Programmer's Guide

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 D9024 or D10024 Fire Alarm Control Panel. See the Installation Instructions for information on installation and powering the D9024 and D10024 Fire Alarm Control Panel (FACP). See the Operator's Manual for information on the normal operation of the system.

Warnings and Cautions

WARNING is used in these instructions to indicate procedures to follow to avoid injury.

CAUTION is used in these instructions to indicate procedures to follow to avoid damage to equipment.

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.

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.

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A. Controls and Displays

The D9024 and D10024 have two rows of control keys and three display areas. The keys in the upper row, the Alphanumeric Keys, normally function as Number Keys. Toggle these keys to Letter Keys by pressing the Letters/Numbers Key in the lower key row. The Shift Key at the left end of the upper row toggles between the upper and lower row of letters. Hold the Shift Key while entering another key to enter the bottom letter. The lower row, Control Keys, contains four System Control Keys and three Program/Interactive Keys.

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 is a row of LEDs that indicate the type of system event and status.

The lower display area is the ZONE/AREA LED display that indicates the location and type (alarm or trouble) of event. The D9024 can have up to 40 zones. The D10024 can be expanded to 99 zones.

The normal Alphanumeric Display is a time-date message over a system status message. If the keypad is not used for over one minute, the display automatically reverts to the normal display. To restore the interactive display, press the > key.

To see the next item (sensor, menu page, etc.) press the YES key.

To terminate an option press the NO key.
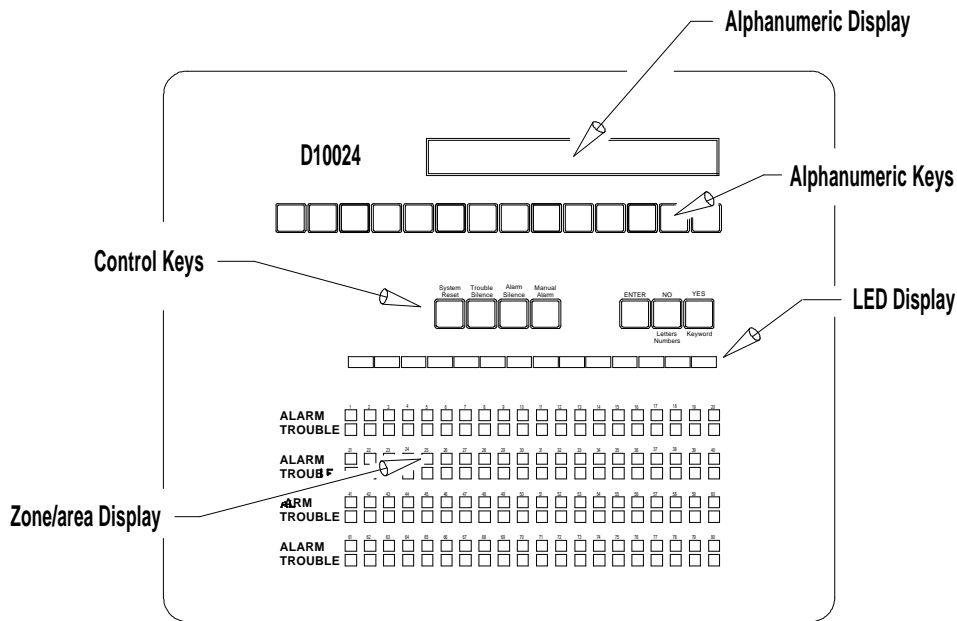
Figure 1: D10024 Front Panel Display

B. Controls

B.1. Level Distinction

- The D9024 and D10024 have three available control levels. At all three levels the LED Display indicates condition, the ZONE/AREA LEDs indicate location, and the alphanumeric display details alarm/trouble information.

- Control Level One, the display level, inhibits the system control keys. This limits the front panel function to annunciation for installations in public access areas.

- Control Level Two, the Controller Level, allows control functions 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. Enter the Level Two pass code from Level One, or, if the panel is in a secure area, make Level Two the standard level by enabling the front panel keys.

- Control Level Three, the programmer's level, allows full system configuration information and is used to program or modify the system program. Enter the Level Three Pass Code (9898) from Level Two to reach Level Three and allow access to full system configuration information. 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 located on the backplane. See Figure 2.
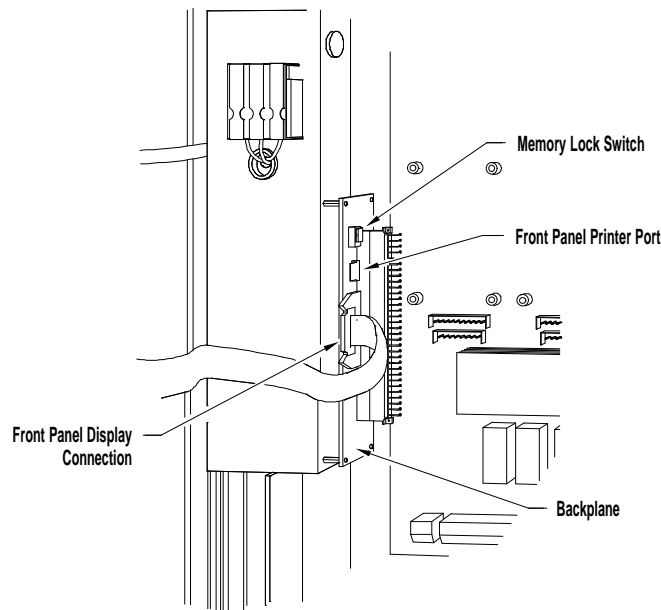
Figure 2: Memory Lock Switch

B.2. Pass Codes

Level Two pass codes are programmable. The programmer may assign or change the Level Two pass code from Level Three through Commission Menu Two. The Level Two pass code will not allow access to Level three, and can only be modified at Level Three. See Section C.1.

The Level Three pass code is 9898.

B.3. 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.)

C. Commissioning New Installations

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

C.1. Set Up

This option is necessary to complete the basic setup procedures for panel operation. Selecting this option results in a series of prompts answered in sequence. Press the ">" key to repeat the sequence as necessary to change an answer.

Press the ">" key to display the Operator's Menu, Main Level.

D10024

```
[Active] 1)Commission 2)Test  3)Time [1]
4)Enable 5)Disable    6)PRINT 7)View
```

	0	1	2	3	4	5	6	7	8	9	≫	≪	CHANGE
SHIFT ↳	A N	B O	C P	D Q	E R	F S	G T	H U	I V	J W	K X	L Y	M Z
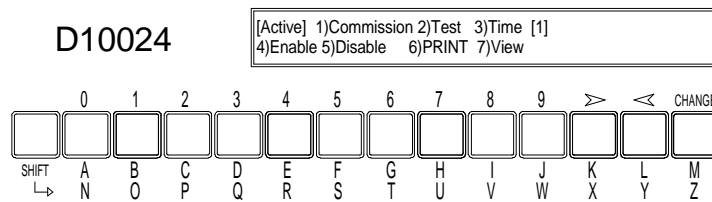
Figure 3: Main Menu

Select option one, 1) Commission, by pressing the "1" key.

The display prompts, "Please key in your password"

Press the "1" Key

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

Enter Pass Code

Press the "YES" Key

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

Press the "YES" Key

```
1)Time/Date    2)Program Integrity [A]
3)Power Supplies   4)Modify level 2 code
```

Press the "2" Key

```
1)Day Modes   2)Setup options   3)Network [A]
```
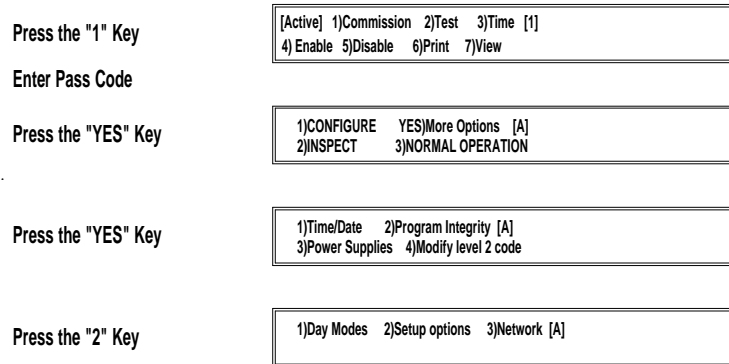
Figure 4: Path Through Commission Menus to Setup

Enter the Level Three Pass Code (9898).

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 2. The System Trouble LED will flash when the memory is unlocked, and if no input is entered for over a minute while the memory is unlocked, the panel buzzer will sound. Press the ">" key to silence the buzzer. The memory must be locked at the end of the programming session. The panel will not allow a reset unless the memory is locked.

Press 2.

C.1.a. Language Settings

The 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 through 5) ok?"

C.1.b. 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.

C.1.c. 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.

C.1.d. Auxiliary Relay Programming

Auxiliary Relays 1 and 2 are programmable to operate in a number of ways. The default setting is FIRE. Other prompted settings are FAULT, BRIGADE, and RESET. Press the NO key to scroll through the prompts. Press the YES key to accept the prompt.

FIRE: The relay is normally unpowered and is powered in a Fire Alarm or Fire Drill condition.

FAULT: The relay is normally powered and is unpowered in a fault, Trouble, Fire Drill, or Fire Alarm Condition.

BRIGADE: The relay is normally unpowered and is powered in a Fire Alarm or Fire Drill condition. Choosing the BRIGADE option adds third option, 3) Brigade, to the fifth option, 5)Outputs, of the Enable and Disable submenus of the Main Level of the operator's Menu. This option allows the programmed output(s) to be disabled during a Fire Drill.

Note: Disabling the Sounders, Relays or the Brigade options requires a Level Three Pass Code (9898). Enabling requires a Level Two pass code.

```
1)Sounders   2)Relays   3)Brigade
 ENABLED     ENABLED    ENABLED
```

Figure 5: Outputs Submenu with Brigade Auxiliary Relay Programmed

RESET: The normally unpowered relay is powered for about 15 seconds when the panel is reset and then returns to an unpowered state.

C.1.e. Use Digital Inputs for Fire/Fault

Digital Inputs are not in use at this time. Press YES to accept the default setting.

This option allows programming for fire or fault of the panel's response to digital signals from circuit driven input devices.   A location text message will show in the Alphanumeric Display, and the zone LED will light.

C.1.f. 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."

```
Name = "     RADIONICS    ?
```
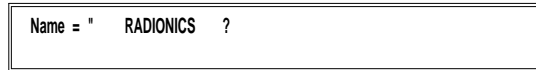
Figure 6: Name Settings Submenu

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 Submenu.

```
Text = "    RADIONICS    " [Letters]
  Type in letter  (hold in shift FOR N. . .Z)
```

```
Text = "    RADIONICS    " [Numbers]
  Type in number 0. . 9, space or erase
```
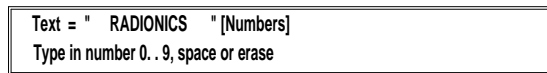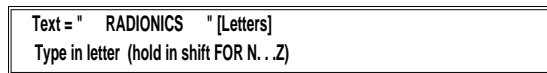
Figure 7: Letters and Numbers Submenus

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. Press YES to confirm the changes and move to the next setup option.

C.1.g.   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 C.1.f. Name Settings.

C.1.h.   Memory Lock Check

The display prompts "Memory Lock Check [Yes] ok?" Press YES to confirm. Changing the Lock Check to [No] allows the operator to exit the system configuration and resume normal operation with the memory unlocked.

C.1.i. Log Mode Settings

Whenever the system is powered up, the Event Log is automatically set to "normal." During setup it can set to either "diagnostic" or "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. In the "normal" mode the panel logs system events.

In the "diagnostic" mode the panel logs every event, including single response failures from devices.

In the "diagnostic" mode the panel performs a circuit integrity test every minute. In this test the panel checks that it 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. View the Event Log as outlined in section D.4.e.2 of the 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.

C.1.j. 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 three, 3) NORMAL OPERATION.

The Trouble LEDs will go out and the display will return to normal.

C.2. System Configuration

Once the system set up is complete, configure the detector and notification appliance circuits.

C.2.a. Configuring Polling Circuits

Press the ">" key to enter the Operator's Menu, Main Level, from the normal display. Open the memory lock by moving the Memory Lock Switch (See Figure 2) to the down position. Choose option one, 1) Commission, and enter the pass code to open Commission Menu One.


```
D10024              [Active] 1)Commission 2)Test  3)Time  [1]
                    4)Enable 5)Disable   6)PRINT 7)View
```
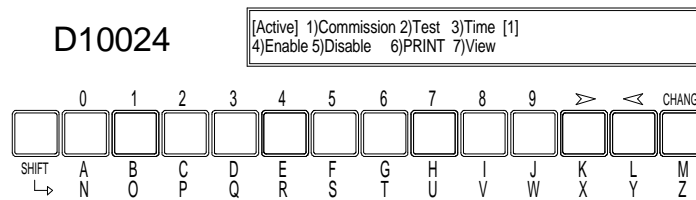
Figure 8: Operator's Menu, Main Level

```
1)CONFIGURE     YES)More Options   [A]
2)INSPECT       3)NORMAL OPERATION
```
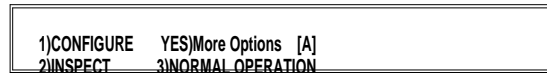
Figure 9: Commission Menu One

The number of polling circuits in the system is entered during the setup procedure (see Section C.1.b.). To configure these circuits, select option one, 1)Configure, from Commission Menu One. The display shows the Configure Submenu.

```
CONFIGURE :  Loop - 1) 2)       [A]
6)Peripherals  7)Sounders  8)Relays  9)PC
```
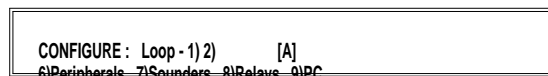
Figure 10: Configure Submenu

The menu will prompt for as many circuits as were entered in Setup. The D9024 has a capacity of three polling circuits. The D10024 may have five. Options one through five are reserved for these circuits

Select option one, 1), to display the Configure Submenu for Polling Circuit One.

```
CONFIGURE :  Loop - 1  1)Zones    [A]
2)Devices  3)Auto Learn  4)Calibrate
```
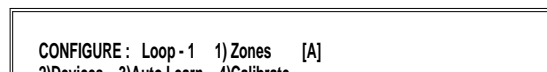
Figure 11: Configure Submenu for Polling Circuit One

C.2.a.1. Auto Learn Circuit Configuration

Use Auto Learn to save time in Setup or when changing sensor configuration. The system uses Auto Learn to find what devices have been installed on a particular loop. 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 three 3) Auto Learn. The FACP displays Auto Learn Submenu One.

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

Figure 12: Auto Learn Submenu One

The panel responds to a NO response by calibrating all the devices on the circuit and displaying the number and types of devices. See Figure 13. Press any key to return to the Configure Submenu. (See Figure 10.)

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.

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

Once the system has finished learning, it will respond with a display giving a summary of what it finds on the loop.

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 13: Auto Learn Submenu Two

Table 1: Device Type Table

Device Type	Description	Model Number
Ion	Ionization detector	D324
Opto	Photoelectric detector	D323
Temp	Heat detector	D322
Sounder	Indicating Circuit Module	D327
MCP	Manual Call Point	D325

Press ENTER to continue. The panel calibrates the devices and then restores the display to the Configure Submenu for this circuit.

```
CONFIGURE :  Loop - 1    1) Zones      [A]
2)Devices   3)Auto Learn   4)Calibrate
```

Figure 14: Configure Submenu for Polling Circuit One

Use option two, 2) Devices, to continue in the configure submenu for this circuit and to verify that the system has found all devices correctly. Press NO to return to the Configure Submenu.   (See Figure 10.)

C.2.a.2. Device Configuration, Text

Option two, 2) Devices, provides information on the various types of devices on the circuit and allows the programmer to insert or change device descriptions and alarm thresholds. Device Submenu One is displayed.

```
Begin inspection at address number  1?
```

Figure 15: Device Submenu One

Press YES to accept. The display changes to the Address Information Display. (See Figure 17.)

To change the address press the CHANGE key. The display shows the Device Inspection Address Change Submenu.

```
Begin inspection at address number  0?
( Key in number, then press "Enter"  )
```

Figure 16: 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.

```
Lp  1  Z001  A002  " D322 Heat Detector "

Temperature signal = 23
```

Figure 17: Address Information Display

Use the ">" and "<" keys to move up and down the addresses on this circuit. To change device information enter CHANGE. The display will change to the Device Information Change Submenu.

```
1) Sensor Text          7) Event
2) Change alarm thresholds
```

Figure 18: Device Information Change Submenu

Option 7) Event is not is use at this time.

Select option one, 1) Sensor Text, to display the Device Text Submenu. If only the text can be changed, the Device Text Submenu is displayed when CHANGE is entered. 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 KeyWords key to toggle through the KeyWords displays.

Enter letters and numbers as outlined in Section C.1.f. Use the KeyWords key to toggle through the three displays. Enter the number preceding the KeyWord to insert that KeyWord into the device text.

```
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 19: KeyWords Display

Press ENTER to complete the text change. Press NO to return to the Configure Submenu for this circuit.

C.2.a.3. Device Configuration, Alarm Thresholds

Warning: Default settings are within UL Range. Radionics does not recommend altering factory alarm thresholds.

Note: Detection devices return to factory settings when the Fire Alarm Control Panel loses power and is initialized.

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

```
CONFIGURE :  Loop - 1   1) Zones      [A]
2)Devices   3)Auto Learn   4)Calibrate
```
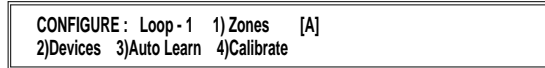
Figure 20: Configure Submenu for Polling Circuit 1

Press YES to accept the device inspections and Use the ">" and "<" keys to move up and down the addresses on this circuit. To change device information enter CHANGE. The display will change to the Device Information Change Submenu.

```
1) Sensor Text          7) Event
2) Change alarm thresholds
```
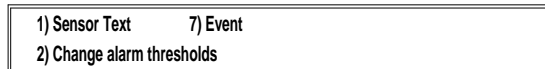
Figure 21: Device Information Change Submenu

Select Option 2) Change alarm thresholds.

The system will prompt for possible changes. Press ENTER to complete changes. Press NO to return to the Configure Submenu for this circuit.

Table 2: Address Information Data Table

Device	Standard Pre-alarm Threshold	Standard Fire Threshold	Just Calibrated	Normal Reading	Fault Input	Fire
D322 Heat Detector	45 (113°F)	55 (131°F)				
D323 Optical Detector	45	55	1			
D324 Ion Detector	45	55	1			
D325 Manual Station				16		64
D326 Contact Mod				16	44	64
D327 Ind Circuit Mod				16	44	
D334 Contact Mod				16	44	64

Table 2 gives standard values for devices on a polling circuit.

A typical heat detector display is shown in Figure 17. This display indicates that on Loop (circuit) One, Zone One, at Address 002, a D322 Heat detector is reporting a temperature of 23°C. Temperatures are reported in degrees Celsius.

To convert °C to °F: °C x 1.8 = (   ) + 32 =   °F
              Example: 23°C x 1.8 = (41.4) + 32 = 73.4°F

C.2.a.4. Zone Configuration

The system can be divided into at least 40 zones. Use the Configure Zones option to assign detecting 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 22: 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 loop being configured are assigned to zones, the program will advance to the zone description entry menu.

```
┌─────────────────────────────────────┐
│                                     │
│  Zone  001 is named  "        "     │
│                                     │
└─────────────────────────────────────┘
```

Figure 23: 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.

Note: Devices assigned to zones 99 and 100 will activate the Sprinkler Supervisory LED in the LED Display.

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 C.1.f. and C.2.a.2. Pressing the YES or ENTER keys saves the change.

Exit the zone configuration option by entering NO. The display will return to the configure submenu for this particular polling circuit. Press the NO key to return to the main configure submenu.

C.2.a.5. Polling Circuit 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 C.2.a.1. Use NO to return to the Main Menu.

C.2.a.6. Exiting Configure

Press NO to return Commission Menu One.

```
┌─────────────────────────────────────┐
│  1)CONFIGURE    YES)More Options   [A] │
│  2)INSPECT      3)NORMAL OPERATION     │
└─────────────────────────────────────┘
```

Figure 24: Commission Menu One

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

```
      don't forget to lock the memory  !
   2)INSPECT          3)NORMAL OPERATION
```

Figure 25: Memory Lock Reminder

Move the Memory Lock Switch (See Figure 2) 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.

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

```
   *   Program  ok   .   config RAM FAIL    *
```

Figure 26: Memory Lock Error Message

To silence the trouble buzzer and reset the Config RAM:

1.   Press the ">" key to enter the Operator's Menu, Main Level
2.   Press 1) Commission
3.   Key in the pass word
4.   Press 1) Configure
5.   Enter NO (Section C.2.a.5.) to return Commission Menu One.
6.   Select option 3) NORMAL OPERATION. The display will prompt for memory lock.
7.   Move the Memory Lock Switch (See Figure 2) 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.

C.2.b. Configuring 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 6." The panel reserves addresses one through 15 on the peripheral circuit (Loop 6) for D9070 Controllers.

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.

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

Press the "1" Key

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

Enter Pass Code

Press the "1" Key

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

.

Figure 27: Path to the Configure Submenu

The Display will change to the Configure Submenu.

```
   CONFIGURE :  Loop - 1) 2)          [A]
   6)Peripherals  7)Sounders  8)Relays  9)PC
```

Figure 28: Configure Submenu`

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

```
CONFIGURE : Peripherals   1) Zones     [A]
2) Devices   3) Auto Learn   4) Calibrate
```
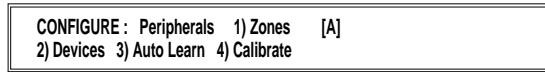
Figure 29: Configure Peripherals Submenu

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

C.2.b.1. Auto Learn

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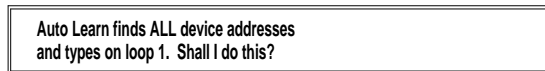
```
Auto Learn finds ALL device addresses
and types on loop 1.  Shall I do this?
```

Figure 30: 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  4-way-Relay  8-way-Input  Other
    0          0          0          4
```
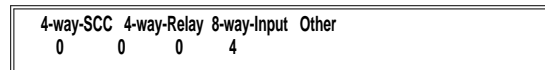
Figure 31: Peripheral Summary Display

Table 3: Peripheral Device Type Table

Device Type	Description	Model Number
Other	Fire System Controller	D9070

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

```
CONFIGURE : Peripherals   1) Zones     [A]
2) Devices   3) Auto Learn   4) Calibrate
```
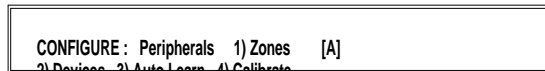
Figure 32: Configure Peripherals Submenu

C.2.b.2.   Configure Peripheral Zones

The system can be divided into at least 40 zones. (The installation of the D9054 LED Extension Card allows an increase in the number of possible zones on the D10024 from 40 to 80.)

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

```
All devices on Loop 6   from address
[001]  to  [126]  are in zone [001]
```

Figure 33: 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 34: 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.

Note: 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    [A] │
│  2) Devices   3) Auto Learn   4) Calibrate   │
└─────────────────────────────────────────────┘
```
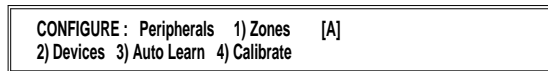
Figure 35: Configure Peripherals Submenu

C.2.b.3. Configure Peripheral Device Text

Select Option two, 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 36: 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 36 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 (see Table 1).

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                       │
└─────────────────────────────────────────────┘
```
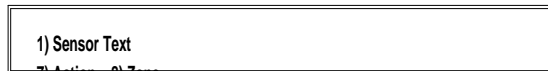
Figure 37: Peripheral Device Information Change Submenu

Option 7) Action is not is use at this time.

Select option one, 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 KeyWords key to toggle through the KeyWords displays.

Enter letters and numbers as outlined in Section C.1.f. Use the KeyWords key to toggle through the three displays. Enter the number preceding the KeyWord to insert that KeyWord into the device text.

```
Text = "          "  [KeyWords]
1=ROOM  2=FLOOR   3=CORRIDOR  4=RECEPTION
```

```
Text = "          "  [KeyWords]
1=STAIRCASE  2=LANDING   3=BASEMENT
```

```
Text = "          "  [KeyWords]
1=NORTH  2=SOUTH   3=EAST  4=WEST  5=WING
```

Figure 38: KeyWords Display

Press ENTER to complete the text change. Press NO to return to the Configure Submenu for this circuit.

C.2.b.4. 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      [A]
2) Devices   3) Auto Learn   4) Calibrate
```

Figure 39: 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 37. Select option 8)Zone. The display shows the Peripheral Device Zone Configuration Submenu.

```
Which zone is the sensor in   ?
```

Figure 40: Peripheral Device Zone Configuration Submenu

Key in the desired zone and press ENTER. The display returns to the Peripheral Device Information Submenu. (See Figure 36.) Press NO to return to the Configure Peripherals Submenu.

Press NO to return to the main configure submenu.

C.2.b.5. 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.

C.2.b.6. Peripheral Circuit Addressable Notification Appliance Circuit Controller Units (4-way Sounders)

Not in use at this time

C.2.c. Configure Notification Appliance (Sounder) Circuits

The D9024 and D10024 support two different methods of connecting notification appliances:
* Direct connection to output terminals on the D9024M or D10024M board
* 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.

```
SOUNDER    zone      MODE
   A    001 T0 100      ON
```

Figure 41: Notification Appliance Configure Menu

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

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

Any single installations that require multiple pulsed circuits should be connected to the D9024M or D10024M sounder (notification appliance) 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 40 zone panel would display:

```
SOUNDER    zone      MODE
   A    001 T0 040      ON
```

Figure 42: 40 Zone Panel

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 42, use the ">" key to select the ON display under MODE. Press the CHANGE key.   The display changes to the next Mode option, Mode Off.

```
SOUNDER    zone      MODE
   A    001 T0 040      OFF
```

Figure 43: Mode OFF

In this configuration, if an alarm condition is detected in zones one through 40, the panel will not activate notification appliance Circuit A.

Press the ">" key to return the blinking display to the "to zone" number (40). Key in "12."   The display shows the new zone range.

```
SOUNDER    zone      MODE
   A    001 T0 012      OFF
```

Figure 44: 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.

```
SOUNDER    zone      MODE
   A    001 T0 012      DOUBLE KNOCK
```

Figure 45: 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.

```
SOUNDER    zone       MODE
   A   001 TO 012   DELAY FOR 000s
```

Figure 46: 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.

```
SOUNDER    zone     1/2 Sensors
   A   001 TO 012  OFF/ON -> ON 000s
```

Figure 47: 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.

Caution: 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 Delay Mode, is not in use at this time.

Caution: 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.

Caution: 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.

Caution: 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.

C.2.d. Configure Relays

The procedure for configuring relays is identical to the procedure for configuring notification appliances (Section C.2.c) with the following exceptions.

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

C.2.e. Configure Day Mode

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

Stage 1: not to exceed 15 seconds
Stage 2: not to exceed 180 seconds

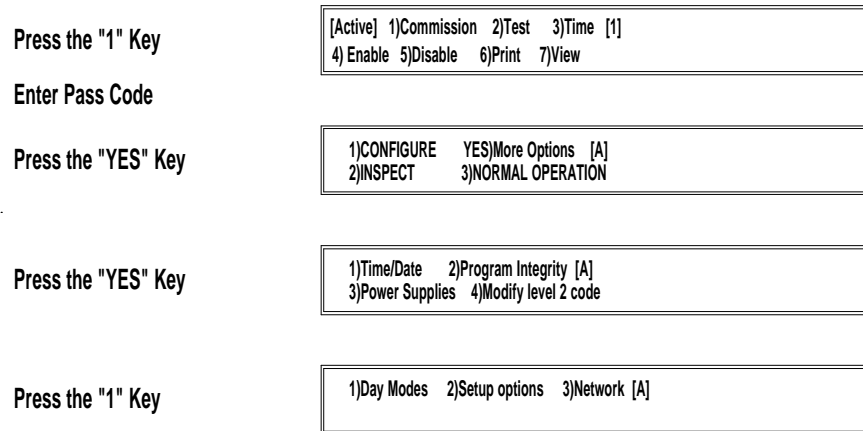Select option, 1) Day modes, from Commission Menu Three.

Press the "1" Key	[Active] 1)Commission 2)Test 3)Time [1] 4) Enable 5)Disable 6)Print 7)View
Enter Pass Code	
Press the "YES" Key	1)CONFIGURE YES)More Options [A] 2)INSPECT 3)NORMAL OPERATION
Press the "YES" Key	1)Time/Date 2)Program Integrity [A] 3)Power Supplies 4)Modify level 2 code
Press the "1" Key	1)Day Modes 2)Setup options 3)Network [A]

Figure 48: Path Through Commission Menus to Day Modes

The display prompts, "Allow delayed operation   ?"

Enter YES.

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

The display prompts, "START at 12:00 ?"

Enter YES to accept. To change the start time, enter NO, key in the desired start time, and enter YES.

The display prompts for the finish time. To change the finish time, enter NO, key in the desired finish time, and enter YES.

The display shows Stage Timer Menu One.
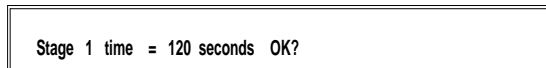
Stage 1 time = 120 seconds OK?

Figure 49: Stage Timer Menu One

The Day Mode inserts a delay, which has two stages, between the time the panel recognizes an alarm condition and the time it activates notification appliances.

If the stage one timer is set as shown in Figure 48, the panel will go into a full fire condition within two minutes 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 one of a delayed alarm.

Stage one is acknowledged at the panel by pressing the Trouble Silencekey. This starts stage two.

Press YES to accept the stage one timer prompt. To change the stage one time, press NO, enter a value between 1 and 600 seconds, and press YES.

Note: The display prompts for time in seconds.

The display prompts for the stage two time.

The stage one timer and the stage two timer both start counting as soon as the panel recognizes an alarm condition. Setting stage two for a longer period than stage one allows 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 stage two has expired.

Press YES to accept the stage two timer prompt. To change the stage two time, Press NO, enter a value between 1 and 600 seconds, and press the YES key.

The display prompts for zones to be used in the delay mode.

```
Allow delayed operation
zone [01]  to  [12]  run in day mode  [FALSE]
```
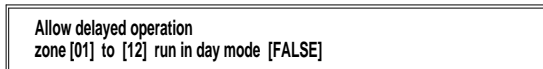
Figure 50: Delayed Mode Zone Assignment

Figure 49 shows that zones one 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 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]."

Note: Assign alternate thresholds to individual detector devices in the polling circuit configuration procedure before setting Day Mode Sensitivity.

The display prompts, "Use daytime sensitivity ?" Enter YES.

The panel displays the Daytime Sensitivity Menu

```
START at  8:00  ?
Use daytime sensitivity
```
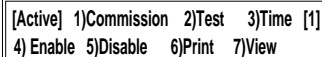
Figure 51: Daytime Sensitivity Mode

Enter YES to accept the prompts for the start and finish times of the Daytime Sensitivity. To change the start time, enter NO, key in the changes, and press YES to accept.

At the end of the Sensitivity Mode settings, the display returns to Commission Menu Three. Lock the memory and press NO to return the panel to Normal Operation.

C.3. Inspect

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

Press the "1" Key

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

Enter Pass Code

Press the "2" Key

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

Figure 52: Path Through Commission Menus to INSPECT

Select option one, 1)Commission, from the Main Menu, key in the Level Three Pass Code (9898), and select option two, 2)INSPECT. The display changes to the INSPECT Submenu.

Options one through five on the INSPECT Submenu allow the programmer to inspect the polling circuits, either by zone or by device.

Option six on the INSPECT Submenu allows the programmer to inspect the peripherals, either by zone or by device

```
INSPECT : Loop - 1)                [1]
6)Peripherals 7)Sounders 8)Relays  9)PC
```
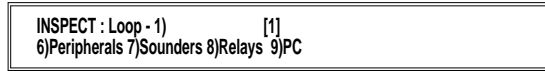
Figure 53: INSPECT Submenu

Option seven allows inspection of the Notification Appliance (Sounder) Outputs.

Option eight allows inspection of the Relay circuits.

Option nine, 9)PC is not in use at this time.

Press NO to return to Commission Menu One. Select option three, 3)NORMAL OPERATION.

The Trouble LEDs will go out and the display will return to normal.

C.4. 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 one, 1)Commission, enter the Level Three Pass Code (9898), and press YES at Commission Menu One to open Commission Menu Two.

Press the "1" Key

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

Enter Pass Code

Press the "YES" Key

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

Configure Menu Two

```
1)Time/Date     2)Program Integrity  [A]
3)Power Supplies   4)Modify level 2 code
```
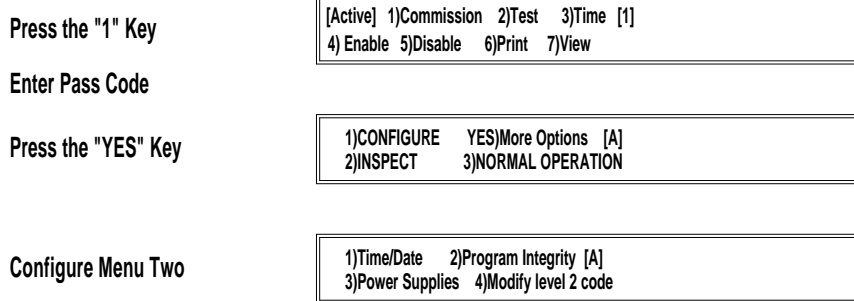
Figure 54: Path to Commission Menu Two

C.4.a. Time/Date, System (Clear Memory), and Crystal Settings

Select option one, 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.

C.4.a.1. 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.

```
Change: 1)Time 2)Date 6)System 7)Crystal
```
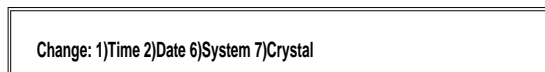
Figure 55: Time/Date Submenu

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

To reset the date, enter "2" and enter the current date.

C.4.a.2. System (Clear Memory)

Option six 6)System asks, "Do you want to wipe the WHOLE SYSTEM ?!!"

Caution: A "system wipe" will erase all current system programming and return the panel to factory default settings. All programming entries will be lost.

Enter YES to erase all programming. Enter NO to return to the Time/Date prompt. Press CHANGE to display the Time/Date Submenu

C.4.a.3. 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 seven, 7)Crystal, to display the current frequency of the timer crystal.

```
Timer crystal frequency= 3.68667 MHz ok?
```

Figure 56: Crystal Setting Submenu

Press CHANGE to enter the Crystal Setting Change Submenu.

```
Timer crystal frequency= 3.68   MHz ok?
(   Key in number, then press "Enter"   )
```

Figure 57: Crystal Setting Change Submenu

The system will prompt for the last three digits in the number. In Figures 55 and 56, 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

C.4.b. Program Integrity

Select option two, 2)Program Integrity, from Commission Menu Two to display the program and Config RAM status, the ROM version number, and checksums.

```
* Program ok .  Config RAM  ok    *
535F0  71163F19     54C3C7DD
```

Figure 58: Program Integrity Submenu

The top line displays the status of the program and the configuration. The bottom line displays the ROM version code, the ROM checksum, and the RAM checksum.

The ROM 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.

C.4.c. Power Supplies

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

C.4.d. Modifying the Level 2 Pass Code

Select option one 1)Commission from the Main Menu, and press YES to move the display to Commission Menu Two. See Figure 4. Select option four 4)Modify level 2 code. Key in the four digits of the new Level 2 pass code and press YES. Lock the memory by moving the Memory Lock Switch to the up position. Select option three, 3) NORMAL OPERATION.

The Trouble LEDs will go out and the display will return to normal.

C.4.e. Erasing Event Log

The panel's log stores up to 500 events. The level three programmer may completely erase the event log.

Select option one, 1)Commission, from the Main Menu, enter the pass code and press YES twice to display Commission Menu three. Press ">" twice. The display reads, "the memory is locked." Unlock the memory.

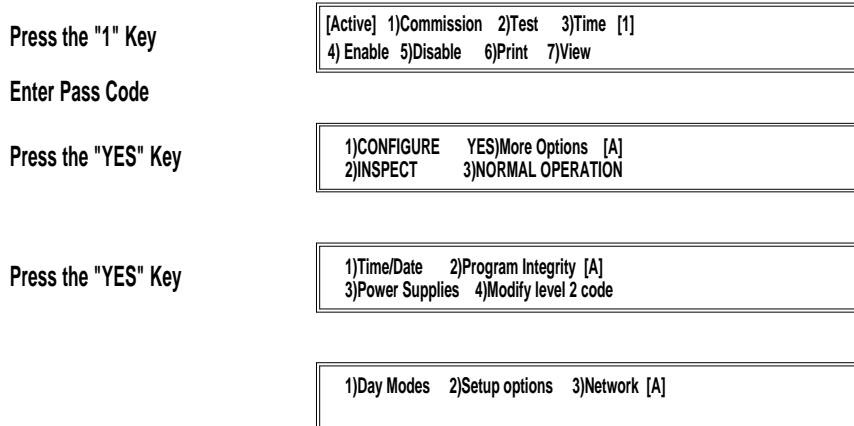The display will prompt for the pass code. Enter the Level Three Pass Code (9898). The display reads "erasing memory," and returns to Commission Menu 1.

Press the "1" Key

Enter Pass Code

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

Press the "YES" Key

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

Press the "YES" Key

```
1)Time/Date     2)Program Integrity  [A]
3)Power Supplies  4)Modify level 2 code
```

```
1)Day Modes    2)Setup options    3)Network  [A]
```

Figure 59: Path to Commission Menu Three

Lock the memory and press 3)NORMAL OPERATION.

C.5. Test Outputs

The D9024/D10024 Operator's Manual covers System Tests in Section D.4.a. The LED Tests and the Walk Tests are available to Level Two Operators. Test Outputs is available only to Level Three programmers. Select option two, 2)Test, from Commission Menu One to display the Test Submenu.

```
1) LEDs  2) Walk Test zone  3) Outputs
```

Figure 60: Test Submenu

Select option three, 3) Outputs. The display prompts for the pass code. Enter the Level Three Pass Code (9898). The display changes to the Outputs Test Submenu.

```
Output  1    NOT OPERATED
```

Figure 61: 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." Enter NO to return to the Main Menu

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