor Text

- Select Option 1) Sensor Text to display the Device Text Submenu. There are five displays to this menu: a Letters display, a Numbers display, and three Keywords displays. The display being used is shown in brackets at the top left of the display. Use the **No** key to toggle between letters and numbers/erase and the **Yes** key to toggle through the Keywords displays.

Text = "D322 Heat Detector" [Keywords]
1=ROOM 2=FLOOR 3=CORRIDOR 4=RECEPTION

Text = "D322 Heat Detector" [Keywords]
1=STAIRCASE 2=LANDING 3=BASEMENT

Text = "D322 Heat Detector" [Keywords]
1=NORTH 2=SOUTH 3=EAST 4=WEST 5=WING

Figure 23: The Three Keywords Displays

- To enter or change a number, use the **No** key to toggle to the numbers display. "[Numbers]" will appear at the upper right of the display. A cursor "\_" will indicate the current position in the display. To enter or change a letter, use the **No** key to toggle to the letters display. "[Letters]" will appear at the upper right of the display. Use the **Shift** key to select letters N to Z. To move the cursor position or erase a letter, use the **No** key to select the Letters Display and use the ">" and "<" keys. To enter or change Keywords, use the **Yes** key to toggle to the Keywords display. Enter the number preceding the Keyword to insert that Keyword into the device text. Press **Enter** to complete the text change. Press **No** to return to the Configure Submenu for this circuit.

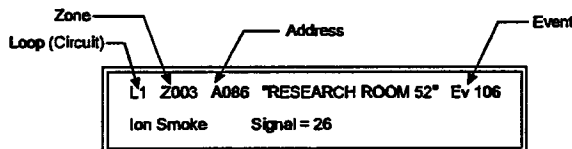
### Device Zone

- During Device Configuration, the programmer has the option of changing the zone assigned to the device being inspected. Press the **Change** key while viewing the Address Information Display (Figure 20) to reach The Detection Device Information Change Submenus (Figures 21 and 22). Option 2) Zone on these submenus displays the Individual Device Zone Change Submenu.

Which zone is the sensor in? (Key in number, then press "Enter")
---

Figure 24: Individual Device Zone Change Submenu

- Enter the desired zone for this device. If the programmer keys in the number three and presses **Enter**, the display responds with the Address Information Display showing the current zone assignment for this device (see Figure 25).



**Figure 25: Address Information Display**

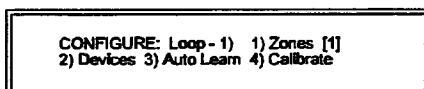
- Use the ">" and "<" keys to move to other address or the **No** key to return to the configure menu for this circuit.

### **Alarm Thresholds**



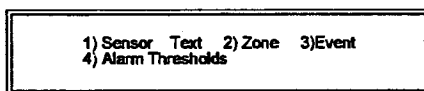
**Default devices are within UL range. Radionics does not recommend altering factory alarm thresholds. Detection devices return to factory settings when the FACP loses power and is initialized.**

- Select Option 2) Devices from the Configure Submenu for the desired polling circuit.



**Figure 26: Configure Submenu for Polling Circuit 1**

- Press **Yes** to accept the device inspections and use the ">" and "<" keys to move up and down the addresses on this circuit. Press **Change** to change device information. The display will change to the Device Information Change Submenu.



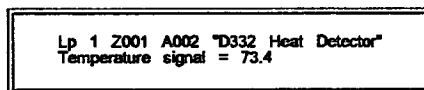
**Figure 27: Device Information Change Submenu**

- Select Option 4) Alarm Thresholds. The display will show the current alarm setting and display the default setting in brackets. Press **Yes** to accept the current setting. Press **No** and follow the prompt to change the setting. The display will show the current pre-alarm setting and display the default setting in brackets. Press **Yes** to accept the current setting. Press **No** and follow the prompt to change the setting. Press **Enter** to complete changes. Press **No** to return to the Configure Submenu for this circuit. Use the ">" and "<" keys to move up and down the addresses on this circuit. A typical heat detector display is shown in Figure 28. This display indicates that on Circuit (Loop) One, Zone One, at Address 002, a D322A Heat detector is reporting a temperature of 73.4°F (23°C).



**Temperatures are reported in degrees Fahrenheit.**

- To convert °F to °C:  $n^{\circ}\text{F} - 32 + 1.8 = n^{\circ}\text{C}$ . For example:  $50^{\circ}\text{F} - 32 = 18$ .  $18 + 1.8 = 10^{\circ}\text{C}$ .



**Figure 28: Address Information Display**

- Table 5 gives standard values for devices on a polling circuit.

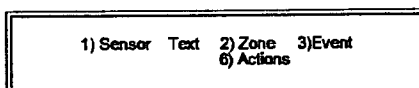


**Table 5: Address Information Data Table**

Device	Standard Pre-Alarm Threshold	Standard Fire Threshold	Just Calibrated	Range	Normal Reading	Fault Input	Fire
D322A Heat Detector	114°F (46°C)	132°F (56°C)		50°F - 176°F (10°C - 80°C)			
D323A Photoelectric Detector	2.5 %	3%	.1%	.5% - 4%			
D324A Ion Detector	1%	1%	1%	N/A			
D325A Manual Station					16		64
D326A Point Contact Module					16	44	64
D327A NAC Output Module					16	44	
D334A Point Contact Module					16	44	64

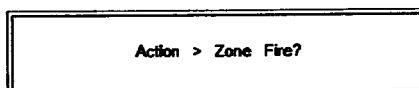
### Device Action

- The FACP's response to pre-alarm and fire level signals from smoke and heat detectors is fixed. The panel's response to closure of input contacts from most other devices may be programmed. These devices will offer Option 6) Action when the **Change** key is pressed from the Device Information Display



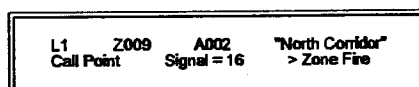
**Figure 29: Detection Device Information Change Submenu**

- Press 6) Action to display the first of six action choices.



**Figure 30: Device Action Submenu One**

- Press **Change** or **No** to move to the next choice (see Table 6 for an explanation of device actions). To accept the choice press **Enter**. The alphanumeric display changes to the Address Information Display and shows the choice entered in the lower right (see Figure 31).



**Figure 31: Address Information Display**

**Table 6: Device Action Table**

Option	Action
Zone Fire	Puts the programmed zone in a FIRE condition.
Bomb Alert	Displays a BOMB ALERT message on the alphanumeric display. Puts the programmed zone in an ALARM condition (alarm outputs respond according to their programming).
Class Change	<b>Do not program this option.</b>
Security	Sounds the panel buzzer. Lights the System Trouble LED. Displays a security alert message on the alphanumeric display.
Sprinkler Supervisory	Lights the Sprinkler Supervisory LED. Shows the location on the display. Sounds the internal buzzer.
Warning	Sounds the panel buzzer. Lights the System Trouble LED. Displays a warning message on the alphanumeric display.
Group Disable	Allows an input device to disable a group of detectors remotely from the panel.

## Device Calibration

- To calibrate all the input devices on a polling circuit, enter the Configure Menu, go the Configure Submenu for that polling circuit and select Option 4) Calibrate. The panel will poll and calibrate all devices on that circuit, and on completion, will return the display to the Configure Submenu. Use the calibration function that is a part of the Auto Learn procedure to calibrate a polling circuit and list a summary of devices (see section 7.3 Auto Learn Polling Circuit). Use **No** to return to the Main Menu. Press **No** to return Commission Menu One.

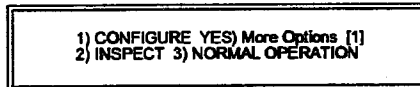


Figure 32: Commission Menu One

- Select Option 3) NORMAL OPERATION. The display will prompt for memory lock.

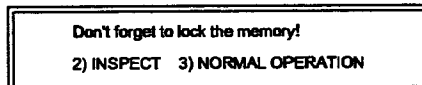


Figure 33: Memory Lock Reminder

- Move the Memory Lock Switch (see Figure 3) to the upper position and press the 3 key again. The display will return to the Main Menu and will revert to the time/date - status display.



If the memory is locked before the Memory Lock Reminder is displayed, the trouble panel buzzer will sound and the display will show a failure message.

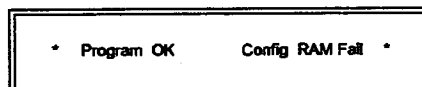


Figure 34: Memory Lock Error Message

- To silence the trouble buzzer and reset the Config RAM:
  - Press the ">" key to enter the Operator's Menu, Main Level
  - Press 1) Commission
  - Key in the pass word
  - Press 1) Configure
  - Press **No** to return Commission Menu One.
  - Select Option 3) NORMAL OPERATION. The display will prompt for memory lock.
  - Move the Memory Lock Switch (See Figure 3) to the upper position and press the 3 key again. The display will return to the Main Menu and will revert to the time/date - status display.

## Groups/ Group Disablement

- The group assignment/ group disablement function allows a range of detectors and input devices to be disabled remotely from the panel using a single input device. The initiating input device can be any loop input circuit, call point or peripheral input circuit.

### Group Assignment

- Each detector or input device that is to be disabled must be assigned to a specific group using the 7) Group command in the Change Device options. The input device that will initiate the group disablement must also be assigned to the same group.

### Group Disablement Input

- The input device to be used to control the group disablement must have its 'Action' set to Group - Disable.
- Only one input device must be assigned to act as the Group Disable input for a specific group.

## 7.4 System Configuration, Peripherals

- Peripheral Devices (controllers and annunciators) are input and output devices connected to the D9051 RS-485 Module in Port D. The panel names the RS-485 circuit "Loop P." The panel supports up to 126 addresses that peripheral devices can be assigned to. D9070 Controllers signal a manual alarm or trouble condition with Alarm or System Trouble LED indications, panel and device buzzer, and 40-character text display at the device and at the panel. The ALARM and TROUBLE LED in the zone/area LED display will not light. D9069 Annunciators do not have addresses on this circuit (they repeat panel information but do not communicate with the panel). A D9069 Annunciator in a fault condition will signal its condition at the device but not at the panel. A D9073 High Integrity RS-485 Bus Module functions as an RS-485 signal regenerator and booster. When multiple D9073 modules are connected together, a high integrity RS-485 circuit is created. A D9078 is used to provide an LED logic driver for graphic displays.



When using the D9070 Fire System Controller on the D9024 or D10024 systems operating on software revisions earlier than 6.10-UO, Peer-to-Peer must be set to "True". If this prompt is set to "False", then the system control keys will not function after being disabled. This prompt can also be found in the *Analog Panels Networking Guide* (PIN: 34377).

- To configure peripheral devices, unlock the memory, select Option 1) Commission from the Operator's Menu, Main Level, and enter the pass code.

Enter 1) Commission

[ACTIVE] 1) Commission 2) Test 3) Time [1]  
4) Enable 5) Disable 6) Print 7) View

Enter 9898

[ACTIVE] 1) Commission 2) Test 3) Time [1]  
Please enter password

Press 1) Configure

1) CONFIGURE YES) More Options [1]  
2) INSPECT 3) NORMAL OPERATION

Figure 35: Path to the Configure Submenu

- The Display will change to the Configure Submenu.

CONFIGURE: Loop - 1) [1]  
6) Peripherals 7) Sounders 8) Relays 9) PC

Figure 36: Configure Submenu

- Select Option 6) Peripherals. The display will change to the Configure Peripherals Submenu

CONFIGURE: Peripherals 1) Zones [1]  
2) Devices 3) Auto Learn 4) Calibrate

Figure 37: Configure Peripherals Submenu

- Select Option 3) Auto Learn. The display changes to Auto Learn Submenu One

### Auto Learn Peripheral Circuit

- Auto Learn allows the system to learn what devices have been installed on the RS-485 bus. Auto Learn can be used any number of times and does not affect the text used to describe the location of devices.

Auto Learn finds ALL device addresses  
and types on Loop 1. Shall I do this?

Figure 38: Auto Learn Submenu One

- Press the Yes key. The display responds with a "Program running" display.
- Do not press any key while "Program running" is displayed. When Auto Learn has finished learning the peripheral units the display will respond with the Peripheral Summary Display.

4-way-SCC 0	4-way-Relay 0	8-way-Input 0	Other 0
----------------	------------------	------------------	------------

Figure 39: Peripheral Summary Display

Table 7: Peripheral Device Type

Device Type	Description	Model Number
4-way-SCC	Annunciator	D9069
Other	Controller	D9070
Other	4 Output Notification Appliance Module	D9072
Other	High Integrity RS-495 Bus Module	D9073
Other	LED Driver Module	D9078

- Check that the system has found all devices correctly. Press Enter to return to the Configure Peripherals Submenu.

CONFIGURE: Peripherals 1) Zones [1] 2) Devices 3) Auto Learn 4) Calibrate
--

Figure 40: Configure Peripherals Submenu

### Peripheral Zone Configuration



The D8024 can be divided up into as many as 20 zones, the D9024 can be divided up into 40 zones and the D10024 can be divided up into as many as 80 zones only with the D9054 LED Extension Card. Without the D9054 LED Extension Card, the D10024 can only be divided up into 40 zones.

- From the Configure Peripherals Submenu press 1) Zones. The display changes to the Peripheral Device Zone Submenu.

All Devices on Loop P from Address [001] to [128] are in Zone [001]
--

Figure 41: Peripheral Device Zone Submenu

- Use ">" and "<" keys to move the to the field to be changed. A blinking cursor will indicate the character to change. Use the number keys to change the address and press Enter to complete the change. When all the device addresses on the peripheral circuit (Loop 6) are assigned, pressing Enter will change the display to the Zone Description Change Submenu.

Zone 001 is named "                      "
--

Figure 42: Zone Description Change Submenu

- The Display defaults to Zone 001. Use the ">" "<" keys to move the blinking cursor through the fields. Use the letter keys to assign or change zone descriptions. Keywords (the Yes key) do not work in this submenu. Press the Yes key to move the display to the next zone.



The display moves through all the zones and displays all zone descriptions. Zone descriptions assigned from polling circuit configuration will be displayed and can be changed from this submenu.

- Press No to return to the Configure Peripherals Submenu.

CONFIGURE: Peripherals 1) Zones [1] 2) Devices 3) Auto Learn 4) Calibrate
--

Figure 43: Configure Peripherals Submenu

## Peripheral Device Configuration

- The text description for each peripheral device, and the zone to which each device is assigned may be individually configured. Select Option 2) Devices, from the Configure Peripherals Submenu to add or change Peripheral Device descriptions (Sensor Text) or to change the zone location of individual devices. The display changes to the Peripheral Device Information submenu.

P: 011 Z007 - "THIRD FLOOR SOUTH"  
Repeater S = 16

Figure 44: Peripheral Device Information Submenu

- This submenu opens with peripheral device address one. If this address is not assigned, the display will show device 001 (P:001), the zone to which it is assigned (Z001), device description " ", and the device type "not used." Press the ">" key to move to the next assigned address. Figure 44 indicates device 11 is assigned to zone 007, third floor south, is a controller (repeater), and is sending a "normal" analog message to the panel.
- Use the ">" "<" keys to move the display to the next device address. Press the **Change** key to change the address information. The display shows the Peripheral Device Information Change Submenu.

1) Sensor Text  
7) Action 8) Zone

Figure 45: Peripheral Device Information Change Submenu



Option 7) Action is not used at this time.

### Configure Peripheral Device Text

- Select Option 1) Sensor Text, to display the Device Text Submenu. There are five displays to this menu: a Letters display, a Numbers display and three Keywords displays. Use the Letters/Numbers key to toggle between letters and numbers and the **Yes** key to toggle through the Keywords displays.

Text = "Repeater" [Keywords]  
1=ROOM 2=FLOOR 3=CORRIDOR 4=RECEPTION

Text = "Repeater" [Keywords]  
1=STAIRCASE 2=LANDING 3=BASEMENT

Text = "Repeater" [Keywords]  
1=NORTH 2=SOUTH 3=EAST 4=WEST 5=WING

Figure 46: Keywords Displays

- Enter letters and numbers as outlined in section 7.2 "Name Settings". Use the **Yes** key to toggle through the three displays. Enter the number preceding the Keyword to insert that Keyword into the device text.
- Press **Enter** to complete the text change. Press **No** to return to the Configure Submenu for this circuit.

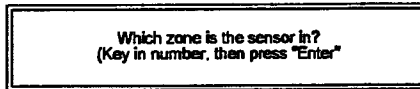
### Configure Peripheral Device Zone

- To assign an individual peripheral device to a specific zone enter the Configure Peripherals Submenu and select Option 2) Devices.

CONFIGURE: Peripherals 1) Zones [1]  
2) Devices 3) Auto Learn 4) Calibrate

Figure 47: Configure Peripherals Submenu

- Use the ">" "<" keys to move the display to the device address to be assigned or changed. Press the **Change** key. The display shows the Peripheral Device Information Change Submenu (see Figure 45). Select Option 8) Zone. The display shows the Peripheral Device Zone Configuration Submenu.

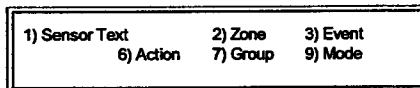


**Figure 48: Peripheral Device Zone Configuration Submenu**

- Key in the desired zone and press **Enter**. The display returns to the Peripheral Device Information Submenu (see Figure 45). Press **No** to return to the Configure Peripherals Submenu. Press **No** to return to the main configure submenu.

### **Changing Device Information**

- Changes are first made by pressing the **Change** key. If only the device text can be changed, the display will jump straight to the location text (see *Configure Peripheral Device Text*, page 21). However, if the device can have other attributes changed, these options will be presented in menu form. See Figure 49.



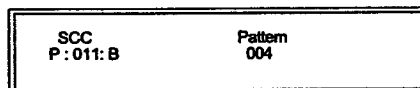
**Figure 49: Device Information Menu**

### **Calibrate Peripheral Devices**

- From the Configure Peripherals Submenu, select Option 4) Calibrate. The display indicates "Calibrating Devices." After calibration the display returns to the Configure Peripherals Submenu. Enter **No** to exit to the main menu.

### **Peripheral Circuit Addressable Notification Appliance Circuit Controller Units (4-way Sounders)**

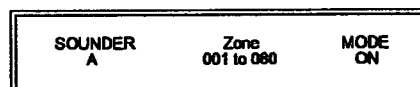
- Up to 15 peripheral sounder devices can be added to the system via the RS-485 Bus. These sounders are programmed in the same way as the other sounders.
- The letter "P" appears in front of the address on the display to indicate that the output is on the RS-485 bus. A letter is added after the address to indicate relay A, B, C or D.
- When RS-485 bus modules are used, their zonal programming selection is shown by using the same configure "Sounder" option as the on-board and loop-driven outputs. For example, an addressable notification appliance circuit controller module wired onto the RS-485 bus with an address of 11 is shown in Figure 50.



**Figure 50: Notification Appliance Circuit Controller Address**

### **Configure Notification Appliance (Sounder) Circuits**

- The D8024, D9024 and D10024 support two different methods for connecting notification appliances:
  - Direct connection to output terminals on the D8024.
  - Connection to addressable notification appliance circuit modules on any of the detection device (polling) circuits.
- All notification appliances are programmed from the Main Configure Menu. Select Option 7) Sounders to open the Notification Appliance Configure Menu.



**Figure 51: Notification Appliance Configure Menu**

- Use the ">" "<" keys to move the blinking cursor between the zone and mode prompts.



To comply with NFPA three-pulse temporal pattern evacuation requirements, set the mode to ON (steady on). Synchronize notification appliances using the D411 or D412 Synchronization Modules.

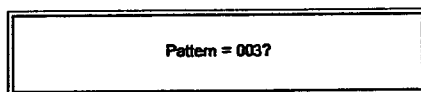


Figure 52: Pattern Display

- Any single installations that require multiple pulsed circuits should be connected to the D8024, the D9024 or the D10024 notification appliance (sounder) outputs. Immediately after a system reformat of polling circuit devices followed by Auto Learn, the system will default to all notification appliances activated immediately for any fire in any zone. The notification appliance Configure Menu on a 20 or 40 zone panel would display:

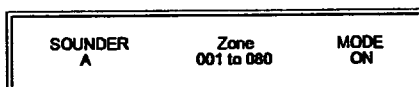


Figure 53: 20 Zone Panel (D8024)

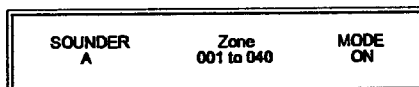


Figure 54: 40 Zone Panel (D9024/D10024)

- Press **Enter** or **Yes** to accept a prompt. The display will prompt for the next zone. When all zones in a circuit are configured, pressing **Yes** or **Enter** prompts for the next circuit. To avoid ambiguity as to what can be modified, the display flashes the item that can be changed. If this item is a number, enter new value to change it. If the item is not numeric, use the **Change** key. For example, beginning with the condition in Figure 53, use the ">" key to select the **On** display under Mode. Press the **Change** key. The display changes to the next Mode option, **Mode Off**.

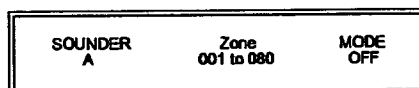


Figure 55: Mode OFF (D8024)

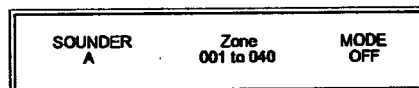


Figure 56: Mode OFF (D9024/D10024)

- In this configuration, if an alarm condition is detected in zones one through 20, the panel will not activate notification appliance Circuit A. Press the ">" key to return the blinking display to the "to zone" number (20). Key in "12." The display shows the new zone range.

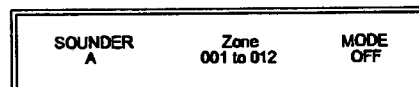


Figure 57: Off Mode Zones 1 through 12

- In this configuration, if an alarm condition is detected in specified zones (one through 12), the panel will not activate notification appliance Circuit A. Use the ">" key to move the blinking display to the Mode position and press **Enter** or **Yes** to accept, **Change** to move to the next option, the Double Knock Mode.



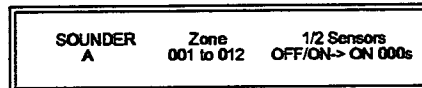
Figure 58: Double Knock Mode, Zones 1 through 12

- In this configuration the panel will activate notification appliance Circuit A, only if an alarm condition is detected in two or more devices in a particular zone in the specified zone range (zones one through 12). Press **Enter** or **Yes** to accept this option, **Change** to move to the next option, Delay Mode.
- Move the blinking display to "DOUBLE KNOCK" and press **Change** to move to the next option, Delay Mode.



**Figure 59: Delay Mode**

- In this configuration the panel will activate notification appliance Circuit A in a steady alarm after the number of seconds displayed , if any detector in the zone range is in alarm condition The delay may be between one and 990 seconds.
- Press **Change** to move to the next option, the Steady/Steady Delay Mode.



**Figure 60: Steady/Steady Delay Mode**

- In this configuration the panel will activate notification appliance Circuit A in a steady alarm if two or more detectors in a zone are in an alarm condition. If only one detector is an alarm condition in any zone in the specified zone range, the panel will activate Circuit A after the number of seconds indicated in the display.
- Press **Change** to move to the next option. This option, the Pulse Delay Mode, is not in use at this time.



**Do not attempt to program the Pulse Delay Mode. At this time, this option exceeds the requirements for power-limited devices.**

- Press **Change** to move to the next option. This option, the Pulse/Steady Delay Mode, is not in use at this time.



**Do not attempt to program the Pulse/ Steady Delay Mode. At this time, this option exceeds the requirements for power-limited devices.**

- Press **Change** to advance to the next option. This option, the Steady/Pulse Delay Mode, is not in use at this time.



**Do not attempt to program the Steady/Pulse Delay Mode. At this time, this option exceeds the requirements for power-limited devices.**

- Press **Change** to return the mode selection to ON (steady on). The configuration shown on the display becomes effective immediately after the **Enter** or **Yes** key is pressed. Pressing the **Yes** key also automatically advances to the next zone(s) to be defined.

## 7.5 Configure Relays

- The procedure for configuring relays is identical to the procedure for configuring notification appliances (section 7.4 "Configure Notification Appliance (Sounder) Circuits") with the following exceptions.



**The panel does not monitor any relay outputs and will not detect any faults on external relay circuits.**



## 8.0 Day Mode



Use Day Mode where permitted by the Authority Having Jurisdiction. See specifications for Positive Alarm Sequence in NFPA 72, 1993, Section 3-8.3..

- The D8024, D9024 and D10024 panels can be commissioned to automatically invoke different operating modes according to the time of day. Each mode has adjustable start and finishing times. The operating modes available are summarized in Table 8:

Table 8: Operating Modes

Operating Mode	Description
Delayed Mode	During the day/night, the alarm signal from detectors is immediately recognized and identified on the panel display, but no outputs turn on until stage 1/ stage 2 timers have expired. Manual pull stations override this mode.
Sensitivity Mode	Allows smoke and temperature detectors to use different pre-alarm and fire alarm thresholds during the day/night.
Verification Mode (available on software version 563)	Allows smoke detectors to tolerate transient alarms according to the programmed verification delay time during either day or night.

- To return to the Main Menu after configuring the relays, press **No** to return to the Configure Submenu. Press **No** again to return to Commission Menu 2. Then press 3) Normal Operations to return to the Main Menu.

### 8.1 Delayed Mode

- To reach the Delayed Mode feature, select Option 1) Day Mode from Commission Menu 3. Then press 1) Delayed Mode.

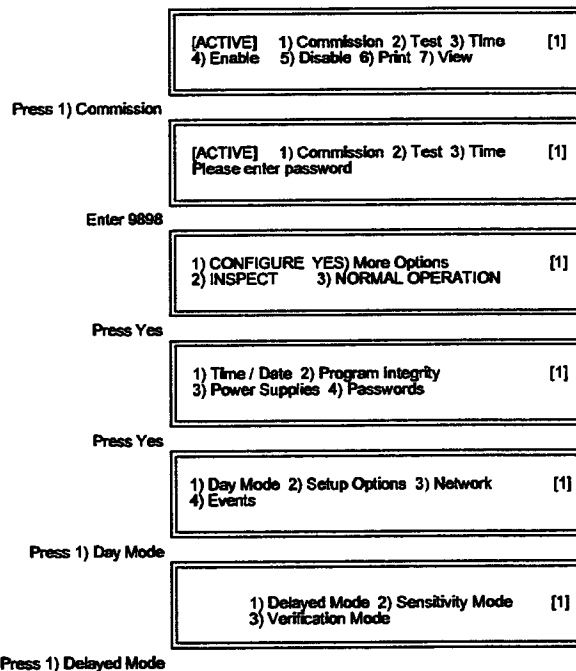


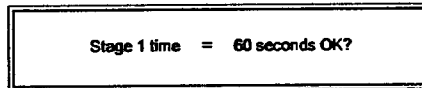
Figure 61: Path Through Commission Menus to Day Modes



The panel recognizes time based on a 24-hour clock (for example, 4:00 PM = 1600)

- The Delayed Mode inserts a two-stage delay between the time the panel recognizes an alarm condition and the time it activates notification appliances. After entering 1) Delayed Mode, the display prompts, "Allow mode ?" Press **Yes**. The display then prompts, "Start at 0:00 ?" By pressing **Yes**, the panel will then ask what time the Delayed Mode should start and end. If either prompts are incorrect, press **No**, then enter the correct times.
- After setting the start and end times for the Delayed Mode, the display will then prompt, "Stage 1 time = 60 seconds OK?" If the Stage 1 timer is as shown in Figure 62, the panel will go into a full fire condition within 60 seconds of the sensor exceeding the preset threshold level. The panel buzzer sounds during this period, and the sensor location is shown on the alphanumeric display with a warning that the panel has entered Stage 1 of a delayed alarm.

**Stage 1: Full alarm. Stage 2: Delay time before bells.**



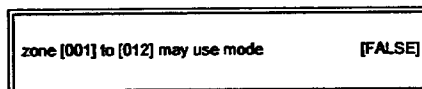
**Figure 62: Stage Timer Menu One**

- Stage 1 is acknowledged at the panel by pressing the **Trouble Silence** key. This starts Stage 2. Press **Yes** to accept the Stage 1 timer prompt. To change the Stage 1 time, press **No** and enter a value between 1 and 600 seconds. Press **Yes**.



**Radionics recommends that Stage 1 not exceed 15 seconds or Stage 2 not exceed 180 seconds. The display prompts for time in seconds for Stages 1 and 2.**

- The display will then prompt for the Stage 2 time. The Stage 1 timer and the Stage 2 timer both start counting as soon as the panel recognizes an alarm condition. Setting the Stage 2 timer for a longer period than the Stage 1 timer allows for time to investigate the cause of the alarm and take appropriate action before the panel activates an alarm. The panel activates a full alarm condition if the panel is not reset by the time the Stage 2 timer has expired. Press **Yes** to accept the Stage 2 timer prompt. To change the Stage 2 time, press **No** and enter a value between 1 and 600 seconds. Then press the **Yes** key. The display prompts for zones to be used in the Delay Mode.



**Figure 63: Delayed Mode Zone Assignment**

- Figure 63 shows that zones 1 through 12 will not use the Day Mode. The panel will activate indicator devices immediately on determining an alarm condition exists. Change the items in the brackets by using the "<" and ">" keys to select the item and typing over with the desired number. Use the **Change** key to toggle between "[FALSE]" and "[TRUE]". At the end of the Delayed Mode settings, the display returns to Commission Menu 3.

## **8.2 Sensitivity Mode**



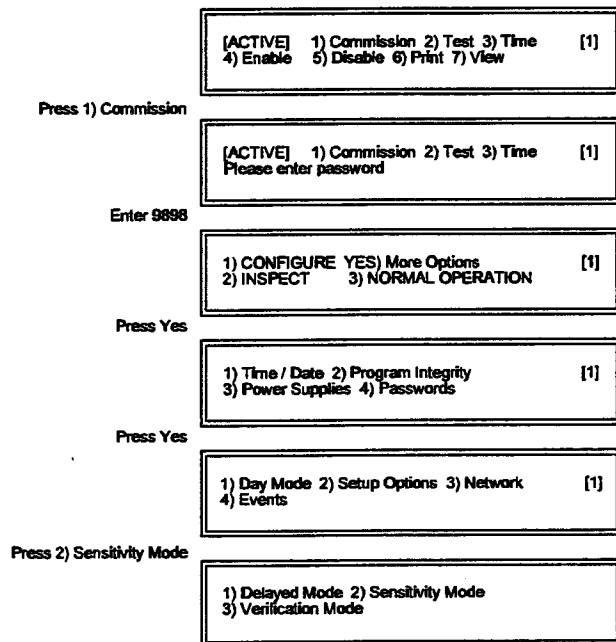
**Assign alternate thresholds to individual detector devices in the polling circuit configuration procedure before setting Day Mode sensitivity.**

- The sensitivity of both heat and smoke detectors can be adjusted by adjusting the threshold at which pre-alarm and fire alarm signals are generated. These alternative thresholds are programmed to operate only at certain times of the day. The thresholds will return to normal levels at all other times.



**The Sensitivity Mode should only be used in certain specialized applications and with great care. The default mode is for all detectors to default to the manufacturer's recommended alarm level.**

- Select Day Mode from Commission Menu 3, then Sensitivity Mode.

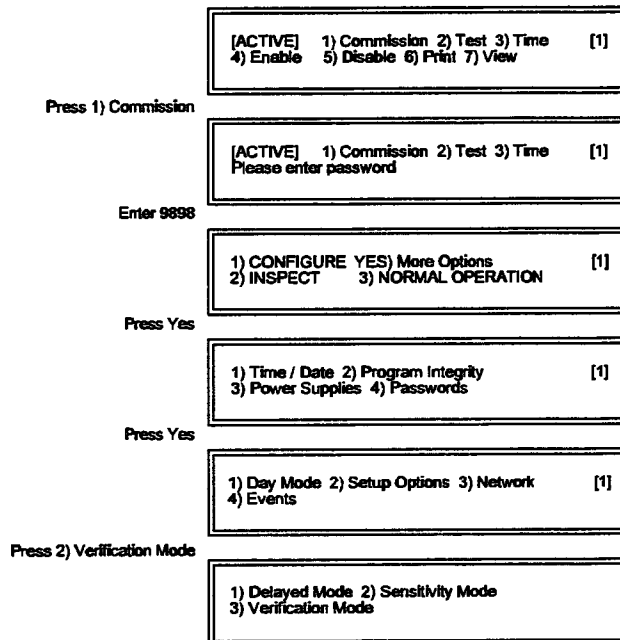


**Figure 64: Path Through Commission Menus to Sensitivity Mode**

- The display will prompt, "Allow mode?" Press **Yes**. The display will then ask for start and end times. There is no restriction on the range of times entered. Any special pre/fire alarm entered for devices will then be used within the specified time period. By pressing **No**, the Sensitivity Mode will be inhibited, and the display will return to Commission Menu 3.

### 8.3 Verification Mode

- Alarm verification can be used to reduce false alarms by placing a delay on a transient alarm signal received by a smoke detector. This delay can be set when commissioning the panel. When an alarm is first received from a smoke detector, the panel will start an internal timer and attempt to "reset" the detector. If the detector is still in alarm after the verification timer has expired, the control panel will go into alarm. If the detector is not in alarm at this point, the panel will enter a 60 second "confirmation period". Any alarm received during the confirmation period will be understood as a genuine fire alarm.
- Select Day Mode from Commission Menu 3, then press 3) Verification Mode.



**Figure 65: Path Through Commission Menus to Verification Mode**

- After pressing 3) Verification Mode, the display will prompt, "Allow mode ?" Press Yes and set the desired start and end times. By pressing No, the display returns to Commission Menu 3.



**According to NFPA guidelines, the alarm verification feature should not be used as a substitute for proper detector location/applications or regular system maintenance. Alarm verification features are intended to reduce the frequency of false alarms caused by transient conditions. They are not intended to compensate for design errors or lack of maintenance. Keep the verification delay to a minimum (60 seconds absolute maximum).**

- The display will prompt, "Verification delay = 0s?" Enter the desired delay (see above NFPA guidelines for maximum times). At the end of the Verification Mode settings, the display returns to Commission Menu 3. Lock the memory and press No to return the panel to normal operation.

## 9.0 System Events



**All System Events apart from the "General" events are normally programmed from a PC. Consult the *D9060 PC Programming Guide* (P/N: 38647) for details.**

- System Events provide a flexible way of performing more complex cause-and-effect programming than that available from the standard zone programming. Most systems do not require system events. Individual detectors can be made to generate system events. Entry by way of a PC is strongly recommended if many detectors are to generate events. If there are only a small number to enter, then this can be done directly from the "Device" change option on any of the loops.
- Event numbers can be any number from 1 to 200. Event number 0 is used to denote an "unused" event input or output. The events can be shared over a network of panels if required by setting the Network, System Events to be "[Global]". For example, the operation of a manual pull station on Panel 1, Loop 2, Address 3 in one building is required to energize a smoke control fan connected to Relay 2 on Panel 6. The steps to achieve this would be as follows:
  - A. At Panel 1, add an arbitrary system event number (for example, 20) to the manual call station.
  - B. At Panel 6, allocate the smoke control fan output to System Event 20.
- Check that both panels have Network option set for System Events to be global.

- Most system events are latched and held until the panel is reset. Transient system events will automatically be removed once the device that caused the event is restored to its normal condition. Input devices with action set to "non-latched" create transient events. A transient event is held local to the panel of origin - it is not transmitted over the network.
- The Event Menu gives the following options:

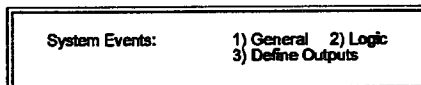


Figure 66: System Events Submenu

## 9.1 General Events

- This option allows special system event operation on several general functions as shown below. Any item set to Event "0" means that this item is not in use.

Table 9: General Events

General System Event Name	When the Event is Generated
Fault Event	Detection of a fault.
Pre-Alarm Event	Any detector entering a pre-alarm condition.
Delayed Day Mode Event	Detection of a fire in a delayed-day mode (for example, when a panel enters Stage 1).
Local Fire Event	Any detector connected to the panel entering a fire condition.
Common Fire Event	Any panel connected to the panel entering a fire condition.
Silence Event (1)	When the external alarms are silenced.
AC Fail Event	When the AC timer has expired (see section 7.2 "Calibration Time Setting").
Reset Event	Generated when the panel is reset.
Simple Coincidence Event	When any 2 devices enter a fire condition (this is independent of device type).



The Silence Event is automatically created as non-latching. The event is removed when silence is canceled (for example, by resounding the alarms or resetting the panel). A Reset Event is transient. It is removed 15 seconds after the panel has reset.

## 9.2 Event Logic



A PC is essential for programming Event Logic. Consult the *D9060 PC Programming Guide* (P/N: 38647) for details.

- The System Event Logic allows complex logic sequences to be programmed into the fire panel. The logic modes support both "AND" (coincidence) and "OR" functions on events, together with timers adjustable in 1 second steps up to 999 seconds. The logic display allows any event sequence uploaded from the PC to be inspected on the panel.

## 9.3 Define Event Outputs

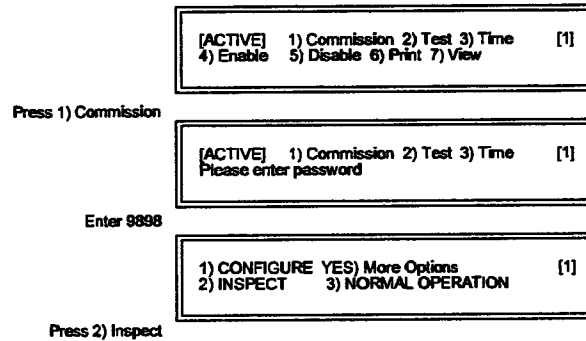


Using a PC is strongly recommended when defining events. Consult the *D9060 PC Programming Guide* (P/N: 38647) for details.

- All output devices can have 2 system events directly assigned to them. A relay style device will turn on if either of the assigned events occur. A sounder style device will turn on if the primary event occurs (shown as "Event-A") or will pulse if only the secondary event occurs (shown as "Event-B"). The "Define Outputs" display option allows the events assignments to be inspected and changed if required. Press the No key to terminate this display option.

## 10.0 Inspect

- The Inspect Mode allows the programmer to inspect system configuration without the possibility of changing configuration.



**Figure 67: Path Through Commission Menus to Inspect**

Select Option 1) Commission from the Main Menu, key in the Level Three Passcode (9898) and select Option 2) Inspect. The display changes to the Inspect Submenu. See Table 10 for a description of the nine Inspect options.

**Table 10: Inspect Submenu Functions**

Inspect Options	Function
Options 1-5	Allow the programmer to inspect the polling circuits by either zone or device.
Option 6	Allows the programmer to inspect the polling circuits by either zone or device.
Option 7	Allows the inspection of the notification appliance (sounder) outputs.
Option 8	Allows the inspection of the relay circuits.
Option 9	PC - not in use at this time.

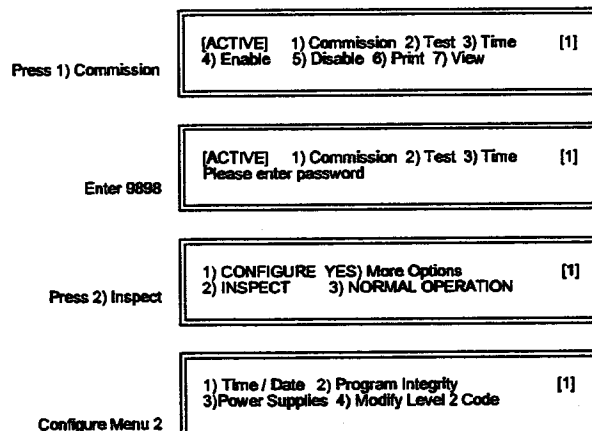


**Figure 68: Inspect Submenu**

- Press **No** to return to Commission Menu One. Select Option 3) Normal Operation. The **Trouble** LEDs will go out and the display will return to normal.

## 11.0 Time/Date and System Options

- These options are available from Commission Menu Two. Press ">" from the standard display to open the Main Menu. Select Option 1) Commission, enter the Level Three Passcode (9898) and press **Yes** at Commission Menu One to open Commission Menu Two.



**Figure 69: Path to Commission Menu Two**

## 11.1 Time/Date, System (Clear Memory), and Crystal Settings

- Select Option 1) Time/Date. The display shows the current time and date. Press **Enter** to accept the current values. Press **Change** to enter the Time/Date Submenu.

### Time/Date

- The Time/Date Submenu allows the programmer to change the time and date, erase all programming and return the panel to factory default settings, and to adjust the crystal that controls the panel's internal timer.

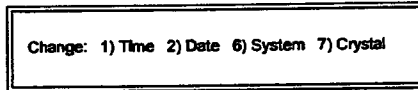


Figure 70: Time/Date Submenu

- To reset the time, press "1" and key in the time based on a 24-hour clock. Press **Enter** to complete the time change. To reset the date, press "2" and enter the current date.

### System (Clear Memory)



**A System Wipe will erase all current programming, returning the panel to factory default settings. All programming entries will be lost.**

- Option 6) System asks, "Do you want to wipe the WHOLE SYSTEM ?!!" Press **Yes** to erase all programming. Press **No** to return to the Time/Date prompt. Press **Change** to display the Time/Date Submenu

## 11.2 Crystal Setting

- The panel's internal clock is regulated by the timer crystal operating frequency. The programmer can adjust the internal clock by changing the timer frequency value. Select Option 7) Crystal to display the current frequency of the timer crystal.

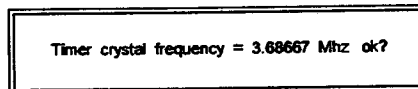


Figure 71: Crystal Setting Submenu

- Press **Change** to enter the Crystal Setting Change Submenu.

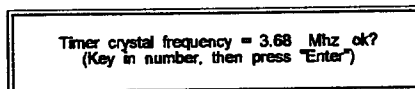


Figure 72: Crystal Setting Change Submenu

- The system will prompt for the last three digits in the number. In Figures 68 and 69, the system currently has a value of 3.68667 Mhz. Changing the last three digits from 667 to 668 (**increasing** the last digit by one) will cause the clock to **lose** two seconds per week. Changing the last three digits to 666 (**decreasing** the last digit by one) will cause the clock to **gain** two seconds per week.
- Enter **No** to return to Commission Menu Two

### 11.3 Program Integrity

- Select Option 2) Program Integrity, from Commission Menu Two to display the program and Config RAM status, the software revision number and checksums.

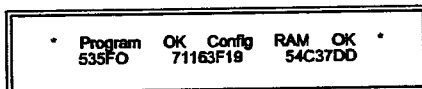


Figure 73: Program Integrity Submenu

- The top line displays the status of the program and the configuration. The bottom line displays the software version code, the software checksum and the RAM checksum. The software information should be quoted in any correspondence. The RAM checksum will change whenever the configuration changes. Program integrity should be checked and the RAM checksum recorded whenever the system configuration is changed.

### 11.4 Power Supplies

- Press 3) Power Supplies for the status of the AC power and standby battery power.

### 11.5 Modifying the Level 2 Passcode

- Select Option 1) Commission from the Main Menu, and press **Yes** to move the display to Commission Menu Two. Select Option 4) Modify Level 2 Code. Key in the four digits of the new Level 2 passcode and press **Yes**. Lock the memory by moving the Memory Lock Switch to the up position. Select Option 3) Normal Operation. The Trouble LEDs will go out and the display will return to normal.

### 11.6 Erasing Event Log

- Each panel's log stores up to 500 events. The level three programmer may completely erase the event log. Select Option 1) Commission from the Main Menu, enter the passcode and press **Yes** twice to display Commission Menu 3. Press ">" twice. The display reads, "the memory is locked." Unlock the memory. The display will prompt for the passcode. Enter the Level Three Passcode (9898). The display reads "erasing memory," and returns to Commission Menu 1.

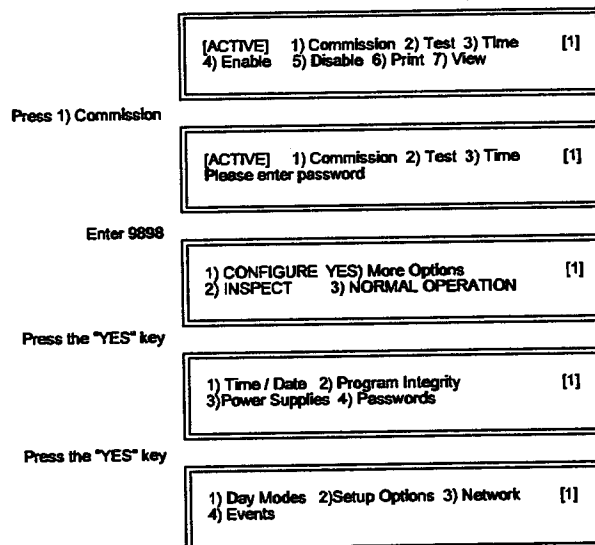


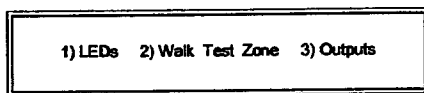
Figure 74: Path to Commission Menu Three

- Lock the memory and press 3) Normal Operation.



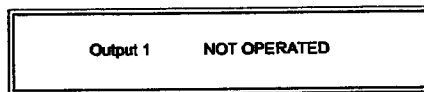
## 13.0 Test Outputs

- Section 8.4 "System Tests" in the *D8024 Operator's Manual* (P/N: 35394) and the *D9024/D10024 Operator's Manual* (P/N: 74-07661-000) covers system testing. The LED Tests and the Walk Tests are available to Level Two Operators. Test Outputs is available only to Level Three programmers. Select Option 2) Test from Commission Menu One to display the Test Submenu.



**Figure 75: Test Submenu**

- Select Option 3) Outputs. The display prompts for the passcode. Enter the Level Three Passcode (9898). The display changes to the Outputs Test Submenu.



**Figure 76: Outputs Test Submenu**

- Outputs one and two are relay outputs one and two. Outputs three through six are notification appliance (sounder) outputs A through D. Press **Yes** to scroll through the outputs. Press **Change** from "NOT OPERATED" to "OPERATED." Press **No** to return to the Main Menu

## 14.0 PC Programming

- The D8024, D9024 and D10024 may be programmed by using a PC. See the *D9060 PC Programming Guide*, P/N: 38647, for complete information.

## 15.0 Networking

- Each analog panel can be networked with other panels of its own kind (for example, a D8024 can be networked with other D8024's), or each analog panel can be networked with the other analog panels (for example, a D8024 can be networked with either a D9024 or a D10024). See the *Networking Guide*, P/N: 34377, for complete information.

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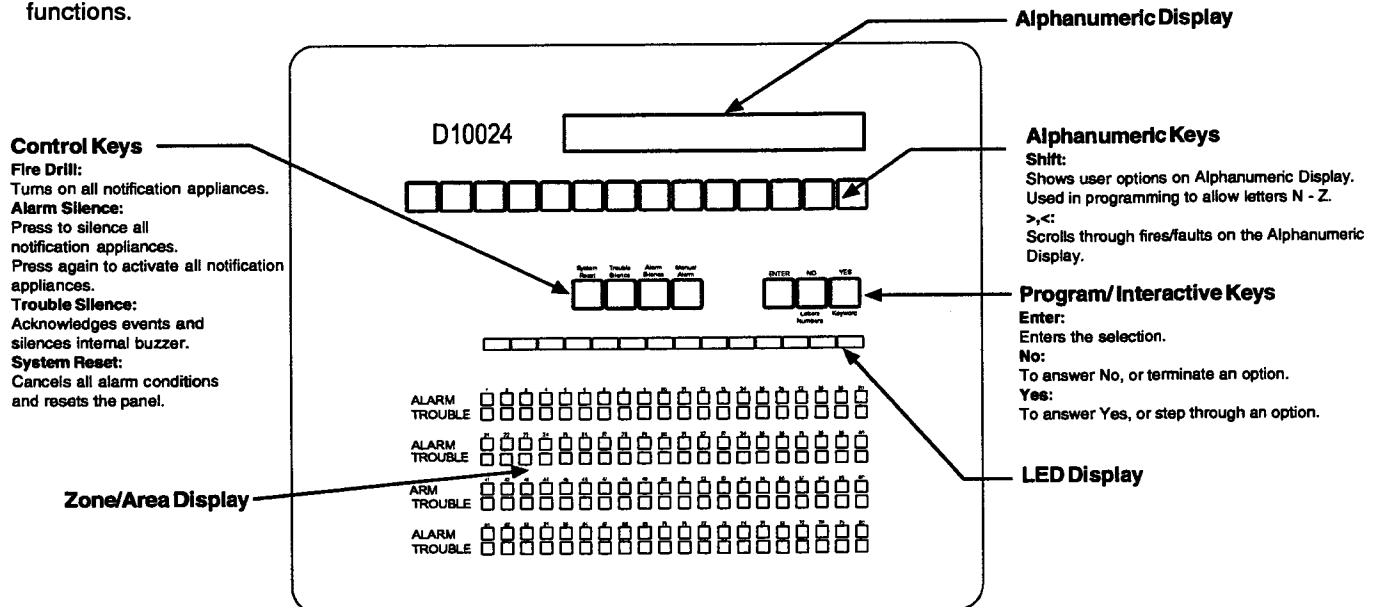
# Reference Guide for the D9024, D10024 Analog Fire Alarm Control Panels

## Local Service Representative

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Phone \_\_\_\_\_

### D9024, D10024 Control Levels

- The D9024, D10024 Analog Fire Alarm Control Panels (FACP) each have three available control levels. At all three levels, the LED Display indicates condition, the Zone/Area LEDs indicate location and detailed alarm/trouble information is displayed alphanumerically.
- **Control Level One**, the Display Level, inhibits the system control keys, limiting the front panel function to annunciation only.
- **Control Level Two**, the Controller Level, allows system control for Fire Drill, alarm Silence, Trouble Silence and System Reset. Level Two also allows Test and Enable/Disable operations, but does not allow access to configuration or programming functions. The Alphanumeric Display becomes interactive at Level Two, and prompts for system checks, log functions and key status. **Level Two can only be reached by entering a passcode from Level One.**
- **Control Level Three**, the Programmer Level, allows full system configuration information, and it is used to program the system or to modify the program. **Level Three can only be reached by passcode from Levels One and Two.**
- Consult the *D9024, D10024 Operator's Guide* (P/N:74-07661-000) for more details on Control Level distinctions and functions.



### D9024, D10024 FACP Controls and Displays

- The D9024 and D10024 FACPs each have two rows of control keys and three display areas. The upper row of keys, the **Alphanumeric Keys**, normally function as number keys. To use the keys as letter keys, press the **Change Key** at the right end of the alphanumeric key row. The **Shift Key** at the left end of the Alphanumeric Keys toggles between the upper and lower rows of letters. Hold the Shift Key when pressing another key to enter the bottom letter. The **Control Keys** row contains the four **System Control Keys** and three **Program/Interactive Keys**.
- The upper display, the **Alphanumeric Display**, is an illuminated two-line, 80-character display that gives detailed information on system events and status, and displays interactive prompts.
- The middle display, the **LED Display**, indicates the type of system event and status.
- The lower display, the **Zone/Area LED Display**, indicates the location and type (alarm or trouble) of event.

### Passcodes

- Ten passcodes are available for D9024, D10024 Controllers. Passcodes are programmable. The Level Two passcode is assigned or changed from Level Three. See the *Analog Fire Alarm Control Panels Programming Guide* (P/N: 38789) for passcode details.



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P/N: 40023B  
D9024, D10024  
Reference Guide 11/98  
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