



IRC-3

Operations Manual

P/N 270180

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DEVELOPED BY

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This manual was designed and written by the EST Technical Services - Documentation Department, Sarasota.

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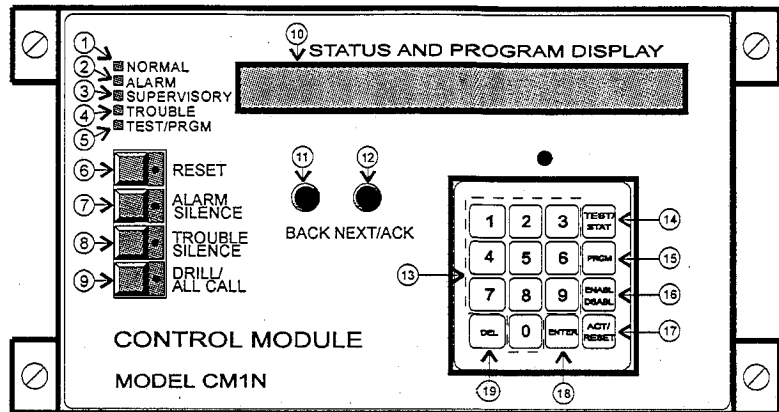
Document history

IRC-3 Operations Manual P/N 270180 Revision Status

Revision	Date	Reason For Change
1.0	February 1995	Released as standalone manual. Added ZAS-2 status display. Added ZAS-2 sensitivity reports.
2.0	April 1995	Text modification for changes.
3.0	June 1995	Revisions to CM1, CM2ND displays.
3.5	July 1997	Major revision of layout and content.

CM1(N) Operation

Controls and Indicators



[OP-001.CDR]

LED Indicators (call-outs 1 - 5)

The CM1(N) master controller provides five LEDs to indicate Normal, Alarm, Supervisory, and Trouble conditions and Test/Program mode.

CM1(N) LED Indicators

LED Indicator	Color	Description
Normal	Green	Normal system/panel operation.
Alarm	Red	Alarm condition. Buzzer pulsates.
Supervisory	Yellow	Short on a supervisory zone. Remains ON until short is cleared.
Trouble	Yellow	Open on a supervisory zone. Remains ON until cleared and/or system is reset.
Test/Prgm	Yellow	System in test/program mode.

Combination Switch / LEDs (call-outs 6 - 9)

The CM1(N) master controller provides four switch/LEDs that perform the following functions:

CM1(N) Switch / LEDs

Switch / LED	Description
Reset	Reset panel/system. Pressing this switch calls the predetermined action 9002.
Alarm Silence	Silences audible devices. Yellow LED on switch illuminates, indicating audible devices have been silenced. If subsequent alarms are received, the

	audible devices will resound and the Alarm Silence LED will turn OFF. Pressing this switch calls the predetermined action 9004. Pressing this switch twice (2x) calls the predetermined action 9003
Trouble Silence	Silences the trouble buzzer. Yellow LED on switch illuminates, indicating trouble buzzer has been silenced. If subsequent troubles are received, the trouble buzzer will resound and the Trouble Silence LED will turn OFF.
Drill/All Call	Generates general alarm on all audible circuits. Yellow LED on switch illuminates, indicating general alarm has been activated. Pressing this switch calls the predetermined action 9003.

Lamp Test Function:

This function is toggled ON and OFF by pressing the Alarm Silence and Trouble Silence switches simultaneously. Lamp test is NOT an automatic action and must be programmed to test LEDs on the RASP and SAN panels (action 9005).

Next/Ack, Back, and Keypad Switches (call-outs 11 - 18)

CM1(N) Back, Next/Ack, and Keypad Switches

Switch	Description
Next/Ack	Press the NEXT/ACK button to scroll the display to the next status display screen. If the displayed information exceeds the 40-character, 2-line capacity of the display area, the NEXT/ACK button is used to scroll to the remainder of the information. The NEXT/ACK button is also used to acknowledge receipt of alarm and trouble conditions.
Back	Press the BACK button to review the stored information. The BACK button also provides a backspace function to erase a character during keypad entry. The BACK button does not function during system status operation. Note: Maximum of 15 custom messages can be stored in buffer.
Next/Ack & Back	Press the NEXT/ACK and BACK buttons simultaneously to return the display to the normal system status readout. This display is returned to the normal system status readout only if there are no messages waiting to be acknowledged.
Keypad	The keypad has ten (10) numerical digit keys and six (6) programming and operator control keys. The numerical digit keys are self-explanatory. The programming and operator control keys are explained in detail on the pages that follow.
Enter	Press the Enter button after you have typed in your selection.
DEL	Press the DEL button to delete a selection prior to entry.

CM1(N) Display

The CM1(N) master controller uses a 40-character, 2-line Liquid Crystal Display (LCD). When the IRC-3 network is powered up, the following is displayed:

01:01:01	AP0000	DP0000
----------	--------	--------

- Time is displayed in 24-hour format.
- AP 0000 (Active Points): After the system has completed an initial poll of devices/zones, "AP 0000" indicates the total number of active network points.
- DP 0000 (Disabled Points): Indicates the total number of disabled devices/zones in the network. The "DP XXXX" display normally indicates "0000" unless the program (or operator) has disabled these points. If devices/zones have been disabled, "DP XXXX" indicates the number of disabled devices/zones.
- The second line of the display is blank.
- MW XXX (Messages Waiting)

In addition to the above display, trouble status messages will flash when a certain problem exists. The message will be displayed to the right of the Disabled Points (DP). This can be extremely helpful to troubleshooting a problem. These same messages will also be displayed under Status when the Test/Status button is pushed. The possible message conditions are:

- "COM0" - ZAS-2 Communication Flag
- "RES0" - Reset in Progress
- "ZAS0" - Internal Trouble
- "MPE0" - Mapping Disabled
- "PRG0" - Programming in Progress
- "GND0" - ZAS-2 Ground Fault
- "LIN0" - Class A Fault
- "MAP0" - ZAS-2 Map Fault

01:01:01	AP0000	DP0000	ZAS0
----------	--------	--------	------

"ZAS0" indicates that an internal trouble exists with the ZAS card. Other messages will be displayed when other conditions exist.

Test/Stat Button

The Test/Stat button is used to access system test functions and to display system status.

Test

Activates the Walk Test Mode.

Note: The operator has one hour to complete a panel (address) test. After 1 hour, the address is automatically removed from the Test mode and restored to normal operation.

- Press the Test/Stat button. The display shows the following:

```
1) Test  2) Status  3) Sensitivity Report
4) History      Enter # Choice ->_
```

The Test/Prgm LED flashes.

- Key in "1" (Test) and press the Enter button. The display shows the following:

```
Enter Test Panel Address DEL to Abort
Enter # Choice (pp)->_
```

The panel address is in the test mode. To remove the panel address from the Walk Test mode, use the procedure above and press Delete after entering the panel address.

Notes

1. Only one panel address may be in the test mode at one time. Sensors and modules on the same ZAS line must be tested separately.
2. If an alarm occurs in a panel (address) NOT in the Test mode, the Test panel (address) will automatically revert to normal mode of operation.

The balance of the system remains operational. The entire network may be tested by repeating this step, using a different panel address each time. Only one standard device may be alarmed on a traditional zone. The panel must then be manually Reset.

Test mode is canceled upon receipt of a new alarm condition.

- Key in panel address and press the Enter button. The display shows the following:

```
01:01:01      APXXXX      DPXXXX
```

All Off normal device conditions will be listed on the printer. Remove panel address from test mode when testing is complete.

Status

Displays system, circuit, and device condition.

- Press the Test/Stat button. The display shows the following:

```
1) Test  2) Status  3) Sensitivity Report
4) History      Enter # Choice ->_
```

The Test/Prgm LED flashes.

- Key in "2" (Status) and press the Enter button. The display shows the following:

@ Copyright Edwards Systems Technology
1996, Ver X.XX.XX. Press Next to scroll

- Press the Next/Ack button to scroll the display. The display shows the following:

Power Supply Status 1=OK, Next to scroll
Fuz1/gnd1/Acp1/Vlt1/Bat1/Ext1/Int1/Prn1

Fuz = Fuse
Gnd = Ground Fault
Acp = AC Voltage
Vlt = DC Voltage
Bat = Battery
Ext = Trouble
Int = Internal Fault (ZAS Card/continuity jumper)
Prn = Printer
1 = OK
0 = Fault

- Press the Next/Ack button to scroll the display. If a ZAS-2 Card is installed in slot P5 of the control panel motherboard, the display shows the following:

Zas2 @ card1 status. Use Next to scroll
Com1/Res1/Zas1/Mpg1/Mpe1/Gnd1/Lin1/Map0

Com = ZAS-2 Communication Flag
Res = Reset in Progress
Zas = ZAS-2 Internal Trouble
Mpg = ZAS-2 Mapping in Progress
Mpe = Mapping Enabled
Gnd = ZAS-2 Card Ground Fault
Lin = ZAS-2 Class A Fault
Map = ZAS-2 Map Fault
1 = OK (completed)
0 = Fault (in progress)

- Press the Next/Ack button to scroll the display. If a ZAS-2 Card is installed in slot P6 of the control panel motherboard, the display shows the following:

Zas2 @ card2 status. Use Next to scroll
Com1/Res1/Zas1/Mpg1/Prg1/Gnd1/Lin1/Map0

- Press the Next/Ack button to scroll the display. The display shows the following:

Field Panel status use Next to scroll
Pnl#05/Power OK/CommA OK/CommB NG/Comm EN

Pnl#05 = Panel Address 05
Power = Panel Power Status (OK, or NG=no good)
CommA = Primary Communications (OK, or NG=no good)
CommB = Secondary Communications (OK, or NG=no good)
Comm = Communications (EN=enable, DS=disable)

Note: If there are no active points within the Alarm, Supv Short, Trouble, Alert, Output, Disabled Zones, Disabled Messages, Disabled Actions, Disabled Sequences, or Test Mode categories, then nothing will appear on the screen for that category.

- Press the Next/Ack button to scroll the display. The display shows the following:

```
Alarm Status. Use Next to scroll
0114
```

In this example, 0114 indicates panel address 01, zone 14. A maximum of eight (8) addresses and zones can be displayed simultaneously. Press the Next/Ack button to reveal additional zones.

- Press the Next/Ack button to scroll the display. The display shows the following:

```
Trouble Status. Use Next to scroll
0401
```

In this example, 0401 indicates panel address 04, zone 01.

- Press the Next/Ack button to scroll the display. The display shows the following:

```
Supv Short Status. Use Next to scroll
0401
```

In this example, 0401 indicates panel address 04, zone 01.

- Press the Next/Ack button to scroll the display. The display shows the following:

```
Field Panel Status. Use Next to scroll
Pnl# XX      ComP ok ComS oK ComE ds
```

- Press the Next/Ack button to scroll the display. The display shows the following:

```
Alert Status. Use Next to scroll
```

- Press the Next/Ack button to scroll the display. The display shows the following:

```
Output Status. Use Next to scroll
```

- Press the Next/Ack button to scroll the display. The display shows the following:

```
Disabled Zones. Use Next to scroll
```

- Press the Next/Ack button to scroll the display. The display shows the following:

Disabled Messages. Use Next to scroll

- Press the Next/Ack button to scroll the display. The display shows the following:

Disabled Actions. Use Next to scroll

- Press the Next/Ack button to scroll the display. The display shows the following:

Disabled Sequences. Use Next to scroll

- Press the Next/Ack button to scroll the display. The display shows the following:

Test Mode Active

====Panel #pp====

- Press the Next/Ack button to scroll the display. The display shows the following:

Disabled Time Ctrls. Use Next to scroll

1030/1600/

Sensitivity Report

Generates device sensitivity listing.

- Press the Test/Stat button. The display shows the following:

1) Test 2) Status 3) Sensitivity Report
4) History Enter # Choice ->_

The Test/Prgm LED flashes.

A printer is required to output the sensitivity report. The printer will be automatically enabled (if disabled) when a sensitivity report is requested.

- Key in "3" (Sensitivity Report) and press the Enter button. The display shows the following:

Enter Panel Address or DEL to abort
Enter # Choice ->_

- Key in panel address and press the Enter button. The display returns to normal.

The sensitivity report will output to the printer. Additional information on sensitivity reports may be found in the Sensitivity Reports section.

History

Generates a listing of system, circuit, and device history.

- Press the Test/Stat button. The display shows the following:

```
1) Test  2) Status  3) Sensitivity Report
4) History          Enter # Choice ->_
```

The Test/Prgm LED flashes.

A printer is required to output the history report. The history report will be printed automatically, regardless of whether the printer is enabled or disabled.

- Key in "4" (History) and press the Enter button. The display shows the following:

```
1) Alarm 2) Security 3) Short 4) Open 5) Alert
6) Verify 7) Watchdog 8) Restore ->_
```

- Key in the desired category # and press the Enter button. The display returns to normal.

The history report will output to the printer.

Caution: All History is lost when the system is Restarted or Rebooted.

PRGM Button

The PRGM button is used to load new system data or change existing data.

Load

Allows the system to receive data from the IRC-3 Data Entry Program.

Note: To gain entry to any programming function, a valid password must be entered. The passwords installed at the factory are: Level 1 = 1111 and Level 2 = 2222

- Press the PRGM button. The display shows the following:

```
1) Load 2) Date 3) Time 4) Password 5) CommAB
6) Restart          Enter # Choice ->_
```

The Test/Prgm LED flashes.

- Key in "1" (Load) and press the Enter button. The display shows the following:

```
Enter password level 2 ->_
```

- Key in the 4-digit password and press the Enter button. The display shows the following:

Connect extrnl data source. Press ENT key to start, DEL key to terminate.

Access the Data Transfer Menu in the IRC-3 Data Entry Program and follow the instructions in the IRC-3 Programming Manual (P/N 250060).

- Press the Enter button. The display shows the following:

Please wait. Loading data..._

The display returns to normal when data transfer has been completed.

Date

Changes the system date.

- Press the PRGM button. The display shows the following:

1) Load 2) Date 3) Time 4) Password 5) CommAB
6) Restart Enter # Choice ->_

The Test/Prgm LED flashes.

- Key in "2" (Load) and press the Enter button. The display shows the following:

Enter password level 2->_

- Key in the appropriate password and press the Enter button. The display shows the following:

Change Date:

Enter Year (YYYY) ->_

- Key in the year (4 digits, i.e., 1994) and press the Enter button. The display shows the following:

Change Date:

Enter Month (mm) ->_

- Key in the month (2 digits, i.e., 01=January,... 12=December) and press the Enter button. The display shows the following:

Change Date:

Enter Day (dd) ->_

- Key in the day (2 digits, i.e., 01 through 31) and press the ENTER button. The display shows the following:

Change Date:

Enter Day of Week (Sun=01) ->_

- Key in the day of week (01=Sunday, 02=Monday,... 07=Saturday) and press the Enter button. The display returns to normal.

Time

Changes the system time.

- Press the PRGM button. The display shows the following:

```
1) Load 2) Date 3) Time 4) Password 5) CommAB
6) Restart          Enter # Choice ->_
```

The Test/Prgm LED flashes.

- Key in "3" (Time) and press the Enter button. The display shows the following:

```
Change Time
          Enter Time (hhmmss) ->_
```

Time is entered in 24-hour, military format. For example, two forty-five P.M. should be entered as 144500.

Password

Changes a level 1 or level 2 password.

- Press the PRGM button. The display shows the following:

```
1) Load 2) Date 3) Time 4) Password 5) CommAB
6) Restart          Enter # Choice ->_
```

The Test/Prgm LED flashes.

- Key in "4" (Password) and press the Enter button. The display shows the following:

```
Change password level 1 or 2?
          Enter Choice ->_
```

- Key in "1" (Level 1) or "2" (Level 2) and press the Enter button. The display shows the following:

```
Enter New password (nnnn) ->_
```

- Key in the new password and press the Enter button.

Caution

1. Make sure to write down your password and store it in a secure location. (EST Technical Services Cannot back-door your system if you lose your password.)
2. After changing the password, the system MUST be rebooted (restarted) in order for the check sums to match in EEPROM.

Comm AB

Changes communications type.

Notes

1. Changes made to the communications class through this menu option remain in effect for a maximum of 24 hours.
2. After 24 hours, or upon system RESET, the control panel automatically reverts to the communications class that was originally downloaded via the IRC-3 Data Entry Program.
3. This option is useful in troubleshooting a ZAS circuit.
 - Press the PRGM button. The display shows the following:

```
1) Load 2) Date 3) Time 4) Password 5) CommAB
6) Restart          Enter # Choice ->_
```

The Test/Prgm LED flashes.

- Key in "5" (Comm AB) and press the Enter button. The display shows the following:

```
Panel Address
          Enter Choice (pp) ->_
```

- Key in the panel address where the change is to occur and press the Enter button. The display shows the following:

```
New Communication Type
          Enter Choice (1/2) ->_
```

- Key in "1" (Class A) or "2" (Class B) and press the Enter button. The display shows the following:

```
01:01:01   AP XXXX   DP XXXX
```

Restart

Reboots the system CPU and reloads the system program.

- Press the PRGM button. The display shows the following:

```
1) Load 2) Date 3) Time 4) Password 5) CommAB
6) Restart          Enter # Choice ->_
```

The Test/Prgm LED flashes.

- Key in "6" (Restart) and press the Enter button. The display shows the following:

```
Enter password level 2 ->_
```

- Key in your password and press the Enter button. The display shows the following:

```
01:01:01   AP 0000   DP 0000
```

The system history file is erased upon system Restart. Acknowledge any alarms by pressing the Next/Ack button. Re-enter the time, date, and any points previously disabled. Re-enable time controls.

If a ZAS-2 Card is installed in slots P5 and/or P6 of the control panel motherboard, real-time status information pertaining to the ZAS-2 Card is displayed:

01:01:01	APXXXX	DPXXXX	Res0
----------	--------	--------	------

- Com = ZAS-2 Communication Flag
- Res = Reset in Progress
- Zas = ZAS-2 Internal Trouble
- Mpg = ZAS-2 Mapping in Progress
- Mpe = Mapping Enabled
- Gnd = ZAS-2 Card Ground Fault
- Lin = ZAS-2 Class A Fault
- Map = ZAS-2 Map Fault
- 1 = OK (completed)
- 0 = Fault (in progress)

ENABL/DSABL Button

The ENABL/DSABL button is used to enable or disable system functions.

Enable

Used to enable a zone, zone message, time control, data line, panel, action, or sequence.

Notes

1. A level 1 or 2 password is required to disable system functions.
 2. Completion of an enable/disable function returns the display back to the ENABL/DSABL menu shown above. Additional sub-menu selections can then be made.
- Press the ENABL/DSABL button. The display shows the following:

1) Enable 2) Disable Enter Choice ->_
--

Key in "1" (Enable) and press the Enter button. The display shows the following:

1) Zone 2) Znmsg 3) Tmctrl 4) Datelne 5) Panel 6) Actn 7) Seqnc Enter # Choice->_
--

- Key in the appropriate password and press the Enter button. The display shows the following:

Enter password level 2 ->_

Enable Zone

```
1) Zone 2) Znmsg 3) Tmctrl 4) Datlne 5) Panel
6) Actn 7) Seqnc  Enter Choice->_
```

- Key in "1" (Zone) and press the Enter button. The display shows the following:

```
Enable a Zone or Device
      Enter Device Address (ppzz) ->_
```

pp = 2-digit panel number
zz = 2-digit zone number

- Key in the 4-digit address of the zone or device that you want to enable and press the Enter button.

The selected zone or device is enabled. The display returns to normal.

Enable Zone Message

```
1) Zone 2) Znmsg 3) Tmctrl 4) Datlne 5) Panel
6) Actn 7) Seqnc  Enter Choice->_
```

- Key in "2" (Znmsg) and press the Enter button. The display shows the following:

```
Enable a Zone or Device's message
      Enter Device Address (ppzz) ->_
```

pp = 2-digit panel number
zz = 2-digit zone number

- Key in the 4-digit address of the zone or device whose message you want to enable and press the Enter button.

The selected zone or device's message is enabled. The display returns to normal.

Enable Time Controls

```
1) Zone 2) Znmsg 3) Tmctrl 4) Datlne 5) Panel
6) Actn 7) Seqnc  Enter Choice->_
```

- Key in "3" (Tmctrl) and press the Enter button. The display shows the following:

```
Enable a Time Control
      Enter Time Control # (tttt)->_
```

tttt = Action number that corresponds to time in 24-hour, military format

- Key in the 4-digit time control # and press the Enter button.

The selected time control is enabled. The display returns to normal.

Enable Data Line

```
1) Zone 2) Znmsg 3) Tmctrl 4) Datlne 5) Panel
6) Actn 7) Seqnc Enter Choice->_
```

- Key in “4” (DatLne) and press the Enter button. The display shows the following:

```
Enable a Communications Channel
Enter Com Channel (0/1) ->_
```

- Key in “0” or “1” depending on the communications channel that you want to enable and press the Enter button.

The selected communications channel is enabled. The display returns to normal.

Enable Panel

```
1) Zone 2) Znmsg 3) Tmctrl 4) Datlne 5) Panel
6) Actn 7) Seqnc Enter Choice->_
```

- Key in “5” (Panel) and press the Enter button. The display shows the following:

```
Enable a Panel's Communications
Enter Panel Address (aa) ->_
```

- Key in the 2-digit panel address that you want to enable and press the Enter button.

Communications for the selected panel address is enabled. The display returns to normal.

Enable Action

```
1) Zone 2) Znmsg 3) Tmctrl 4) Datlne 5) Panel
6) Actn 7) Seqnc Enter Choice->_
```

- Key in “6” (Actn) and press the Enter button. The display shows the following:

```
Enable an Action
Enter Action # (nnnn) ->_
```

- Key in the 4-digit action # that you want to enable and press the Enter button.

The selected action is enabled. The display returns to normal.

Enable Sequence

```
1) Zone 2) Znmsg 3) Tmctrl 4) Datlne 5) Panel
6) Actn 7) Seqnc Enter Choice->_
```

- Key in “7” (Seqnc) and press the Enter button. The display shows the following:

```
Enable a Sequence
Enter Sequence # (nnnn) ->_
```

- Key in the 4-digit sequence # that you want to enable and press the Enter button.

The selected sequence is enabled. The display returns to normal.

Disable Functions

Disables a zone (except output zones), zone message, time control, data line, panel, action, or sequence.

Notes

1. A level 1 or 2 password is required to disable system functions.
 2. Completion of an enable/disable function returns the display back to the ENABL/DSABL menu shown above. Additional sub-menu selections can then be made.
- Press the ENABL/DSABL button. The display shows the following:

```
1) Enable 2) Disable
Enter # Choice ->_
```

- Key in “2” (Disable) and press the Enter button. The display shows the following:

```
1) Zone 2) Znmsg 3) Tmctrl 4) Datlne 5) Panel
6) Actn 7) Seqnc Enter Choice->_
```

- Key in the appropriate password and press the Enter button. The display shows the following:

```
Enter password level 2 ->_
```

From this point forward, the Disable procedure is the same as the Enable procedure explained in previously.

Notes

1. Disabling a zone, zone message, data line, panel, action, or sequence increments the DP (Disabled Points) counter.
2. Device/zone points that are disabled manually will sound a trouble buzzer and illuminate the trouble LED.
3. Disabling through the program will not sound the trouble buzzer, but will increment the DP counter.
4. You CANNOT disable an Output.

ACT/Reset Button

The ACT/Reset button is used to activate or de-activate system functions.

Activate Output

- Press the ACT/Reset button. The display shows the following:

```
1) Activate 2) Reset
Enter # Choice->_
```

- Key in "1" (Activate) and press the Enter button. The display shows the following:

```
1) Output 2) Action 3) Seqnc 4) Smoke Lv.1
5) Smoke Lv.2 Enter Choice->_
```

- Key in "1" (Output) and press the Enter button. The display shows the following:

```
Activate Output (priority/panel#/device)
Enter Device Address (PPppdd) ->_
```

- Key in the priority, the panel #, and the device #, and press the Enter button.

Example: 500207
PP = Priority = 50
pp = Panel # = 02
dd = Device # = 07

The selected device is activated. The display returns to normal. Depending on what device was selected, the AP count will increment by 1, and the trouble buzzer and trouble LED will activate.

Note: The output will remain activated until you reset it.

Activate Action

- Press the ACT/Reset button. The display shows the following:

```
1) Activate 2) Reset
Enter # Choice->_
```

- Key in "1" (Activate) and press the Enter button. The display shows the following:

```
1) Output 2) Action 3) Seqnc 4) Smoke Lv.1
5) Smoke Lv.2 Enter # Choice->_
```

- Key in "2" (Action) and press the Enter button. The display shows the following:

```
Activate an Action
Enter Action # (nnnn) ->_
```

- Key in the 4-digit action # that you want to activate and press the Enter button.

The selected action is activated. The display returns to normal.

Activate Sequence

- Press the ACT/Reset button. The display shows the following:

```
1) Activate 2) Reset
   Enter # Choice->_
```

- Key in "1" (Activate) and press the Enter button. The display shows the following:

```
1) Output 2) Action 3) Seqnc 4) Smoke Lv.1
5) Smoke Lv.2   Enter # Choice->_
```

- Key in "3" (Sequence) and press the Enter button. The display shows the following:

```
Activate a Sequence
   Enter Sequence # (nnnn) ->_
```

- Key in the 4-digit sequence # that you want to activate and press the Enter button.

The selected sequence is activated. The display returns to normal.

Activate Smoke Level 1 or 2

Used to activate smoke sensitivity level 1 or 2.

- Press the ACT/Reset button. The display shows the following:

```
1) Activate 2) Reset
   Enter # Choice->_
```

- Key in "1" (Activate) and press the Enter button. The display shows the following:

```
1) Output 2) Action 3) Seqnc 4) Smoke Lv.1
5) Smoke Lv.2   Enter # Choice->_
```

- Key in "4" (Smoke Lv.1) or "5" (Smoke Lv.2) and press the Enter button. The display shows the following:

```
Activate Smoke Lv.X
```

Smoke Lv.1 = Primary smoke sensitivity level setting.

Smoke Lv.2 = Alternate smoke sensitivity level setting.

The selected smoke sensitivity level is activated. The display returns to normal.

Reset Output

- Press the ACT/Reset button. The display shows the following:

```
1) Activate 2) Reset
      Enter # Choice->_
```

- Key in "2" (Reset) and press the Enter button. The display shows the following:

```
1) Output 2) Action 3) Seqnc 4) Panel
5) Verf. Hist.      Enter # Choice->_
```

- Key in "1" (Output) and press the Enter button. The display shows the following:

```
Reset Output (Priority/panel#/device)
      Enter Device Address (PPppdd)->_
```

- Key in the priority, the panel #, and the device #, and press the Enter button.

Example: 500207
PP = Priority = 50
pp = Panel # = 02
dd = Device # = 07

The selected device is reset. The display returns to normal.

Reset Action

- Press the ACT/Reset button. The display shows the following:

```
1) Activate 2) Reset
      Enter # Choice->_
```

- Key in "2" (Reset) and press the Enter button. The display shows the following:

```
1) Output 2) Action 3) Seqnc 4) Panel
5) Verf. Hist.      Enter # Choice->_
```

- Key in "2" (Action) and press the Enter button. The display shows the following:

```
Reset an Action
      Enter Action # (nnnn)->_
```

- Key in the 4-digit action # that you want to activate and press the Enter button.

The selected action is reset. The display returns to normal.

Reset Sequence

- Press the ACT/Reset button. The display shows the following:


```
1) Activate 2) Reset
      Enter # Choice->_
```

- Key in “2” (Reset) and press the Enter button. The display shows the following:

```
1) Output 2) Action 3) Seqnc 4) Panel
5) Verf. Hist.      Enter # Choice->_
```

- Key in “3” (Sequence) and press the Enter button. The display shows the following:

```
Reset a Sequence
      Enter Sequence # (nnnn)->_
```

- Key in the 4-digit sequence # that you want to reset and press the Enter button.

The selected sequence is reset. The display returns to normal.

Reset Panel

- Press the ACT/Reset button. The display shows the following:

```
1) Activate 2) Reset
      Enter # Choice->_
```

- Key in “2” (Reset) and press the Enter button. The display shows the following:

```
1) Output 2) Action 3) Seqnc 4) Panel
5) Verf. Hist.      Enter # Choice->_
```

- Key in “4” (Panel) and press the Enter button. The display shows the following:

```
Reset a Panel
      Enter Panel # (pp)->_
```

- Key in the 2-digit panel address that you want to reset and press the Enter button.

The selected panel address is reset. The display returns to normal.

Reset Verification History

- Press the ACT/Reset button. The display shows the following:

```
1) Activate 2) Reset
      Enter # Choice->_
```

- Key in “2” (Reset) and press the Enter button. The display shows the following:

```
1) Output 2) Action 3) Seqnc 4) Panel
5) Verf. Hist.      Enter # Choice->_
```

- Key in “5” (Verif. Hist.) and press the Enter button. The display shows the following:

01:01:01	AP XXXX	DP XXXX
----------	---------	---------

The verification history file is reset.

Guard Patrol

The only actions required of an operator are acknowledgments of delinquent time messages and out of sequence station messages.

Refer to the specific site instruction manual for any additional guard patrol requirements.

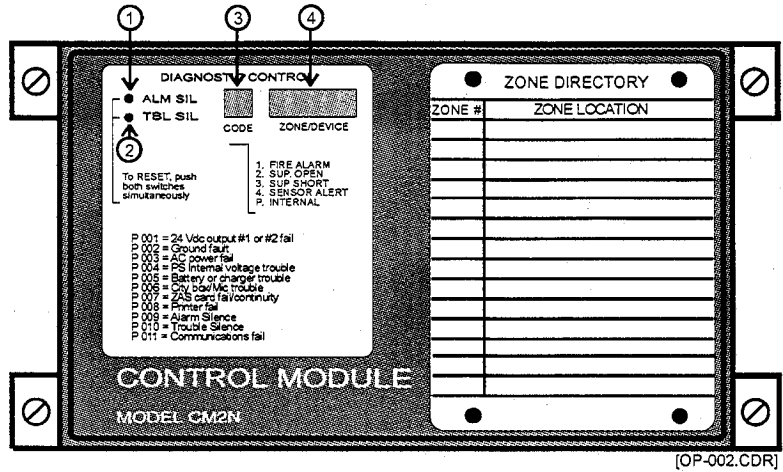
Walk Test

Silent or audible walk test was selected during system configuration. If an audible test was selected, audible devices will sound for approximately 2 seconds.

Refer to the specific site instruction manual for any additional walk test instructions.

CM2N Operation

Controls and Indicators



Switches (call-outs 1 and 2)

The CM2N secondary network controller is slaved to the CM1N, and does not require extensive operator action. The CM2N provides two switches used for Alarm Silence, Trouble Silence, and Reset functions.

CM2N Switches

Switch	Description
Alarm Silence (action 9004)	Silences all audible device circuits connected to the CM2N. This switch is active only when the CM2N is in standalone mode (P011 is displayed).
Trouble Silence	Silences the trouble buzzer in the power supply associated with the CM2N. This switch is active only when the CM2N is in standalone mode.
Reset (Alarm Silence + Trouble Silence)	Resets the CM2N. Reset is accomplished by operating both the ALM SIL and TBL SIL switches simultaneously. This function is active only when the CM2N is in standalone mode.

Code Window (call-out 3)

The CM2N front panel 7-segment LED displays are divided into two windows. The readout in the CODE window indicates the nature of the alarm.

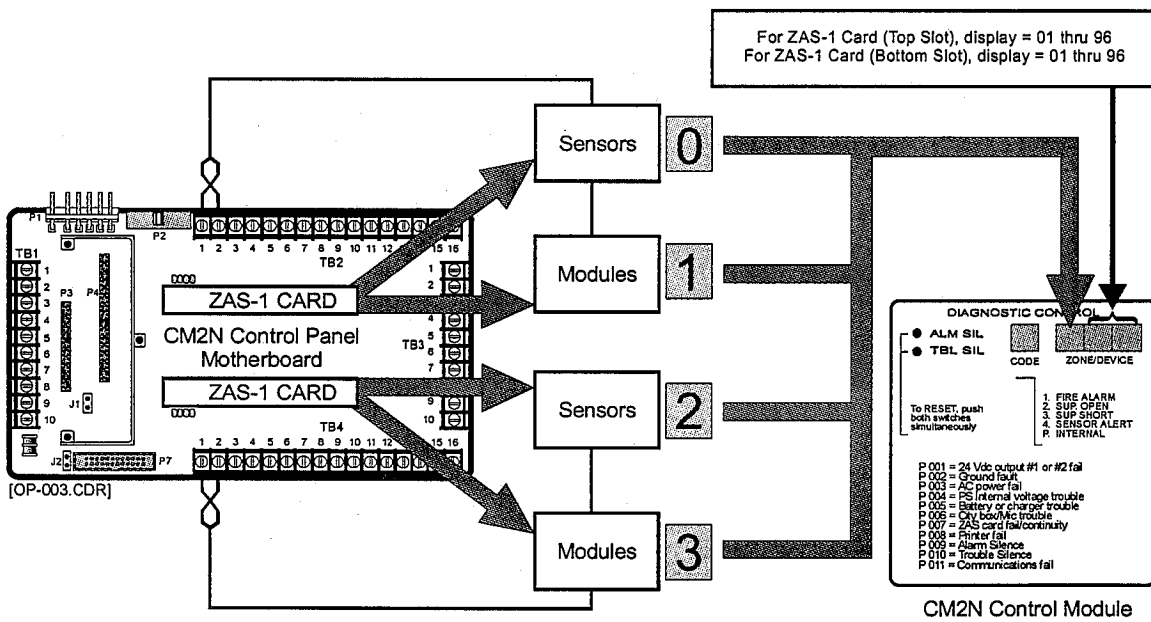
CODE Window Display	
CODE Display	Description
1	Fire Alarm
2	Trouble
3	Supervisory Short
4	Sensor Alert
P	Internal Fault

Zone/Device Window (call-out 4)

The readout in the Zone/Device window indicates the panel address associated with the number displayed in the Code window. To interpret the Zone/Device display when the Code window displays a 0, 1, 2, or 3, you must know which cards are installed in the CM2N.

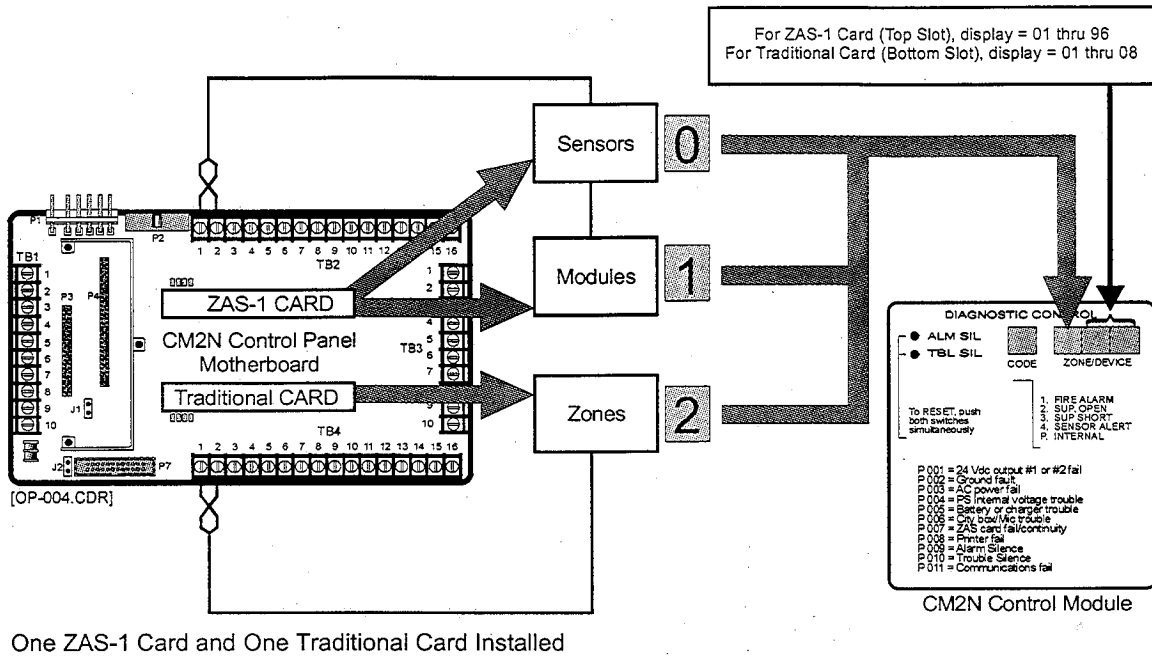
Note: When both the Code and Zone/Device windows read "0000," the programming switch is in the ON position.

The following figure shows how to interpret the Zone/Device display when two ZAS-1 Cards are installed in the CM2N control panel motherboard.

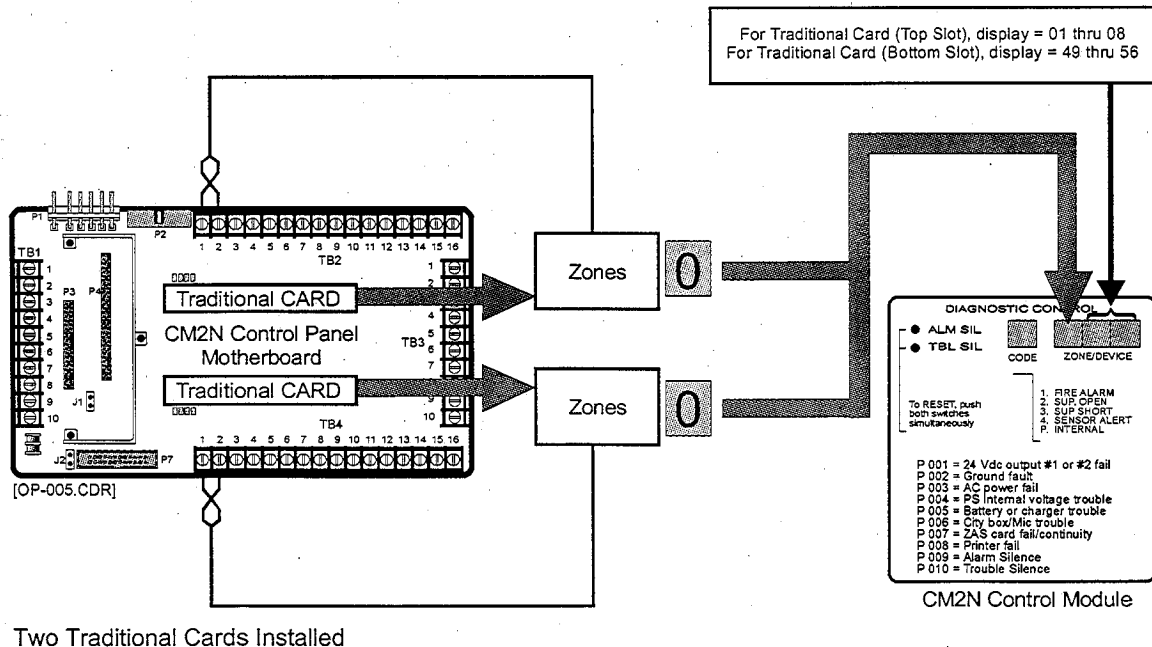


Two ZAS-1 Cards Installed

The following figure shows how to interpret the Zone/Device display when one ZAS-1 Card and one Traditional Card is installed in the CM2N control panel motherboard.



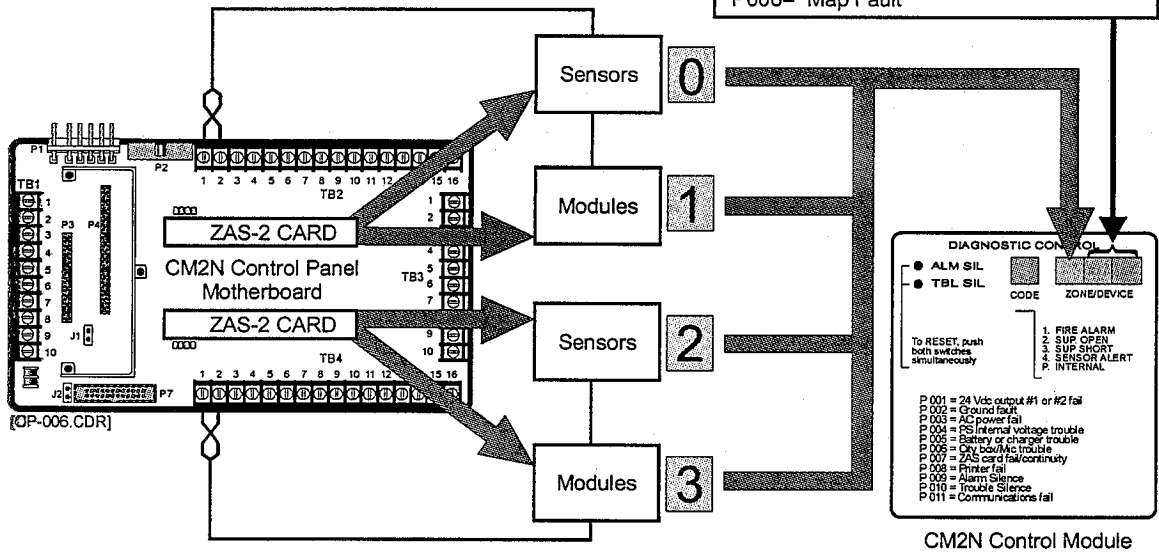
The figure below shows how to interpret the Zone/Device display when two Traditional Cards are installed in the CM2N control panel motherboard.



The following figure shows how to interpret the Zone/Device display when two ZAS-2 Cards are installed in the CM2N control panel motherboard.

For ZAS-2 Card (Top Slot), display = 01 thru 96
 For ZAS-2 Card (Bottom Slot), display = 01 thru 96

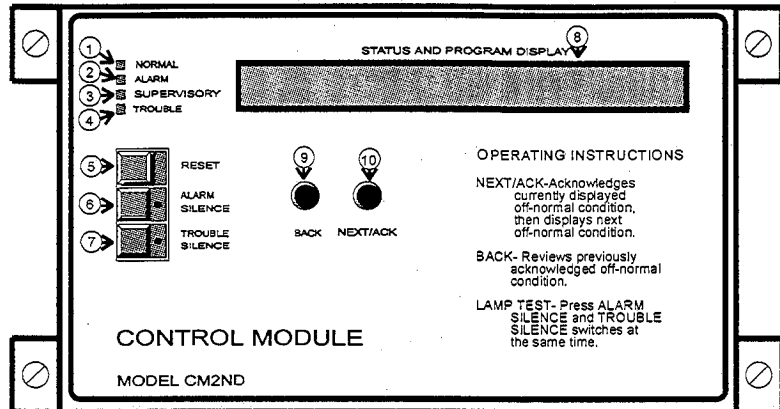
P001= Communications Failed
 P002= System Reset/Restart in Progress
 P003= ZAS-2 Trouble
 P004= Mapping Disabled
 P005= Device Mapping in Progress
 P006= Ground Fault
 P007= Line Fault
 P008= Map Fault



Two ZAS-2 Cards Installed

CM2ND Operation

Controls and Indicators



[OP-007.CDR]

LED Indicators (call-outs 1 - 4)

The CM2ND secondary controller provides four LEDs to indicate Normal, Alarm, Supervisory, and Trouble conditions.

CM2ND LED Indicators

LED Indicator	Color	Description
Normal	Green	Normal system/panel operation.
Alarm	Red	Network alarm condition. Buzzer pulsates.
Supervisory	Yellow	Short on a CM2ND supervisory zone. Remains ON until short is cleared.
Trouble	Yellow	Open on a CM2ND supervisory zone. Remains ON until cleared and/or system is reset.

Combination Switch / LEDs (call-outs 5 - 7)

The CM2ND secondary controller provides three switch/LEDs that perform the following functions:

CM2ND Switch / LEDs

Switch/LED	Description
Reset	<p>Standalone Mode: The Reset switch resets the CM2ND only.</p> <p>Network Mode: The Reset switch may be programmed to reset portions of the network or the entire network. Refer to specific site instructions.</p>

Regenerative Mode: The Reset switch may be programmed to reset other components in the same "family." Refer to specific site instructions.

Note: Reset also clears the message review buffer.

Alarm Silence	<p>Standalone Mode: The Alarm Silence switch silences the audible appliances connected to the CM2ND only. The yellow LED in the switch illuminates, indicating the alarm has been silenced. This LED remains ON until a new alarm is detected or the system is reset.</p> <p>Network Mode: The Alarm Silence switch may be programmed to silence portions of the network's audibles or the entire network's audible appliances. Refer to specific site instructions.</p> <p>Regenerative Mode: The Alarm Silence switch may be programmed to silence audible circuits on other components in the same "family." Refer to specific site instructions.</p>
Trouble Silence	<p>The Trouble Silence switch silences the internal trouble buzzer in the power supply associated with the CM2ND. The yellow LED in the switch illuminates, indicating the trouble buzzer has been silenced. This LED remains ON until a new trouble is detected or the system is reset. Subsequent troubles resound the buzzer and extinguish the LED.</p>

Lamp Test Function:

This function is toggled ON and OFF by pressing the Alarm Silence and Trouble Silence switches simultaneously. Lamp test is NOT an automatic action and must be programmed to test LEDs on the RASP and SAN panels.

Next/Ack and Back Switches (call-outs 9 and 10)

CM2ND Back and Next/Ack Switches

Switch	Description
Next/Ack	Press the Next/Ack button to scroll the display to the next status display screen. The Next/Ack button is also used to acknowledge receipt of alarm and trouble conditions.
Back	Press the Back button to review the stored information.

CM2ND Display

The CM2ND controller uses a 40-character, 2-line Liquid Crystal Display (LCD) to display messages for local alarm, trouble, and supervisory short conditions. The display may also show messages routed to it by the IRC-3 network controller and other CM2N(D)s if configured as part of a regenerative network.

When the CM2ND is on-line and operating normally, the following is displayed:


```
09:15:45   AP 0000   DP0000
```

09:15:45 = Present Time. Time is displayed in 24-hour format.
AP = Active Points. After the system has completed an initial poll of devices/zones, AP XXXX indicates the total number of active network points.
DP = Disabled Points.

In addition to the above display, trouble status messages will flash when a certain problem exists. The message will be displayed to the right of the Disabled Points (DP). This can be extremely helpful to troubleshooting a problem. The possible message conditions are:

- "COM0" - ZAS-2 Communication Flag
- "RES0" - Reset in Progress
- "ZAS0" - Internal Trouble
- "MPE0" - Mapping Disabled
- "PRG0" - Programming in Progress
- "GND0" - ZAS-2 Ground Fault
- "LIN0" - Class-A Fault
- "MAP0" - ZAS-2 Map Fault

```
01:01:01   AP 0000   DP 0000   ZAS0
```

"ZAS0" indicates that an internal trouble exists with the ZAS card. Other messages will be displayed when other conditions exist.

When the CM2ND receives an alarm, the following is displayed:

```
09:15:45 MW 0000 Fire Alarm 0503 @04:02  
40-Character Custom Message
```

09:15:45 = Present Time. Time is displayed in 24-hour format.
MW = Messages Waiting. The number of unacknowledged messages in the CM2ND is indicated by the MW XXXX counter. With firmware version 3.31 and higher, a global acknowledge is posted to any unacknowledged point, and the display is cleared upon reset on the CM1(N). Prior firmware versions; messages must be acknowledged using the Next/Ack switch before the panel can be restored to normal.

Fire Alarm = Message Type. Indicates the type of alarm that is received by the CM2ND.

Fire Alarm = Detector, pull-station, or waterflow switch has activated.

SUP(supervisory) Short = The indicated device has closed its circuit.

Trouble = The indicated device has opened its circuit.

Security Active = The indicated security device has activated.

0503 = Point Identification. The system address of the device that initiated the alarm.

@04:02 = Event Time. Indicates the time that the alarm occurred in 24-hour format.

Sensitivity Reports

ZAS-1 Sensitivity Report

Refer to the figure below for a sample IRC-3 / ZAS-1 sensitivity report.

- The header information at the top of the report indicates the address of the specific panel tested, along with the time and date of the test.
- The Operation Level Table appears on all reports, listing allowable system devices, their respective device type number, and device sensitivity ranges.

Example:

A type 01 device is a Photoelectric (Photo) smoke detector. The normal sensitivity range for a photoelectric smoke detector is shown to be between 520 and 1400. If this detector reports a level below 400, it is considered to be in a trouble condition.

Both ionization and photoelectric smoke detectors cause the system to indicate a "Sensor Alert" when the sensitivity level reaches 1550. A sensor alert indicates that the device in question needs servicing in order to prevent unwarranted alarms.

Smoke detectors are provided with four alarm sensitivity levels. Level 1 (Lev 1) is the most sensitive setting, progressing to level 4 (Lev 4) which is the least sensitive setting. All sensitivity levels are within allowable UL-286 parameters. The alarm point for traditional 2-wire and contact device zones is at level 1 (Lev 1).

Note: Device sensitivity is measured in relative units, having no direct relationship to smoke obscuration.

- The Verification (Verf.) Count indicates the number of times an analog sensor alarm monitor module has gone into the verification mode, but not generated an alarm. This information is useful in determining proper sensitivity settings or inappropriate detector application. The maximum verification count is 16. RZB zone verification is a hardware function, and does not appear on this report.

IRC-3 / ZAS-1 Sensitivity Report

```

===== Panel Sensitivity Report =====
Date: 11-03-94
Time: 01:08:17
Panel Address: 02
Operational Level Table:

----- Alarm Trip Level -----

```

Type	Trbl	Normal	Alert	Levl	Lev2	Lev3	Lev4
1.Photo	0400	520-1400	1550	1710	1940	2170	2390
2.Ion	0400	600-1200	1550	1810	1940	2010	2110
3.Thermal	0400	500-1200		2000			
4.Monitor	0600	750-1300		1400			
5.Control	0600	750-1300		1400			
6.ZA/B Zn	0400	610-1250		1440			
7.RZB Zn	0600	750-1150	1450	2300			
8.AA Sec	0960	1120-1550		1760			

note: **** indicates device failed communications.

Current Device or Zone Levels:

Address	Type	Trip Lev	Present Lev	Verf Counts
01	05	01	1120	00
03	05	01	1110	00
05	04	01	1060	00
06	04	01	1080	00
07	04	01	1050	00
11	04	01	****	00
14	05	01	1080	00
15	05	01	1020	00
16	05	01	1070	00
18	05	01	0980	00
19	05	01	1000	00
20	04	01	1090	00
21	04	01	1080	00
22	04	01	1060	00
23	04	01	1040	00
24	04	01	1090	00
25	04	01	1110	00
26	05	01	1030	00
27	04	01	1050	00
28	04	01	1160	00

[OP-008.CDR]

ZAS-2 Sensitivity Report

Refer to the figure below which shows a sample IRC-3 / ZAS-2 sensitivity report.

- The header information at the top of the report indicates the address of the specific panel tested, along with the time and date of the test.
- The Current Device Level Table lists the address, type, alarm threshold, and maintenance indicator for all Signature Series 3D and

4D smoke/heat detectors. A 3D detector contains a combination of photoelectric and heat sensors. A 4D detector contains a combination of ionization, photoelectric, and heat sensors.

- The Alarm Threshold is expressed in terms of percent smoke obscuration per foot.

SIGA-IS (Ion Detector)

Sensitivity Value (% obscuration/ft)	Sensitivity Level
0.7	1 (Most Sensitive)
1.0	2 (More Sensitive)
1.2	3 (Normal)
1.4	4 (Less Sensitive)
1.6	5 (Least Sensitive)

SIGA-PS (Photo Detector), SIGA-PHS (3D Detector), SIGA-IPHS (4D Detector)

Sensitivity Value (% obscuration/ft)	Sensitivity Level
1.0	1 (Most Sensitive)
2.0	2 (More Sensitive)
2.5	3 (Normal)
3.0	4 (Less Sensitive)
3.5	5 (Least Sensitive)

- The Maintenance Indicator is a numerical value between 1 and 100. A maintenance indicator of 80 or above indicates that the detector requires cleaning.

IRC-3 / ZAS-2 Sensitivity Report

==== 4D Panel Sensitivity Report ====

Date: 11-03-94
Time: 01:10:15
Panel Address: 01

Alarm thresholds for 4D, 3D Ion, and Photo sensors are printed as a % obscuration per foot.

4D is a combination of Ion, Photo and Heat Detectors
3D is a combination of Photo and Heat Detectors

Current device levels :

Device Address	Device Type	Alarm Threshold	Maintenance Indicator
01	4D Detector	2.5	20
02	4D Detector	2.5	10
03	4D Detector	2.5	10
04	4D Detector	2.5	30
07	3D Detector	2.0	20
08	Ion Deetctor	0.7	10
09	Ion Detector	1.4	70
15	4D Detector	3.0	80
16	4D Detector	2.5	10
17	Photo Detector	1.0	50

[OP-009.CDR]

History Reports

History reports provide a detailed record of system activity since the last reset verify history or system restart command was issued, or both AC and DC power were lost. Individual reports may be requested in the following prioritized categories:

- Alarm History:
A chronological listing of alarm point activity.
- Security History:
A chronological listing of security zone activity.
- Short History:
A chronological listing of supervisory short conditions.
- Open History:
A chronological listing of trouble conditions.
- Alert History:
A chronological listing of sensor alert warnings. This information is useful in determining proper sensitivity settings or inappropriate detector application.
- Verify History:
A chronological listing of analog sensors or alarm monitor modules which have gone into the verification mode, but did not generate an alarm. This information is useful in determining proper sensitivity settings or inappropriate detector application. The maximum verification count is 16. RZB zone verification is a hardware function, and does not appear in this report.
- Watchdog History:
A chronological listing of automatic CPU resets. This is typically due to transients received on the power and data lines due to poor wiring practices.
- Restore History:
A chronological listing of restoration conditions.

Location:

Installed By: _____

Per NFPA Standard: _____
(check all that apply)

NFPA 72, Ch. _____1 _____3

_____4 _____5

_____6 _____7

NFPA 70, NEC Article 760 _____

For Service, Contact: _____

Inspected By: _____

Date: _____

Power Supply: _____

Primary: _____

Location: _____

Fuses: _____

Secondary: _____

Type: _____

Specs: _____

OPERATING INSTRUCTIONS

IRC-3 panel with CM1N

NORMAL Condition:

Normal (green) LED flashes; time indicated at display.

Display indicates the following:

AP: = Active Points - the number of off-normal points.

DP: = Disabled Points - the number of disabled points.

ALARM Condition:

Alarm (red) LED is ON; buzzer pulsates; Normal (green) LED is OFF.

Display indicates the following:

MW: = Messages Waiting - the number of unacknowledged messages.

To ACKNOWLEDGE..... Press "NEXT/ACK" switch.

To SILENCE Buzzer..... Press "NEXT/ACK" switch to acknowledge all messages waiting, then press "TROUBLE SILENCE" switch.

To SILENCE Audible Devices.. Press "ALARM SILENCE" switch. Any new alarm received by the system will resound devices.

To RESET System..... Press "RESET" switch. (ONLY after investigation of Alarm condition.)

TROUBLE Condition:

Trouble (amber) LED is ON; buzzer pulsates; Normal (green) LED is OFF.

To SILENCE Buzzer.....

Press "NEXT/ACK" switch to acknowledge all messages waiting, then press "TROUBLE SILENCE" switch.

To DRILL (sound) All Audible Devices.....

Press "DRILL/ALL CALL" switch.

For additional information, refer to manual P/N 270180.
These instructions to be framed and mounted adjacent to control panel.

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Page