**D. CLASS A/CLASS B ZONE INSTALLATION (INITIATING ZONE MODULES)**

Each Initiating Zone Module provides up to 2 class A (style D), 4 class B (style B) or 1 class A and 2 class B zones of protection. This module accommodates both 2 and 4-wire smoke detectors, N.O. alarm initiating devices and N.O. or N.C. supervisory devices. Use any UL Listed N.O. or N.C. device not requiring power from the Fire Control Panel such as pull stations, heat detectors, waterflow switches, etc. Use only those 2 and 4-wire smoke detectors which are listed in Table 2 in section II.C 'Summary Of Specifications'. Each zone provides enough current (2mA) to power up to 16 of the 2-wire detectors listed in that section. Before proceeding, position the module jumpers for the desired zone configuration as shown in Figure 4.

**IMPORTANT!:** N.C. supervisory devices are not permitted for NFPA71-central station installations, but are permitted for NFPA 72A-local installations.

Insert the first module into slot 2 of the main board and connect the ribbon cable to the connector shown on the Summary of Connections Diagram (Figures 8, 9). Wire connections from initiating devices to this module are made on the main terminal block.if used, the second module plugs into slot 3, with its ribbon cable plugged into the Auxiliary Terminal Block Board as shown in the Summary of Connections Diagram. Wire connections to the second module are made to the Auxiliary Terminal Block Board.

When wiring initiating devices, be sure that the maximum zone wire run resistance does not exceed 100 ohms for both the MS4812 and the MS4824. Observe polarity when wiring 2-wire smoke detectors. Be sure that only 2 and 4wire smoke detectors are wired to zones that will be programmed for alarm verification (other devices may not be programmed for alarm verification).

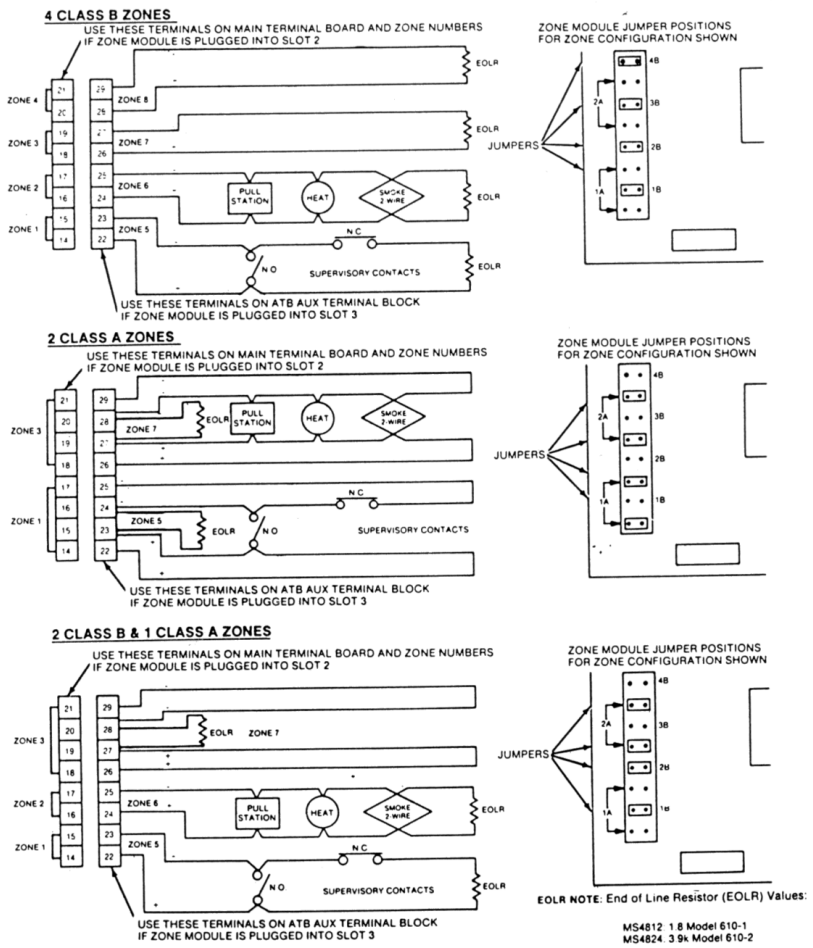


**FIGURE 4. ZONE CONFIGURATIONS FOR INITIATING ZONE MODULES (Previous Page)***

## E. ADDRESSABLE SENSOR INSTALLATION (POLLING LOOP MODULES)

The Polling Loop module provides a supervised polling loop output for connection to addressable sensors. The polling loop provides power to sensors and serves as a communication path between the control panel and sensors. Each sensor is assigned a unique address ID number, set by an 8 position DIP switch, which is displayed at the key-pad console when annunciating the sensor's status.

Each Polling Loop module 'provides up to 55mA of current for sensors. Fill out the polling loop loading worksheet (Table 3) to determine the maximum number of sensors that can be connected to a single loop. A second module can be installed, which provides a second 55mA polling loop output, if additional sensors are required. Note that the maximum number of sensors supported by the system is 88. *Do not connect one polling loop output to the other polling loop output if two modules are used.*

The first Polling Loop module is installed in slot 2 of the main board, and its ribbon cable plugs into the connector on the main terminal block as shown in the Summary of Connections Diagram. The second module (if used) is in-stalled in slot 3 of the main board with its ribbon cable connected to the connector on the Auxiliary Terminal Block Board as shown in the Summary of Connections diagram.

Before installing sensors, be sure to assign unique ID numbers (from 9-96) using each sensor's DIP switch. Do not assign the same number to more than one sensor. Refer to Table 4 in this section when setting DIP switches. Wire sensors to the polling loop as shown in Figure 5. Observe the wire run length limitations listed in section II.C Polling Loop module specifications. Sensors can be connected to a single wire run or groups of sensors can be connected to separate wire runs without affecting the Fire Control Panel's ability to supervise individual sensors. Be sure to observe sensor polarity when wiring.

**CAUTION!** Use of shielded wire or conduit reduces the maximum combined wire run length for multiple wire runs (f rom one Polling Loop Module) f rom 4000 f eet (1 200m) to 2000 feet (600m), independent of wire gauge.

**RIZ-1 Installation and Connection**
When using the RIZ-1 module, be sure that the maximum wire run resistance does not exceed 100 ohms. Wire ini-tiating devices to the RIZ-1 zone as shown in Figure 5. Be sure that only 4- wire smoke detectors are wired to the zone if the zone will be programmed for alarm verification. The RIZ-1 mounts to any standard double gang electri-cal box using the four screws supplied with the module.

When using SDID, SDID-T, or CPID smoke detectors, or the BGID pull station, follow the instructions included with these modules for proper installation.

**TABLE 3. POLLING LOOP LOADING WORKSHEET**

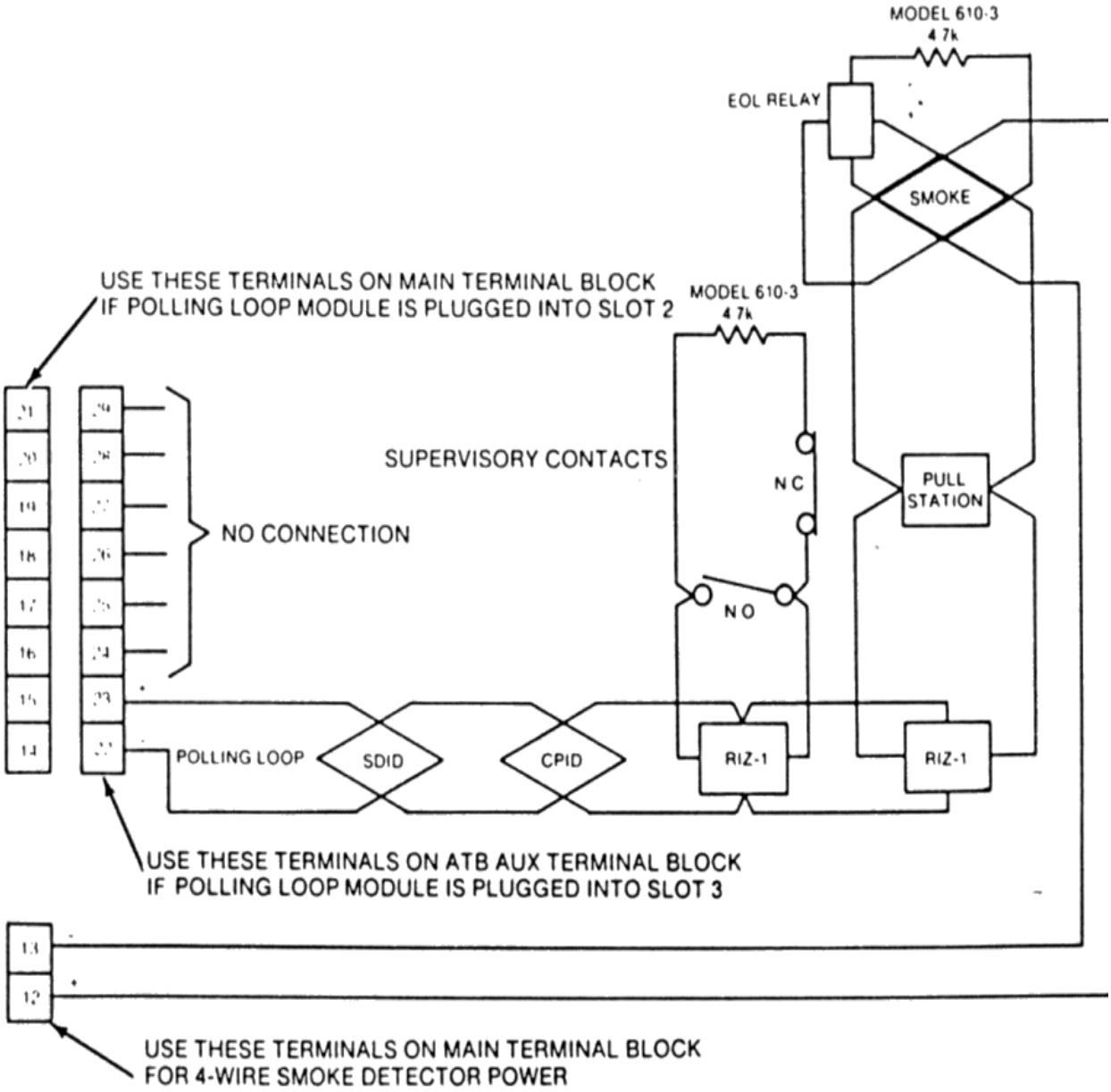
| SENSOR/LOAD FACTOR | NUMBER INSTALLED | EFFECTIVE LOAD |
|---|---|---|
| SDID: 0.36mA | | |
| SDID-T: 0.36mA | | |
| BGID: 0.56mA | | |
| CPID: .0.36mA | | |
| RIZ-1: 1.95mA | | |
| TOTALS: | (88 max.) | (55mA max.) |

*For each addressable sensor type shown above, fill in the number of sensors to be installed, then calculate the Effective load by muftiplying the number of installed sensors by the the load factor listed. Add the numbers in each column. Verify that the total number of sensors installed does not exceed 88 and that the total load does not exceed 55mA.*

**NOTE:** Load Factor is defined as follows:
**Load Factor = (standby current + alarm current) X 1/2**

This load factor was chosen so that maximum polling loop current (55mA) is drawn when 1/2 of the installed sensors are in alarm states and 1/2 are in standby state.

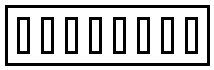
FIGURE 5. POLLING LOOP CONNECTIONS



SWITCH POSITION

1 2 3 4 5 6 7 8

ON
OFF

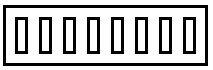


| ID# | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 9 | OFF | OFF | OFF | OFF | on | OFF | OFF | on |
| 10 | OFF | OFF | OFF | OFF | on | OFF | on | OFF |
| 11 | OFF | OFF | OFF | OFF | on | OFF | on | on |
| 12 | OFF | OFF | OFF | OFF | on | on | OFF | OFF |
| 13 | OFF | OFF | OFF | OFF | on | on | OFF | on |
| 14 | OFF | OFF | OFF | OFF | on | on | on | OFF |
| 15 | OFF | OFF | OFF | OFF | on | on | on | on |
| 16 | OFF | OFF | OFF | on | OFF | OFF | OFF | OFF |
| 17 | OFF | OFF | OFF | on | OFF | OFF | OFF | on |
| 18 | OFF | OFF | OFF | on | OFF | OFF | on | OFF |
| 19 | OFF | OFF | OFF | on | OFF | OFF | on | on |
| 20 | OFF | OFF | OFF | on | OFF | on | OFF | OFF |
| 21 | OFF | OFF | OFF | on | OFF | on | OFF | on |
| 22 | OFF | OFF | OFF | on | OFF | on | on | OFF |
| 23 | OFF | OFF | OFF | on | OFF | on | on | on |
| 24 | OFF | OFF | OFF | on | on | OFF | OFF | OFF |
| 25 | OFF | OFF | OFF | on | on | OFF | OFF | on |
| 26 | OFF | OFF | OFF | on | on | OFF | on | OFF |
| 27 | OFF | OFF | OFF | on | on | OFF | on | on |
| 28 | OFF | OFF | OFF | on | on | on | OFF | OFF |
| 29 | OFF | OFF | OFF | on | on | on | OFF | on |
| 30 | OFF | OFF | OFF | on | on | on | on | OFF |
| 31 | OFF | OFF | OFF | on | on | on | on | on |
| 32 | OFF | OFF | on | OFF | OFF | OFF | OFF | OFF |
| 33 | OFF | OFF | on | OFF | OFF | OFF | OFF | on |
| 34 | OFF | OFF | on | OFF | OFF | OFF | on | OFF |
| 35 | OFF | OFF | on | OFF | OFF | OFF | on | on |
| 36 | OFF | OFF | on | OFF | OFF | on | OFF | OFF |
| 37 | OFF | OFF | on | OFF | OFF | on | OFF | on |
| 38 | OFF | OFF | on | OFF | OFF | on | on | OFF |
| 39 | OFF | OFF | on | OFF | OFF | on | on | on |
| 40 | OFF | OFF | on | OFF | on | OFF | OFF | OFF |
| 41 | OFF | OFF | on | OFF | on | OFF | OFF | on |
| 42 | OFF | OFF | on | OFF | on | OFF | on | OFF |
| 43 | OFF | OFF | on | OFF | on | OFF | on | on |
| 44 | OFF | OFF | on | OFF | on | on | OFF | OFF |
| 45 | OFF | OFF | on | OFF | on | on | OFF | on |
| 46 | OFF | OFF | on | OFF | on | on | on | OFF |
| 47 | OFF | OFF | on | OFF | on | on | on | on |
| 48 | OFF | OFF | on | on | OFF | OFF | OFF | OFF |
| 49 | OFF | OFF | on | on | OFF | OFF | OFF | on |
| 50 | OFF | OFF | on | on | OFF | OFF | on | OFF |
| 51 | OFF | OFF | on | on | OFF | OFF | on | on |
| 52 | OFF | OFF | on | on | OFF | on | OFF | OFF |

SWITCH POSITION

1 2 3 4 5 6 7 8

ON
OFF



| ID# | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 53 | OFF | OFF | on | on | OFF | on | OFF | on |
| 54 | OFF | OFF | on | on | OFF | on | on | OFF |
| 55 | OFF | OFF | on | on | OFF | on | on | on |
| 56 | OFF | OFF | on | on | on | OFF | OFF | OFF |
| 57 | OFF | OFF | on | on | on | OFF | OFF | on |
| 58 | OFF | OFF | on | on | on | OFF | on | OFF |
| 59 | OFF | OFF | on | on | on | OFF | on | on |
| 60 | OFF | OFF | on | on | on | on | OFF | OFF |
| 61 | OFF | OFF | on | on | on | on | OFF | on |
| 62 | OFF | OFF | on | on | on | on | on | OFF |
| 63 | OFF | OFF | on | on | on | on | on | on |
| 64 | OFF | on | OFF | OFF | OFF | OFF | OFF | OFF |
| 65 | OFF | on | OFF | OFF | OFF | OFF | OFF | on |
| 66 | OFF | on | OFF | OFF | OFF | OFF | on | OFF |
| 67 | OFF | on | OFF | OFF | OFF | OFF | on | on |
| 68 | OFF | on | OFF | OFF | OFF | on | OFF | OFF |
| 69 | OFF | on | OFF | OFF | OFF | on | OFF | on |
| 70 | OFF | on | OFF | OFF | OFF | on | on | OFF |
| 71 | OFF | on | OFF | OFF | OFF | on | on | on |
| 72 | OFF | on | OFF | OFF | on | OFF | OFF | OFF |
| 73 | OFF | on | OFF | OFF | on | OFF | OFF | on |
| 74 | OFF | on | OFF | OFF | on | OFF | on | OFF |
| 75 | OFF | on | OFF | OFF | on | OFF | on | on |
| 76 | OFF | on | OFF | OFF | on | on | OFF | OFF |
| 77 | OFF | on | OFF | OFF | on | on | OFF | on |
| 78 | OFF | on | OFF | OFF | on | on | on | OFF |
| 79 | OFF | on | OFF | OFF | on | on | on | on |
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| 81 | OFF | on | OFF | on | OFF | OFF | OFF | on |
| 82 | OFF | on | OFF | on | OFF | OFF | on | OFF |
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| 87 | OFF | on | OFF | on | OFF | on | on | on |
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| 89 | OFF | on | OFF | on | on | OFF | OFF | on |
| 90 | OFF | on | OFF | on | on | OFF | on | OFF |
| 91 | OFF | on | OFF | on | on | OFF | on | on |
| 92 | OFF | on | OFF | on | on | on | OFF | OFF |
| 93 | OFF | on | OFF | on | on | on | OFF | on |
| 94 | OFF | on | OFF | on | on | on | on | OFF |
| 95 | OFF | on | OFF | on | on | on | on | on |
| 96 | OFF | on | on | OFF | OFF | OFF | OFF | OFF |

**TABLE 4. ADDRESSABLE SENSOR DIP SWITCH SETTING TABLE (Above)**

**TABLE 6. POWER SUPPLY LOADING WORKSHEET (Next)**

Fill in the alarm and standby currents drawn from each output listed below. Add up the currents in both columns. Verify that the total alarm current does not exceed the maximum current limit (67omA for MS4812; 585mA for MS4824). Use the total standby current to choose the battery capacity needed to achieve 24 hours of standby time.

| SLOT/DEVICE | MS4812 RATING | MS4824 RATING | STANDBY CURRENT (mA) | | ALARM CURRENT (mA) | |
|---|---|---|---|---|---|---|
| FDC-UL<br>(Slot 1) | 15mA standby<br>85mA alarm | 12mA standby<br>40mA alarm | | | | |
| IZ412<br><br>IZ424<br><br>DCID<br><br>DCID24<br>(Slot2/Slot3) | 36mA standby<br>100mA alarm<br><br><br>85mA standby<br>75mA standby | <br><br>36mA standby<br>100mA alarm<br><br>50mA standby<br>45mA alarm | SLOT 2 | SLOT 3 | SLOT 2 | SLO |
| RR12<br>(Slot 4) | 60mA standby<br>100mA alarm | 70mA standby<br>100mA alarm | | | | |
| ATR<br>(Slot 5) | 40mA standby<br>90mA alarm | 25mA standy<br>50mA alarm | | | | |
| ABM-12<br><br>ABM-24<br>(Slot 6) | 3mA standby<br>53mA alarm | <br><br>3mA standby<br>33mA alarm | | | | |
| Remote Annunciator Output (RDA) | 75mA standby<br>140mA alarm | 45mA standby<br>85mA alarm | | | (See NOTE 2) | |
| 4-Wire Smoke Detector | See Ratings provided with Detectors | | | | (160mA max.) | |
| TOTALS | | | MS4812=420mA max.<br>MS4824=310mA max. | | MS4812=670mA max.<br>MS4824= 585mA max. | |

NOTE 1: The MS4812 rating represents the modulelperipheral current draw from a 12V battery. The MS4824 rating represents the modulelperipheral current draw from the 24V battery.

NOTE 2: AmaximumofRDAmodulesmaybeconnectedtotheRemoteAnnunciatorpoweroutput. Thisoutputprovides 28OmA at 12V. Each RDA draws l4OmA at 12V in alarm.

**TABLES 7A AND 7B. BATTERY CAPACITY SELECTION TABLES**

Use the appropriate table shown below to determine the battery capacity required to provide 24 hours of standby time followed by 5 minutes of alarm time for the total standby current determined from the power supply loading table above.

| TOTAL STANDBY CURRENT | BATTERY CAPACITY | MAKE AND MODEL NUMBER |
|---|---|---|
| UP TO 80 mA | 6 AH | Yuasa NP6-12 (12V) |
| UP TO 100mA | 6.5 AH | Fire-Lite PS 1265 (12V) |
| UP TO 160mA | 8 AH | Yuasa NP8-6 (6V)<br>Fire-Lite PS 682 (6V)<br>connect 2 in series* |
| UP TO 240mA | 10 AH | Yuasa NP10-6 (6V)<br>connect 2 in series* |
| UP TO 310mA | 13 AH | Fire-Lite PS 1265 (12V)<br>connect 2 in parallel* |
| UP TO MAX STANDBY CURRENT (420mA MAX.) | 15 AH | Yuasa NP15-12 (12V) |

**TABLE 7A. MS4812 BATTERY SELECTION**

* NOTE: Two pairs of battery cables are supplied. Splice one pair together to connect batteries in series. Use both pairs for connecting batteries in parallel.

**TABLE 7B. MS4824 BATTERY SELECTION**

| TOTAL STANDBY CURRENT | BATTERY CAPACITY | MAKE AND MODEL NUMBER |
|---|---|---|
| Up to 36mA | 4AH | Yuasa NP4-12 (12V)<br>Connect 2 in series* |
| Up to 120mA | 6AH | Yuasa NP6-12 (12V)<br>Connect 2 in series* |
| Up to140mA | 6.5AH | FireLite PS1265 (12V)<br>Connect 2 in series* |
| Up to 200mA | 8AH | Yuasa NP8-6 (6V)<br>Connect 4 in series* |
| Up to 285mA | 10AH | Yuasa NP10-6 (6V)<br>Connect 4 in series* |
| Up to310mA | 12AH | Yuasa NP6-12 (12V)<br>FireLite PS1265 (12V)<br>See note below |

NOTE: Use four batteries. Connect two sets of 2 batteries in series, then connect both sets in paratial Observe polarity.

*NOTE: Three pairs of battery cables are provided. Use the red and black cables to connect batteries to terminal block. Two pairs of redlblack cables are provided to allow batteries to be connected in parallel. Two white jumper cables are provided to connect batteries in series (splice a red and black cable together to connect four batteries in series)

## V. TESTING THE SYSTEM

The system can execute the following tests: bell test, LED test, battery test, walk test and smoke detector test. The bell test activates both bell circuits for the purposes of conducting a fire drill. The LED test checks that all LEDs and all segments of the digital display are working properly. Upon completion of the LED test, the digital display will display the system ID numbers of all tests in progress. The battery test checks the status of the battery. The walk test is used to check the operation of alarm initiating devices. The smoke detector test allows testing of addressable smoke detectors from the KeypaJ/Console.

### Bell Test

To execute a bell test, press the BELL TEST key. Depending upon operating option programming, both bell circuits will activate steadily or in march time. The TEST MODE LED will light. The TEST MODE LED remains on and the bell circuits remain activated until the BELL TEST key is pressed again.

### LED Test

To execute an LED test, press the DISPLAY key to enter the Display mode. The DISPLAY MODE LED will light and all other LEDs will turn off. Then press the LED TEST key. All LEDs will light and the number '88' will appear in the digital display for 2 seconds. After 2 seconds, the digital display will display the ID numbers of tests which are in progress. Tests in progress are displayed using the following system ID numbers:

50 = battery test in progress
51 = walk test in progress
52 = bell test in progress

Press the END key to return to the Normal mode.

### Battery Test

To activate the battery test, press DISPLAY key + # key + 50. The Battery test function (code 50) allows a battery test to be manually activated. This test forces the system to operate from the battery for a 1 0 minute period. If the battery fails to maintain proper operating voltage at any time during the test, the test is aborted and the TROUBLE LED will light. The system normally performs an automatic battery test every 12 hours, beginning 15 minutes from power up.

### Walk Test

To activate the Walk Test, press DISPLAY + # + 51. The Walk Test (code 51) allows a service person to verify the operation of all zones and sensors which are programmed for alarm. When this mode is first activated, the external sounders will sound for 3 seconds and the communicator (if installed) will transmit a "Start of Walk Test' message. To perform the test, simulate an alarm condition at each zone or sensor. The external sounder will sound for half a second, every 2-5 seconds and the faulted zone or sensor address will be repeatedly flashed on the Control's display window, for as long as the alarm condition is present.

### Smoke Detector Test

SDID/4192SD, SDID-T/4192SDT and CPID Smoke Detectors can be tested via the Console's keypad while in the Walk Test Mode by entering the address of the detector to be tested. The external sounders will sound briefly and the detector address will be displayed for 1 second, every 2-5 seconds. Each new address entered ends the test for the previous address. If an address that is an installed sensor, but is not the address of an addressable smoke detector, is entered, the system will remain at this location waiting to hear from the unit selected. To get past this erroneous entry, enter 99 and testing can be continued. To completely end the smoke detector test, re-enter the last smoke detector address tested. If an entered address has not been programmed, the keypad will beep 3 times. (This feature can also be used to verify that any polling loop sensor's address has been programmed, by entering the desired address. If the keypad does not beep 3 times, the address has been programmed.)

Note that alarm reports are NOT sent to the Central station while the walk test is activated. To terminate the walk test manually, re-enter [* + # +51]. The walk test will also automatically terminate 30 minutes after the last time a key is pressed or a sensor is faulted. The communicator will transmit an 'End of Walk Test" message when the walk test mode is terminated, either manually or automatically.

**TABLE 9: SUMMARY OF KEYPAD FUNCTIONS**

| **FUNCTION** | **KEYS** |
|---|---|
| **Normal Mode** | |
| To silence keypad buzzer | Press BUZZER SILENCE |
| To test external sounders | Press BELL TEST. (Press again to silence.) |
| To silence bells activated by alarm | Press BELL SILENCE |
| To reset the system | Press RESET |
| To disable a zone or addressable sensor | Press ZONE DISABLE (#) +<br>Zone or sensor ID number<br>(enter again to restore a disable zone) |
| **Display Mode** | |
| To enter display mode | Press DISPLAY (*) |
| To display current alarms | Press DISPLAY (*) + ALARM (1) |
| To display current supervisory faults | Press DISPLAY (*) + SUPV. (2) |
| To display current sensor and system troubles | Press DISPLAY (*) + TROUBLE (3) |
| To display disabled zones | Press DISPLAY (*) + DISABLE (4) |
| To stop a scrolling display | Press STEP (6)<br>(Repeated depression causes manual scrolling<br>of ID numbers) |
| To return to scrolling display | Press SCAN (5)<br>(when in Display Mode) |
| To test keypad console LEDs and display current tests in progress | Press (*) + LED TEST (7)<br>(test last 2 seconds) |
| To diplay alarm history | Press DISPLAY (*) + (#) + 91 |
| To display supervisory history | Press DISPLAY (*) + (#) + 92 |
| To display trouble history | Press DISPLAY (*) + (#) + 93 |
| To disable Main Bell Circuit | Press DISPLAY (*) + (#) + 70<br>(Re-enter to enable) |

| | |
|---|---|
| To disable Aux. Bell Circuit | Press DISPLAY (*) + (#) + 71<br>(Re-enter to enable) |
| To disable Aux. Alarm Relay | Press DISPLAY (*) + (#) + 72<br>(Re-enter to enable) |
| To disable Aux. Trouble Relay | Press DISPLAY (*) + (#) + 73<br>(Re-enter to enable) |
| To disable Reversing Relay | Press DISPLAY (*) + (#) + 74<br>(Re-enter to enable) |
| To disable Digital Comm. | Press DISPLAY (*) + (#) + 75<br>(Re-enter to enable) |
| To activate battery test | Press DISPLAY (*) + (#) + 50<br>(test lasts 10 minutes) |
| To activate walk test | Press DISPLAY (*) + (#) + 51<br>(Re-enter to stop test) |
| To return to Normal Mode from Display Mode | Press END (9) |
| **Programming Mode** | |
| To enter Program Mode | Press DISPLAY (*) + (#) + 10 |
| To program a data field | Press (*) + Field Number + [Data to be entered] |
| To display a previously programmed field | Press (#) + Field Number<br>(when in Program Mode) |
| To clear the program | Press (*) + 90<br>(when in Program Mode) |
| To exit program mode with lockout | Press (*) + 98<br>(Re-entry to Program Mode is only within 30 seconds of power up.) |
| To exit program with lockout | Press (*) + 99<br>(Re-enter Program Mode anytime) |

NOTE. Once In DISPLAY mode and the DISPLAY LED Is lit, it Is not necessary to press the DISPLAY (.) keyagalntoonteradifferentDISPLAYmode. Simply press the appropriate key(s) for the display desired.

**SPECIAL MESSAGES**

**FC:** Field Code error, occurs while programming fields. Re-enter data

**OC:** Open Circuit. No communication If it appears on built-in console, check console's ribbon connector to

main terminal block. If h appears on RDA, check continuity of yellow data wire to RDA.

**The following codes may appear while displaying trouble conditions and represent system troubles:**

A0 Polling loop short

Al Future use

A2 Future Use

A3 Main Bell Circuit faulted

A4 Aux. Bell Circuit faulted

A5 Ground fault

A6 Telco Line I faulted

A7 Telco Line 2 faulted

A8 'Low battery

A9 AC Loss

AA Kiss off failure

Ab External sounders silenced

**The following codes may appear while displaying disables:**

E0 -Main Bell circuit disabled

El - Auxiliary Bell circuit disabled

E2 = Auxiliary Alarm relay,disabled

E3 - Auxiliary Trouble Relay disabled

E4 - Reversing Relay disabled

E5 - Digital Communicator disabled

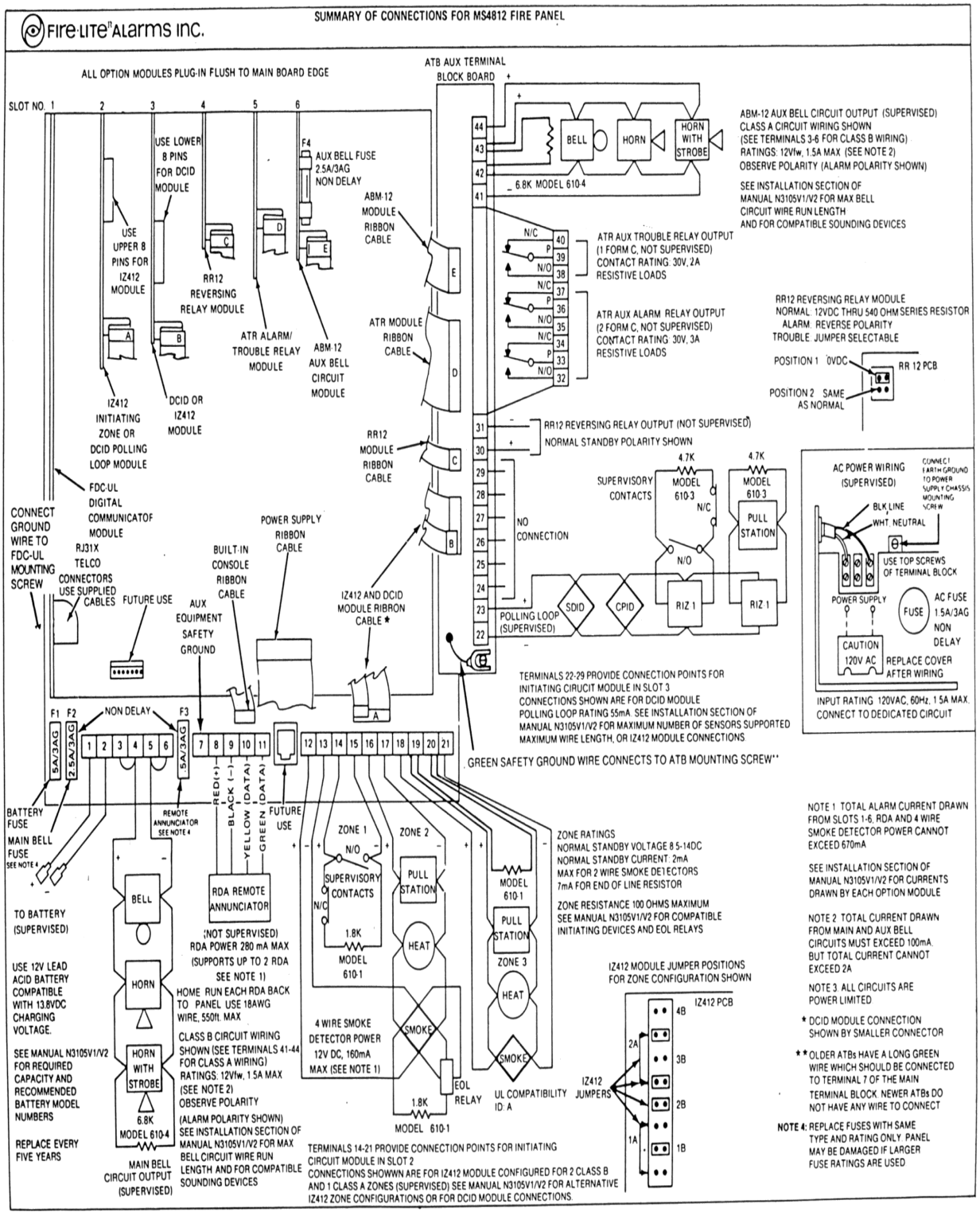
**The following codes may appear while displaying tests In progress:**

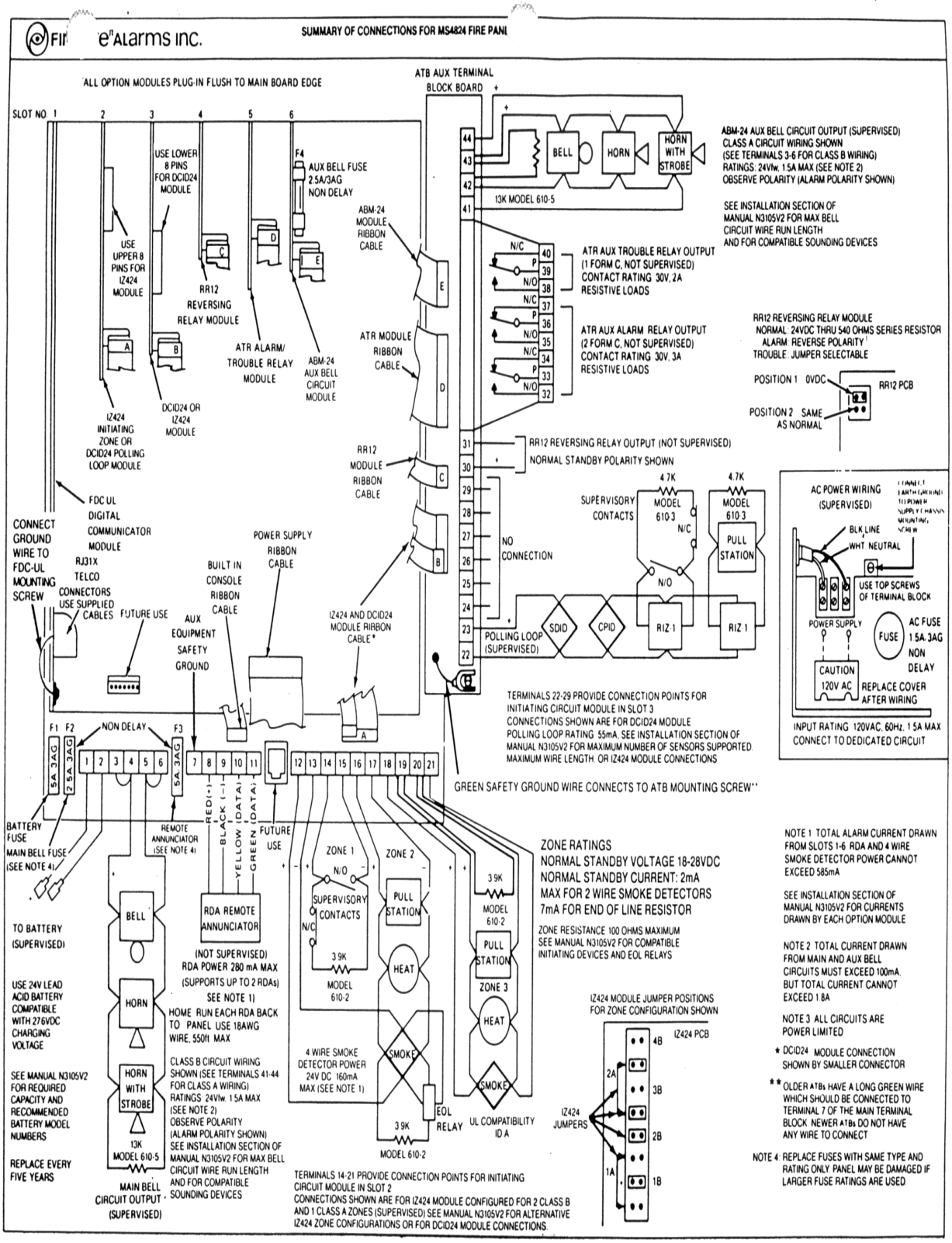
50 Battery Test

51 Walk Test

52 Bell Test

Figure 8: MS4812 Summary of Connections Diagram




SUMMARY OF CONNECTIONS FOR MS4824 FIRE PANEL
ALL OPTION MODULES PLUG-IN FLUSH TO MAIN BOARD EDGE
ATB AUX TERMINAL BLOCK BOARD
SLOT NO. 1 2 3 4 5 6
USE LOWER 8 PINS FOR DCID24 MODULE
USE UPPER 8 PINS FOR IZ424 MODULE
F4 AUX BELL FUSE 2.5A/3AG NON DELAY
RR12 REVERSING RELAY MODULE
ATR ALARM/ TROUBLE RELAY MODULE
ABM-24 AUX BELL CIRCUIT MODULE
IZ424 INITIATING ZONE OR DCID24 POLLING LOOP MODULE
DCID24 OR IZ424 MODULE
ABM-24 MODULE RIBBON CABLE
ATR MODULE RIBBON CABLE
RR12 MODULE RIBBON CABLE
IZ424 AND DCID24 MODULE RIBBON CABLE*
BELL
HORN
HORN WITH STROBE
ABM-24 AUX BELL CIRCUIT OUTPUT (SUPERVISED)
CLASS A CIRCUIT WIRING SHOWN
(SEE TERMINALS 3-6 FOR CLASS B WIRING)
RATINGS: 24Vfw, 1.5A MAX (SEE NOTE 2)
OBSERVE POLARITY (ALARM POLARITY SHOWN)
13K MODEL 610-5
SEE INSTALLATION SECTION OF MANUAL N3105V2 FOR MAX BELL CIRCUIT WIRE RUN LENGTH AND FOR COMPATIBLE SOUNDING DEVICES
ATR AUX TROUBLE RELAY OUTPUT (1 FORM C, NOT SUPERVISED) CONTACT RATING 30V, 2A RESISTIVE LOADS
ATR AUX ALARM RELAY OUTPUT (2 FORM C, NOT SUPERVISED) CONTACT RATING 30V, 3A RESISTIVE LOADS
RR12 REVERSING RELAY MODULE
NORMAL: 24VDC THRU 540 OHMS SERIES RESISTOR
ALARM: REVERSE POLARITY
TROUBLE: JUMPER SELECTABLE
POSITION 1 0VDC
POSITION 2 SAME AS NORMAL
RR12 PCB
RR12 REVERSING RELAY OUTPUT (NOT SUPERVISED)
NORMAL STANDBY POLARITY SHOWN
NO CONNECTION
SUPERVISORY CONTACTS
4.7K
MODEL 610-3
PULL STATION
POLLING LOOP (SUPERVISED)
SDID
CPID
RIZ-1
AC POWER WIRING (SUPERVISED)
BLK LINE
WHT NEUTRAL
USE TOP SCREWS OF TERMINAL BLOCK
POWER SUPPLY
FUSE
AC FUSE 1.5A, 3AG NON DELAY
CAUTION 120V AC
REPLACE COVER AFTER WIRING
INPUT RATING 120VAC, 60Hz, 1.5A MAX
CONNECT TO DEDICATED CIRCUIT
CONNECT GROUND WIRE TO FDC-UL MOUNTING SCREW
FDC UL DIGITAL COMMUNICATOR MODULE
RJ31X TELCO CONNECTORS USE SUPPLIED CABLES
FUTURE USE
AUX EQUIPMENT SAFETY GROUND
BUILT IN CONSOLE RIBBON CABLE
POWER SUPPLY RIBBON CABLE
TERMINALS 22-29 PROVIDE CONNECTION POINTS FOR INITIATING CIRCUIT MODULE IN SLOT 3
CONNECTIONS SHOWN ARE FOR DCID24 MODULE POLLING LOOP RATING 55mA. SEE INSTALLATION SECTION OF MANUAL N3105V2 FOR MAXIMUM NUMBER OF SENSORS SUPPORTED. MAXIMUM WIRE LENGTH, OR IZ424 MODULE CONNECTIONS
GREEN SAFETY GROUND WIRE CONNECTS TO ATB MOUNTING SCREW**
F1 F2 NON DELAY F3
5A 3AG
2.5A 3AG
RED (+)
BLACK (-)
YELLOW (DATA)
GREEN (DATA)
FUTURE USE
BATTERY FUSE
MAIN BELL FUSE (SEE NOTE 4)
REMOTE ANNUNCIATOR (SEE NOTE 4)
TO BATTERY (SUPERVISED)
USE 24V LEAD ACID BATTERY COMPATIBLE WITH 27.6VDC CHARGING VOLTAGE
SEE MANUAL N3105V2 FOR REQUIRED CAPACITY AND RECOMMENDED BATTERY MODEL NUMBERS
REPLACE EVERY FIVE YEARS
BELL
HORN
HORN WITH STROBE
13K MODEL 610-5
MAIN BELL CIRCUIT OUTPUT (SUPERVISED)
CLASS B CIRCUIT WIRING SHOWN (SEE TERMINALS 41-44 FOR CLASS A WIRING)
RATINGS: 24Vfw, 1.5A MAX (SEE NOTE 2)
OBSERVE POLARITY (ALARM POLARITY SHOWN)
SEE INSTALLATION SECTION OF MANUAL N3105V2 FOR MAX BELL CIRCUIT WIRE RUN LENGTH AND FOR COMPATIBLE SOUNDING DEVICES
RDA REMOTE ANNUNCIATOR
(NOT SUPERVISED) RDA POWER 280 mA MAX (SUPPORTS UP TO 2 RDAs) SEE NOTE 1)
HOME RUN EACH RDA BACK TO PANEL USE 18AWG WIRE, 550ft MAX
ZONE 1
ZONE 2
ZONE 3
N/O
N/C
SUPERVISORY CONTACTS
PULL STATION
HEAT
SMOKE
3.9K
MODEL 610-2
4 WIRE SMOKE DETECTOR POWER 24V DC 160mA MAX (SEE NOTE 1)
EOL RELAY
UL COMPATIBILITY ID A
TERMINALS 14-21 PROVIDE CONNECTION POINTS FOR INITIATING CIRCUIT MODULE IN SLOT 2
CONNECTIONS SHOWN ARE FOR IZ424 MODULE CONFIGURED FOR 2 CLASS B AND 1 CLASS A ZONES (SUPERVISED) SEE MANUAL N3105V2 FOR ALTERNATIVE IZ424 ZONE CONFIGURATIONS OR FOR DCID24 MODULE CONNECTIONS.
ZONE RATINGS
NORMAL STANDBY VOLTAGE 18-28VDC
NORMAL STANDBY CURRENT: 2mA
MAX FOR 2 WIRE SMOKE DETECTORS 7mA FOR END OF LINE RESISTOR
ZONE RESISTANCE 100 OHMS MAXIMUM
SEE MANUAL N3105V2 FOR COMPATIBLE INITIATING DEVICES AND EOL RELAYS
IZ424 MODULE JUMPER POSITIONS FOR ZONE CONFIGURATION SHOWN
IZ424 PCB
IZ424 JUMPERS
2A
3B
2B
1A
1B
4B
NOTE 1 TOTAL ALARM CURRENT DRAWN FROM SLOTS 1-6 RDA AND 4 WIRE SMOKE DETECTOR POWER CANNOT EXCEED 585mA
SEE INSTALLATION SECTION OF MANUAL N3105V2 FOR CURRENTS DRAWN BY EACH OPTION MODULE
NOTE 2 TOTAL CURRENT DRAWN FROM MAIN AND AUX BELL CIRCUITS MUST EXCEED 100mA, BUT TOTAL CURRENT CANNOT EXCEED 1.8A
NOTE 3 ALL CIRCUITS ARE POWER LIMITED
* DCID24 MODULE CONNECTION SHOWN BY SMALLER CONNECTOR
** OLDER ATBs HAVE A LONG GREEN WIRE WHICH SHOULD BE CONNECTED TO TERMINAL 7 OF THE MAIN TERMINAL BLOCK. NEWER ATBs DO NOT HAVE ANY WIRE TO CONNECT
NOTE 4: REPLACE FUSES WITH SAME TYPE AND RATING ONLY. PANEL MAY BE DAMAGED IF LARGER FUSE RATINGS ARE USED.

**FIELD FUNCTION** **LOCATIONS**

[56] SUPERVISORY RETARD TIME
[57] BELL TIMEOUT PERIOD

| | | |
|---|---|---|
| | | X2 seconds (01-15) |
| | | X2 minutes (01-15) |

[58] BELL AND RELAY OPTIONS
For march time bell sounding, enter 0 in location 1

| Bell Stdy | Main t/o | Aux t/o | Not Used | |
|---|---|---|---|---|
| | | | 0 | enter 1 if yes, 0 if no |

[59] REPORT ROUTING
Alarm reports=locations 1&2
Non-Alarm reports=locations 3&4

| alrm prim | alrm 2nd | non prim | non 2nd | |
|---|---|---|---|---|
| | | | | enter 1 if yes, 0 if no |

[60] REPORT ROUTING AND OPTIONS
12 hour test report=0 in location 3

| 2nd bkup | prior order | 24 hr rprt | test rprt | |
|---|---|---|---|---|
| | | | | enter 1 if yes, 0 if no |

[61] PRIMARY DIALER FORMAT
[62] SECONDARY DIALER FORMAT
Ademco Low Speed=0 in loc. 1, 3 & 4
3+1/4+1 data format=0 in location 2

| Sescoa | 4 + 2 | high spd | Radionics | |
|---|---|---|---|---|
| | | | | enter 1 if yes, 0 if no |
| | | | | enter 1 if yes, 0 if no |

[63] DIALER LINE OPTIONS
Rotary Service=0 in locatuions 1

| T/T Ln 2 | T/T Ln 1 | Not Used | Comm. instll? | |
|---|---|---|---|---|
| | | | | enter 1 if yes, 0 if no |

[64] DIAL TONE WAIT, ACKNOWLEDGEMENTS
5 second wait=0 in locations 1&2
30 second ack=0 in location 3
500msec kissoff=0 in location 4

| 11 sc wait | 30 sc wait | 60 sc wait | 1.2 sc kissoff | |
|---|---|---|---|---|
| | | | | enter 1 if yes, 0 if no |

[65] EXPANDED REPORT OPTIONS
Expanded Zone/Sensor reports=loc. 1-3
Expanded system reports=location 4

| expd alrm | supv trble | expd dsble | expd systm | |
|---|---|---|---|---|
| | | | | enter 1 if yes, 0 if no |

[66] PABX ACCESS CODE
{Enter up to four 2-digit numbers, 00-15 each}
[67] PRIMARY SUBSCRIBER ACCOUNT NO.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

[70] PLUGGED-IN OPTIONS

| DCID2 | DCID3 | IZM2 | IZM3 | |
|---|---|---|---|---|
| | | | | enter 1 if installed/0 if not |

[71] FIRST TEST REPORT TIME DELAY

| | | |
|---|---|---|
| | | X2 hours (00-15) |

[72] SECONDARY SUBSCRIBER ACCT. NO. {Enter up to four 2-digit numbers, 00-15}

| | | | |
|---|---|---|---|
| | | | |

[73] FACTORY PROGRAMMED FIELD
Recore digits displayed, but
DO NOT CHANGE ANY VALUES!

| | | | | |
|---|---|---|---|---|
| | | | | Record digits only! |

[74] OTHER REPORT FORMATS/
ROTARY BACKUP (see fields 61&62)

| Expr Prim | Expr 2nd | Sens ID | Rotary Bkup | |
|---|---|---|---|---|
| | | | | enter 1 if yes, 0 if no |

[75] COMMUNICATION OPTIONS
Enter 1 to select checksum/0 if no
Enter 1 to disable dial tone detection/
0 if detection is desired

| Cksm Prim | Cksm 2nd | Dial detc | Not Used |
|---|---|---|---|
| | | | 0 |

**PROGRAMMING CHART FOR THE MS4812/MS4824 FIRE CONTROL PANEL**

| **FIELD FUNCTION** | **LOCATIONS** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (enter 1 to select option, 0 if not desired) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| [00] CLASS A SELECTION (zones only) | | | | | | | | |
| [01] MAIN BELL ACTIVATION | | | | | | | | |
| [02] AUX BELL ACTIVATION | | | | | | | | |
| [03] ALARM VERIFICATION | | | | | | | | |
| [04] WATERFLOW | | | | | | | | |
| [05] ALARM RELAY ACTIVATION | | | | | | | | |
| [06] DELAY REPORTING* | | | | | | | | |
| [07] SUPERVISORY SHORT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| [08] SUPERVISORY OPEN | | | | | | | | |
| [09] SUPERVISORY RETARD | | | | | | | | |
| [10] REVERSING RELAY ACTIVATION | | | | | | | | |

For home run wired zones, the location number corresponds to the programmable group number.

For polling loop sensors, the location number corresponds to the programmable group number.

Each programmable group responds to the listed option according to the entry made: 1=yes/0=no.

(Enter Group Number 1-7. Enter 0 if not installed)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| [11] SENSORS 9-16 | | | | | | | | |
| [12] SENSORS 17-24 | | | | | | | | |
| [13] SENSORS 25-32 | | | | | | | | |
| [14] SENSORS 33-40 | | | | | | | | |
| [15] SENSORS 41-48 | | | | | | | | |
| [16] SENSORS 49-56 | | | | | | | | |
| [17] SENSORS 57-64 | | | | | | | | |
| [18] SENSORS 65-72 | | | | | | | | |
| [19] SENSORS 73-80 | | | | | | | | |
| [20] SENSORS 81-88 | | | | | | | | |
| [21] SENSORS 89-96 | | | | | | | | |

**IMPORTANT!** Enter only zeros in all eight locatons of field 6.

| | 1ST DIGIT | 2ND DIGIT | (Enter 00-15 for all locations) |
|---|---|---|---|
| [22] GROUP 1 ALARM CODE | | | |
| [23] GROUP 2 ALARM CODE | | | |
| [24] GROUP 3 ALARM CODE | | | |
| [25] GROUP 4 ALARM CODE | | | |
| [26] GROUP 5 ALARM CODE | | | |
| [27] GROUP 6 ALARM CODE | | | |
| [28] GROUP 7 ALARM CODE | | | |
| [29] GROUP 8 ALARM CODE | | | |
| [30] GROUP 1 ALARM RESTORE CODE | | | |
| [31] GROUP 2 ALARM RESTORE CODE | | | |
| [32] GROUP 3 ALARM RESTORE CODE | | | |
| [33] GROUP 4 ALARM RESTORE CODE | | | |
| [34] GROUP 5 ALARM RESTORE CODE | | | |
| [35] GROUP 6 ALARM RESTORE CODE | | | |
| [36] GROUP 7 ALARM RESTORE CODE | | | |
| [37] GROUP 8 ALARM RESTORE CODE | | | |

| | | | | |
|---|---|---|---|---|
| [38] SYSTEM TROUBLE CODE | | | | |
| [39] SYSTEM TROUBLE RESTORE CODE | | | | |
| [40] LOW BATTERY CODE | | | | |
| [41] LOW BATTERY RESTORE CODE | | | | |
| [42] AC LOSS CODE | | | | |
| [43] AC RESTORE CODE | | | | |
| [44] SYSTEM DISABLE CODE | | | | |
| [45] SYSTEM DISABLE RESTORE CODE | | | | |
| [46] ZONE TROUBLE CODE | | | | |
| [47] ZONE TROUBLE RESTORE CODE | | | | |
| [48] ZONE DISBALE CODE | | | | |
| [49] AONE DISABLE RESTORE CODE | | | | |
| [50] WALK TEST START CODE | | | | |
| [51] WALK TEST END CODE | | | | |
| [52] SUPERVISORY CODE | | | | |
| [53] SUPERVISORY RESTORE CODE | | | | |
| [54] 12/24 HOUR TEST CODE | 0 | 0 | 0 | 0 |
| [55] NOT USED | | | | |

**Programming Key Components**

| | |
|---|---|
| To enter Programming Mode | Press [*] + [#] + [10] |
| To Program a Data Field | Press [*] + [field number] |
| To Display Previous Data Field | Press [#] + [field number] |
| To Clear Entire Program | Press [*] + [90] |
| To Exit with Lock-Out Option | Press [*] + [98] |
| To Exit without Lock-Out Option | Press [*] +[ 99] |

**Error Messages**
FC=Field Code Error, reenter data
OC=Open Circuit, no communication to Console from the Control Panel

| **Alarm Codes** | | **PABX/Telco Codes** | |
|---|---|---|---|
| Code | Enter | Code | Enter |
| 1-9 | 01-09 | 1-9 | 01-09 |
| 0 | 10 | 0 | 00 or 10 |
| B | 11 | * | 11 |
| C | 12 | # | 12 |
| D | 13 | | |
| E | 14 | | |
| F | 15 | | |

To disable any report, enter 0000

Note that digits are programmed and displayed from left to right.