

D9068



EN | Operation and
Installation Guide
Fire Communicator



BOSCH

Trademark

Molex is a registered trademark of Molex Incorporated.

Notices

FCC Compliance Notice

This equipment was tested and complies with the limits for a Class A digital device, pursuant to Part 15 of the Federal Communications Commission (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. When this equipment is not installed and used according to the instructions, it might cause harmful interference to radio communications. There is no guarantee that interference will not occur in a particular installation.

If this equipment causes harmful interference to radio or television reception that can be determined by turning the equipment off and on, correct the interference by:

- Reorienting or relocating the receiving antenna.
- Increasing the separation between the equipment and the receiver.
- Connecting the equipment to an outlet on a circuit different from the circuit to which the receiver is connected.
- Consulting the dealer or an experienced radio or TV technician for help.

FCC Telephone Connection to Users

This control complies with Part 68 of the FCC rules.

The inside of the enclosure has a label containing the ringer equivalence number (REN) for this equipment. When requested, you must provide this information to your local telephone company.

The REN helps to determine the quantity of devices that can be connected to your telephone line and still have all of those devices ring when your telephone number is called. In most areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To verify the number of devices you can connect to your line, contact your local telephone company to determine the maximum REN for your local calling area.

FCC registration number = ESVFUL-46514-AL-E.

Ringer equivalence = 0.0B.

Do not use this equipment on coin service provided by the telephone company or connected to party lines.

If you experience trouble with this equipment, contact the manufacturer for information on obtaining service or repairs.

If this equipment harms the telephone network, the telephone company might temporarily discontinue your service. When possible, the telephone company notifies you in advance. If advanced notice is not practical, you are notified as soon as possible. You are informed of your right to file a complaint with the FCC. The telephone company can make changes in its facilities, equipment, operations, or procedures affecting the proper functioning of your equipment. If they do, you are notified in advance so that you can maintain uninterrupted telephone service.

The telephone company might ask you to disconnect this equipment from the network until the problem is corrected, or until you are sure the equipment is not malfunctioning.



The manufacturer, not the user, must make the repairs to this equipment.

Operating this equipment can also be affected if events such as accidents or acts of God interrupt telephone service.

Industry Canada Notice

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. Industry Canada does not guarantee that the equipment operates to the user's satisfaction.

Before installing this equipment, verify that you have permission to connect it to the facilities of the local telecommunications company. Install the equipment using an acceptable method of connection. Verify that the customer is aware that compliance with the above conditions might not prevent degradation of service in some situations.

An authorized Canadian maintenance facility, designated by the supplier, should make the repairs to the certified equipment. If you make repairs or modifications to this equipment, and if the equipment malfunctions, the telecommunications company might ask you to disconnect the equipment.



For your own protection, ensure that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together.



Do not attempt to make such connections. Contact the appropriate electric inspection authority or electrician.

Installation Guidelines for UL Systems



Failure to install and program the D9068 according to the requirements in this section voids the listing mark of Underwriters Laboratories, Inc. (UL).



Test according to NFPA 72 Chapter 10.4.1.2 (2002) after any modifications, repairs, upgrades, or adjustments to the system.

D9068 UL Requirements

- D9068 is UL Listed for Commercial Digital Alarm Communicator applications (Type service: remote station and central station), UL Standard UL864.
- Install the digital alarm communicator transmitter (DACT) according to NFPA 72 for Commercial Fire installations.
- Mount the D9068 indoors and within the protected area.
- Ground according to Article 250 of the NEC (NFPA 70).
- Use the supplied screw and clamp terminal to connect the ground wire provided with the enclosure. Refer to *Figure 5* on page 12.
- Use, enable, and supervise both telephone lines.
- Program a primary and an alternative telephone number. The numbers must be different.
- Input points might be unsupervised if the D9068 is mounted within 20 ft (6 m) of the fire alarm control panel (FACP) with wiring in a conduit.
- If mounting the D9068 more than 20 ft (6 m) from the FACP, configure all input points for supervisory operation.



Use conduit for all installations.

FACPs using open collector outputs must be compatibility-listed for use with the D9068.

Notice to users, installers, authorities having jurisdiction (AHJ), and other involved parties:

This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL864, certain programming features or options must be limited to specific values or not used at all as indicated in *Table 1*.

Table 1: Programming Features

Program Feature or Option	Permitted in UL864? (Yes/No)	Possible Settings	Settings Permitted in UL864
Auto Test Frequency	Yes	1) 4 h 2) 12 h 3) 24 h 4) 7 days 5) 28 days 6) Disabled	1) 4 h 2) 12 h 3) 24 h
Program Relay	Yes	1) Release on Trouble 2) Activate on Ground Start	1) Release on Trouble
AC Fail Delay	Yes	1) Wait for DC 2) Wait Delay Time 0-24 h	2) Wait Delay Time 1-3 h
Phone Line Monitor for Each Line	Yes	0) No 1) Yes	1) Yes
Response Time	Yes	1) Fast (0.5 sec) 2) Programmed	1) Fast (0.5 sec) 2) 1-9 sec

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1.0 Overview

1.1 System Overview

The D9068 Fire Communicator is a complete communicator for use with compatible FACPs. Alarms and communications to the D9068 are accomplished using dry contacts or open collector outputs.

The D9068 also includes:

- 12 VDC or 24 VDC operation
- Multiple data protocols (Modem IIIa², Contact ID, SIA, and 4/2)
- 100-event history buffer
- Five programmable discrete wire inputs (Class B)
- Dual telephone line interface
- Option bus interface for built-in programming using the D7033/FMR-DACT-KEYPAD Keypad Programmer
- Form C relay output for trouble
- LEDs for heartbeat, system trouble, and telephone line trouble (one per line)
- Serial port for connection to other FACPs (such as the Bosch D8024 and D10024/D10024A Analog FACPs)
- Real-time clock

1.2 Features and Specifications

1.2.1 Power



Do not share power from the FACP with the D9068 and other peripheral devices.

Table 2: Power Specifications

Power Specifications	D9068 Value
Input voltage range (use power-limited source)	<ul style="list-style-type: none"> • 10.2 VDC to 28 VDC for filtered DC • 12 VRMS to 28 VRMS for unfiltered DC
Standby current	150 mA Maximum
Alarm current	190 mA maximum

Although the D9068 can withstand short power losses up to 5 min, connect it to an unswitched, uninterrupted power source.

If the D9068 loses power for more than 5 min:

- The history buffer might clear and all stored events are lost.

- The output (report) buffer might clear and all pending reports are lost.
- Alarms initiated before the power loss might reset. If the alarm conditions persist when power is restored, new alarms can be generated.
- System time might reset to its default setting.



If a power loss occurs, programmed settings such as input point configuration, telephone numbers, and account number remain intact.

1.2.2 System Supervision

Watchdog: The D9068 is supervised with a hardware watchdog circuit. Failure of the control program causes a hardware reset within 2 sec. The trouble relay is released for the duration of the reset. Generally, this relay is held energized.

Self Testing: Occasionally, the dialer (DACT), EEPROM memory, input points, and telephone lines are automatically tested. The EEPROM checksum is verified every 10 min. If the EEPROM checksum fails, a trouble condition is annunciated locally and a Trouble Report is sent.

1.2.3 Inputs

The D9068 supports five inputs that can be activated by dry contact relays or open collector outputs. The open collector outputs from the fire panel must be below 1.3 VDC in alarm and must sink 5 mA minimum. Refer to *Table 3* for input point specifications.

Table 3: Input Point Specifications

Number of Points	5
Circuit Type	Class B (Style 4)
EOL Resistor	2.21 kΩ; UL Listed; Bosch (P/N: 25899)
Alarm Operation	Short to ground or voltage less than 1.3 VDC
Minimum Alarm Voltage	Less than 1.3 VDC
Maximum Line Resistance	50 Ω
Response Time	500 ms


1.2.4 Input Configuration

Initiating circuits or points can be configured for seven types of conditions: Fire Alarm, Waterflow Alarm, Supervisory, Monitor Alarm, System Fault, AC Failure, and Low Battery. Refer to *Section 4.2 Input Point Operation* on page 25 and *1: CONFIGURE in Section 5.4.3 PROG INPUTS* on page 39 for more information.

1.2.5 Trouble Output

The D9068 has one Form C relay rated 1 A at 30 VDC. The Form C relay, which is normally held activated, deactivates for any trouble condition the D9068 detects. Refer to *Section 4.3 Trouble Relay Operation* on page 27 for more information.


When the D9068 is deployed on a ground start network, the Form C relay can be programmed alternatively to serve as a ground start relay.



Ground start is not UL compliant.

1.2.6 User Interface

A D7033/FMR-DACT-KEYPAD Keypad Programmer connects to a five-pin connector. It is used to program and troubleshoot the D9068. The D7033/FMR-DACT-KEYPAD can be set to any address from 1 to 15.



Use the D7033/FMR-DACT-KEYPAD only to program the D9068. Connect this keypad to the D9068 only temporarily for programming.

1.2.7 Communication

Formats

The D9068 supports four protocols: Modem IIIa², Contact ID, SIA, and 4/2.

Report Routing

Six different report groups can be routed to one of the following phone settings:

- **PHONE 1 ONLY:** The report is sent to Phone 1 only.
- **PHONE 2 ONLY:** The report is sent to Phone 2 only.
- **PHON 1 & 2:** The report is sent to Phones 1 and 2.
- **PHN 2 BACKUP:** The report is sent to Phone 1, and then to Phone 2 if Phone 1 fails.

These reporting groups consist of non-supervisory alarms (NONSUP ALRM), supervisory alarms (SUPVSY ALRM), alarm restorals and resets (ALM RSTR, RST), supervisory restorals (SUPVSY RSTR), tests (TESTS), and troubles and trouble restorals (TBL, TBLRSTR).

Refer to *Section 4.1.4 Call Routing* on page 21, *4: RPT STEERING* on page 44, and *Appendix E: Report Routing* on page 63 for more information about report steering.

Reset Report

The Reset Report is issued when the D9068 is reset from any off normal condition.

Telephone Line Selection

The D9068 follows a predetermined sequence to choose between the two telephone lines. It also implements the new NFPA requirements for alternating telephone lines during test reporting. The D9068 maintains a variable that selects either Phone Line 1 or Phone Line 2 for Auto Test Reports. After each successful Test Report, the variable switches to select the other telephone line. Users can select the telephone line for Manual Test Reports.

Communication Failed Indication

The D9068 indicates a communication failure after ten attempts to communicate are completed without success. This causes the trouble output to activate and attempt to report the fault.

1.2.8 History Buffer

The D9068 has a history buffer that retains up to 100 events. Each event is tagged with the date and time of occurrence. This buffer can be viewed when a D7033/FMR-DACT-KEYPAD is attached to the D9068. When the buffer is full, old events are discarded to make room for new events. A watchdog reset is entered in the buffer and does not reset the buffer.



The history buffer can clear when the system loses power for more than 5 min.

1.2.9 General Specifications

Table 4: General Specifications

Table 4: General Specifications	
Storage/Operating Temperature	+32°F to +120°F (0°C to +49°C)
Lightning Protection	Metal oxide varistors (MOVs) and spark gaps provide protection from lightning surges and static discharges for inputs and telephone interface.

1.2.10 Parts List

Table 5 on page 9 identifies the parts shipped with the D9068.

Table 5: Parts List

Quantity	Part
1	Enclosure
1	Self-tapping screw
1	Self-tapping screw for cover
1	D9068 PC Board in static bag
4	PC Board Mounting screws
4	PC Board mounting clips
4	Sets cable assemblies
2	Sets telco cable assemblies RJ31X
1	Ground wire
5	2.21 kΩ end-of-line (EOL) resistors; UL Listed; Bosch (P/N: 25899)
1	Light pipe

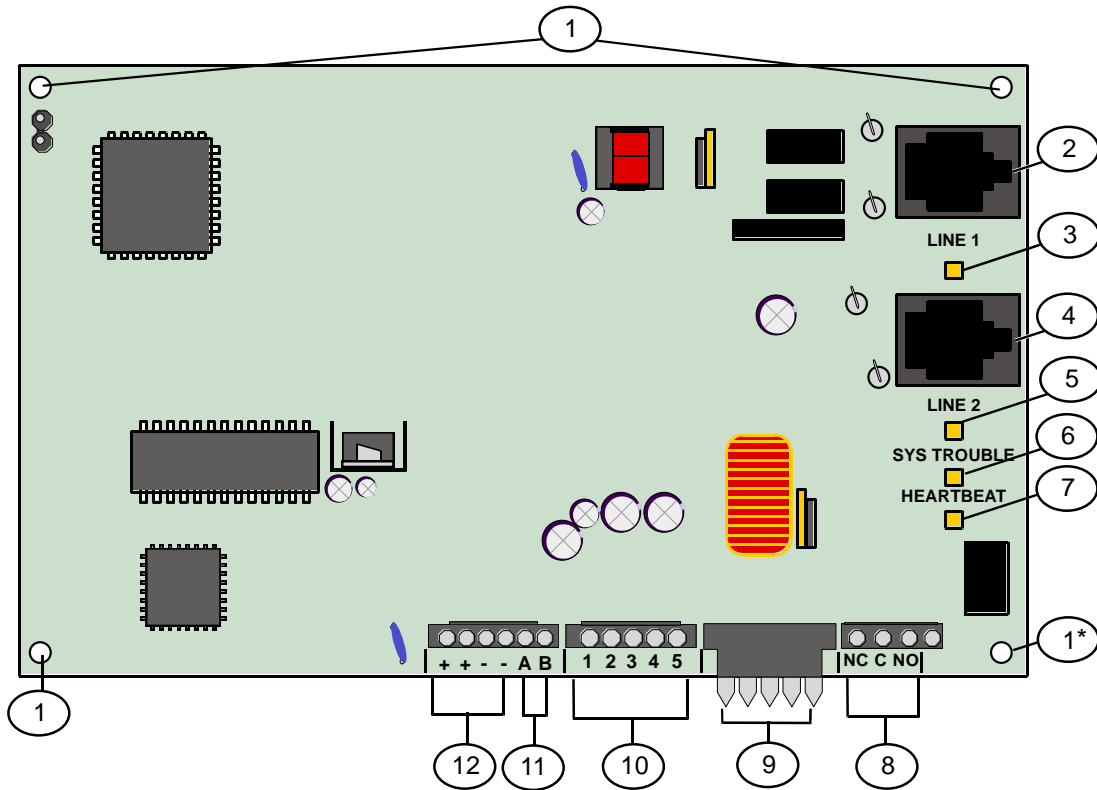


Refer to *Figure 5* on page 12 for the ground wire connections. Refer to *Figure 6* on page 12 for the cable assembly connections.

1.2.11 Printed Circuit Board (PCB) Layout

Figure 1 shows the layout of the D9068 PCB.



Figure 1: D9068 PCB Layout



- | | |
|------------------------|---|
| 1 - Mounting hole (4) | 7 - Heartbeat LED |
| 2 - Phone line 1 | 8 - Common trouble relay connector pins |
| 3 - Phone line 1 LED | 9 - Keypad Molex connector pins |
| 4 - Phone line 2 | 10 - Input Molex connector pins |
| 5 - Phone line 2 LED | 11 - Serial connector pins |
| 6 - System trouble LED | 12 - Power Molex connector pins |

* Attach the ground wire at the mounting hole on the lower right corner.

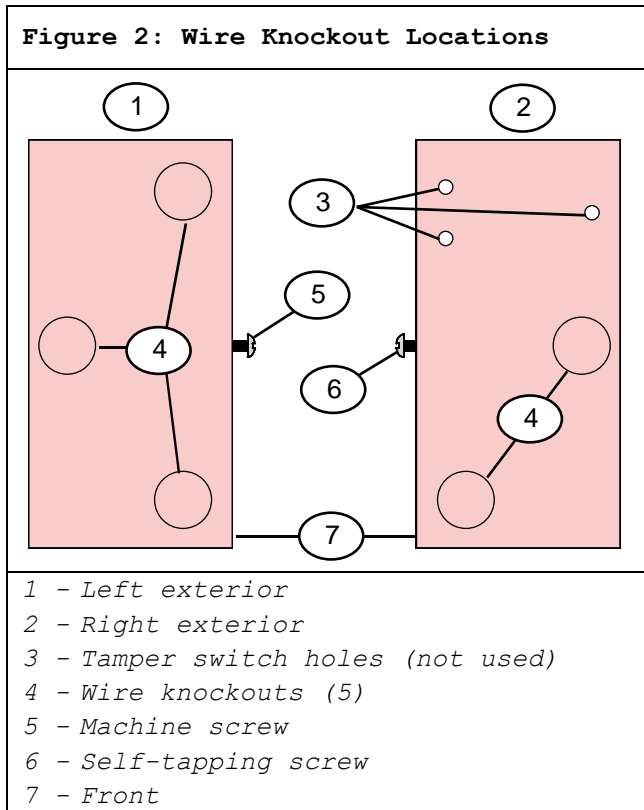
2.0 Installation

-  You can install the D9068 up to 500 ft (152 m) from the FACP when using a minimum of 18 AWG wire.
-  Mount the D9068 indoors in a dry location.

2.1 Mounting the Enclosure

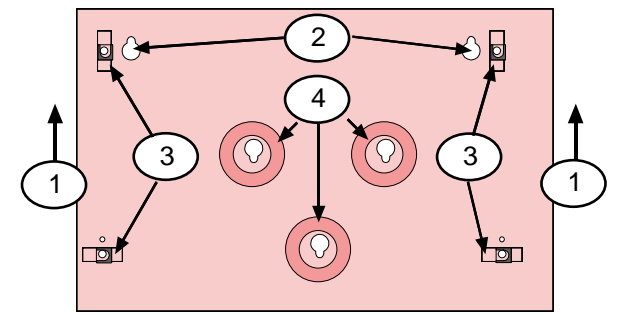
The D9068 and its enclosure are shipped together. Install the D9068 inside the enclosure using the supplied mounting hardware.

1. Remove the desired wire knockouts on the enclosure. Refer to *Figure 2*.



2. Using the D9068 case as a template, mark the mounting hole locations on the desired wall.
3. Hang the case on the wall using the appropriate installer-supplied mounting screws (refer to *Figure 3*).

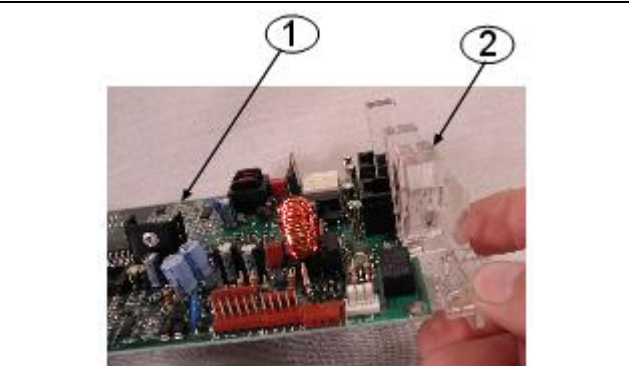
Figure 3: Mounting D9068 Case to Wall



- 1 - Position the enclosure with this end up
- 2 - Enclosure mounting holes (2)
- 3 - Enclosure lances (4)
- 4 - D9068 mounting holes (3)

4. Slide the light pipe over the end of the PCB (refer to *Figure 4*), aligning it with the LEDs.

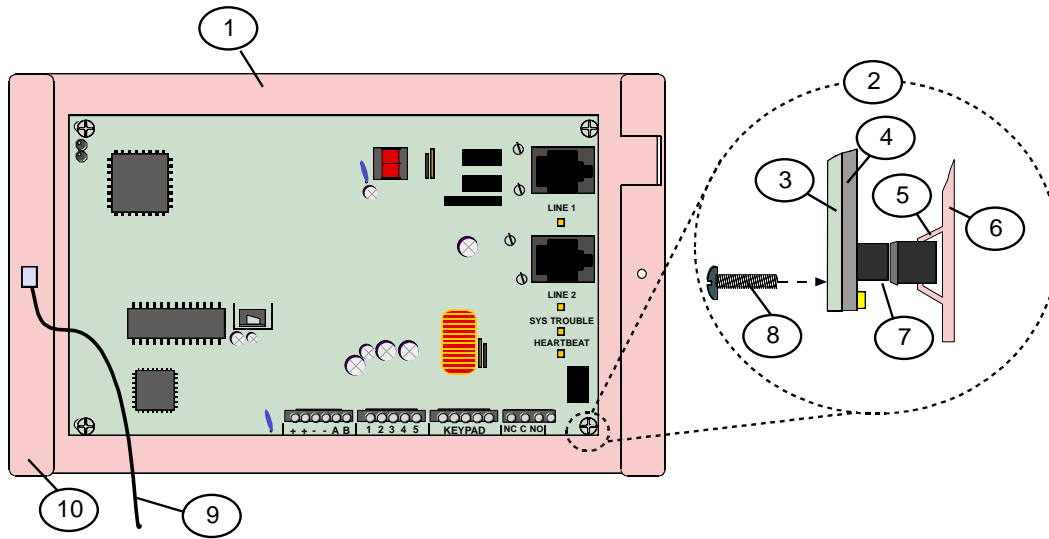
Figure 4: Light Pipe



- 1 - D9068 PCB
- 2 - Light pipe

5. Mount the D9068 in the enclosure using the supplied mounting screws and mounting clips. Then attach the ground wire from the FACP earth ground to the earth ground terminal on the DACT enclosure (refer to *Figure 5* on page 12).

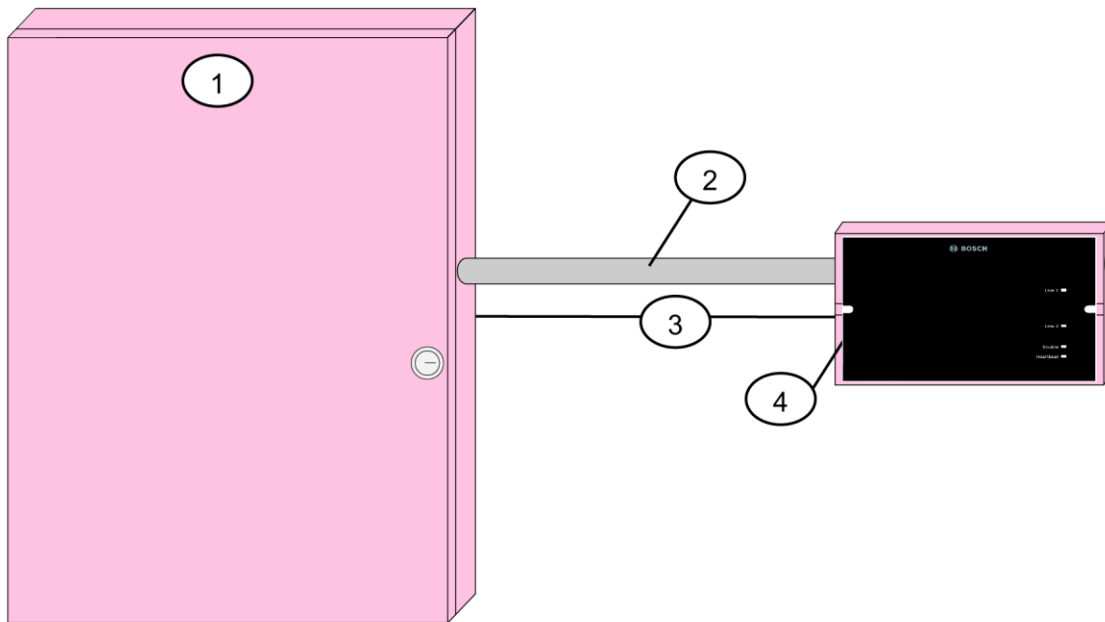
Figure 5: Mounting the D9068 Board



- | | |
|----------------------------------|--|
| 1 - D9068 installed in enclosure | 7 - Mounting clip |
| 2 - Support post assembly | 8 - Screw |
| 3 - Light pipe | 9 - Ground wire to earth ground terminal connection on the FACP (this connection is under the metal edge of the D9068) |
| 4 - D9068 PCB | 10 - Metal edge |
| 5 - Lance | |
| 6 - Enclosure | |

6. Connect the D9068 and FACP using conduit (refer to Figure 6).

Figure 6: Conduit Connections



- | | |
|-------------|--|
| 1 - FACP | 3 - Use no more than 500 ft (152 m) of wire to connect the FACP to the D9068 |
| 2 - Conduit | 4 - D9068 |



The FACP's using open collector outputs must be compatibility listed. When installing the D9068 more than 20 ft (6 m) from the FACP, configure the inputs for supervised operation. The D9068 can be installed up to 500 ft (152 m) from the FACP.

2.2 Connecting the D9068

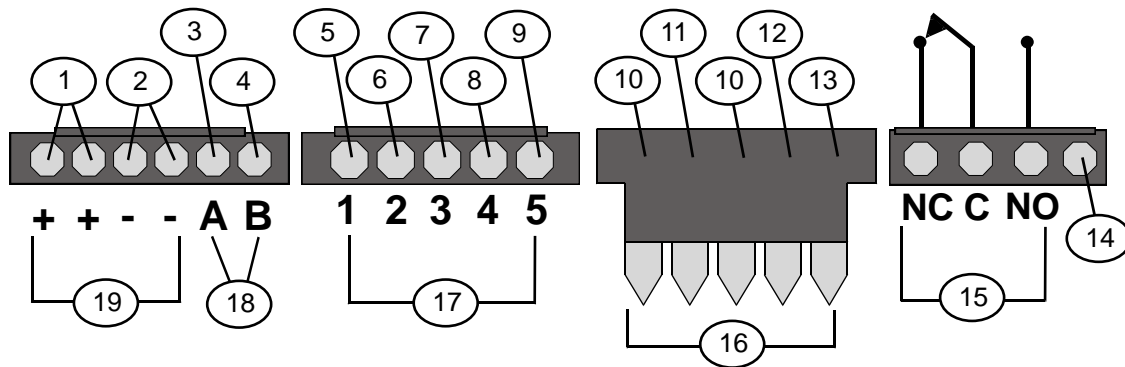
2.2.1 Input Point Connections



Remove all power before making or breaking any connections to the D9068. Failure to do so can cause personal injury and/or damage to the equipment.

When making connections to the D9068, refer to *Figure 7* through *Figure 13* on this page through page 16.

Figure 7: Molex Connector Descriptions



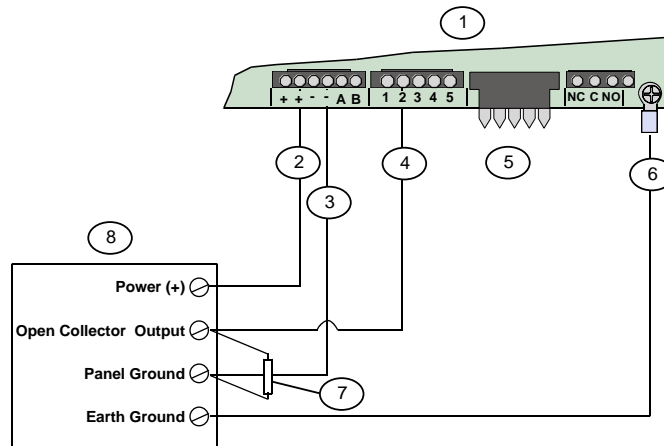
- | | |
|----------------------------------|---|
| 1 - Red (Power +) | 12 - Green |
| 2 - Black (Power -) | 13 - Yellow |
| 3 - TXIA | 14 - Terminal not used |
| 4 - RXIB | 15 - Common trouble relay* |
| 5 - White/Brown (Input Point 1) | 16 - Keypad programmer |
| 6 - White/Red (Input Point 2) | 17 - Inputs (refer to Table 3 on page 8 for input specifications) |
| 7 - White/Orange (Input Point 3) | 18 - Serial connection pins |
| 8 - White/Yellow (Input Point 4) | 19 - Power (refer to Table 2 on page 7 for specifications) |
| 9 - White/Blue (Input Point 5) | |
| 10 - Black | |
| 11 - Red | |

* Connect the relay to an input on the FACP for trouble annunciation.



The contact position shows an off-normal condition. Under normal operation, the trouble relay is energized. C and NO are connected.

Figure 8: Open Collector Input Point Wiring (Supervised)

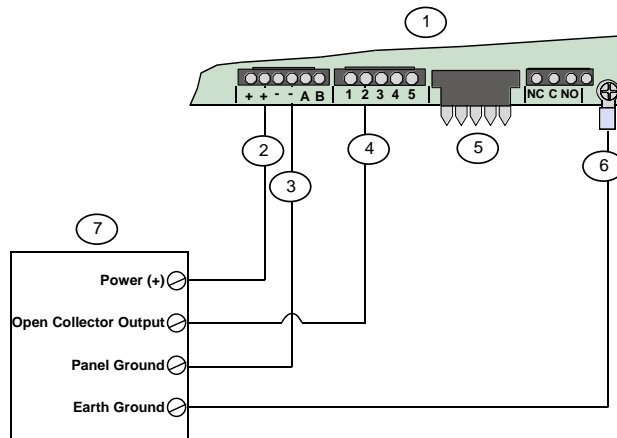


- | | |
|-----------------------------|---|
| 1 - D9068 | 6- Earth ground (green) |
| 2 - Power + (red) | 7 - EOL resistor 2.21 kΩ, UL Listed, Bosch (P/N: 25899) |
| 3 - Panel ground (black) | 8 - FACP (refer to Section 1.2.1 Power on page 7.) |
| 4 - Point 2 (white and red) | |
| 5 - Keypad terminals | |



The open collector output must current sink a minimum of 5 mA. The alarm voltage must not exceed 1.3 VDC when activated.

Figure 9: Open Collector Output Point Wiring (Non-supervised)



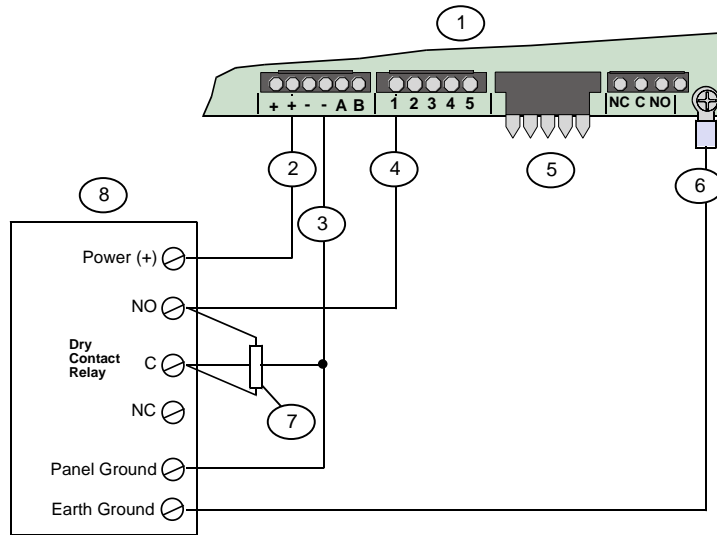
- | | |
|-----------------------------|--|
| 1 - D9068 | 5- Keypad terminals |
| 2 - Power + (red) | 6 - Earth ground |
| 3 - Panel ground (black) | 7 - FACP (refer to Section 1.2.1 Power on page 6.) |
| 4 - Point 2 (white and red) | |



For UL installations, non-supervised operation requires installation within 20 ft (6 m) inside the conduit.

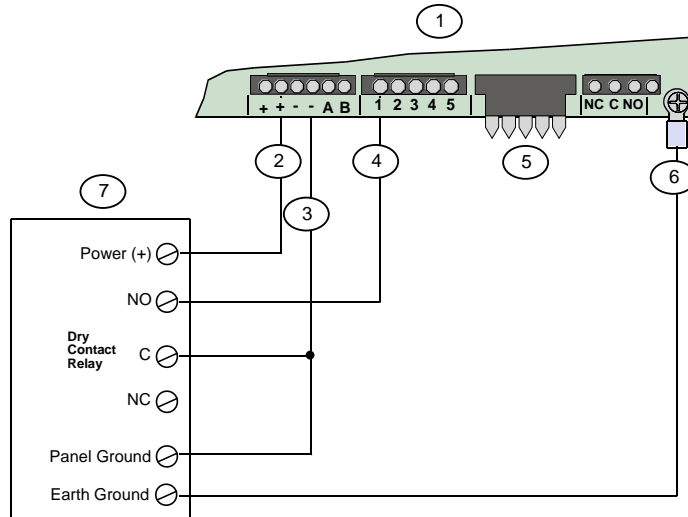
Open collector output must current sink a minimum of 5 mA. The alarm voltage must not exceed 1.3 VDC when activated.

Figure 10: Dry Contact Input Point Wiring (Supervised)



- | | |
|-------------------------------|--|
| 1 - D9068 | 5- Keypad terminals |
| 2 - Power + (red) | 6 - Earth ground (green) |
| 3 - Power - (black) | 7 - EOL resistor: 2.21 kΩ, UL Listed, Bosch (P/N: 25899) |
| 4 - Point 1 (white and brown) | 8 - FACP |

Figure 11: Dry Contact Input Point Wiring (Non-supervised)



- | | |
|-------------------------------|--------------------------|
| 1 - D9068 | 5- Keypad terminals |
| 2 - Power + (red) | 6 - Earth ground (green) |
| 3 - Power - (black) | 7 - FACP |
| 4 - Point 1 (white and brown) | |

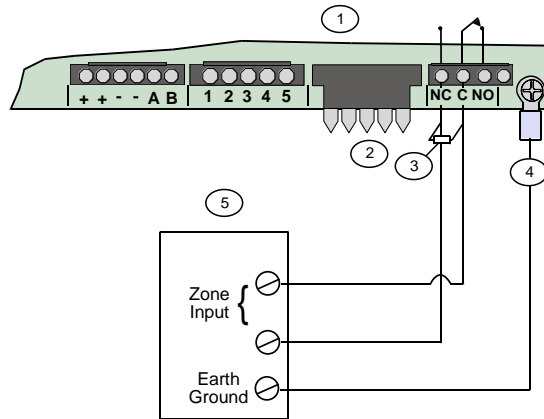


For UL installations, non-supervised operation requires installation within 20 ft (6 m) inside the conduit.

2.2.2 Trouble Relay Connections

Refer to *Figure 12* when making connections to the D9068 Trouble Relay terminals.

Figure 12: Typical Trouble Relay Connections (Supervised)

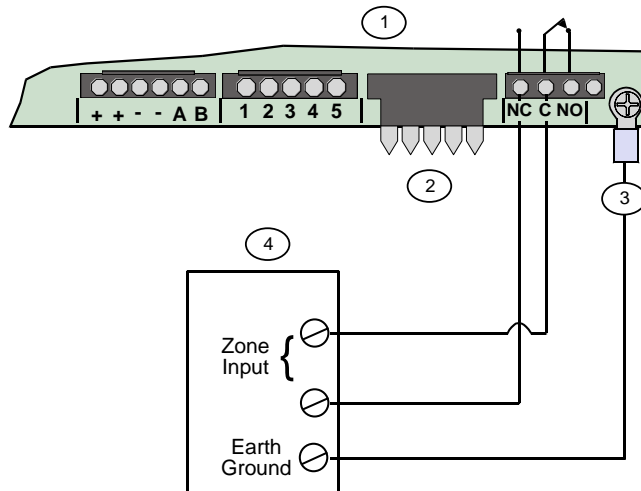


- | | |
|---|--------------------------|
| 1 - D9068 | 4 - Earth ground (green) |
| 2 - Keypad terminals | 5 - FACP |
| 3 - EOL resistor (Refer to the FACP Installation Instructions for UL approved EOL resistor specifications). | |



The contact position shows the energized condition (normal standby).

Figure 13: Typical Trouble Relay Connections (Non-supervised)



- | | |
|----------------------|--------------------------|
| 1 - D9068 | 3 - Earth ground (green) |
| 2 - Keypad terminals | 4 - FACP |



For UL installations, non-supervised operation requires installation within 20 ft (6 m) inside the conduit.

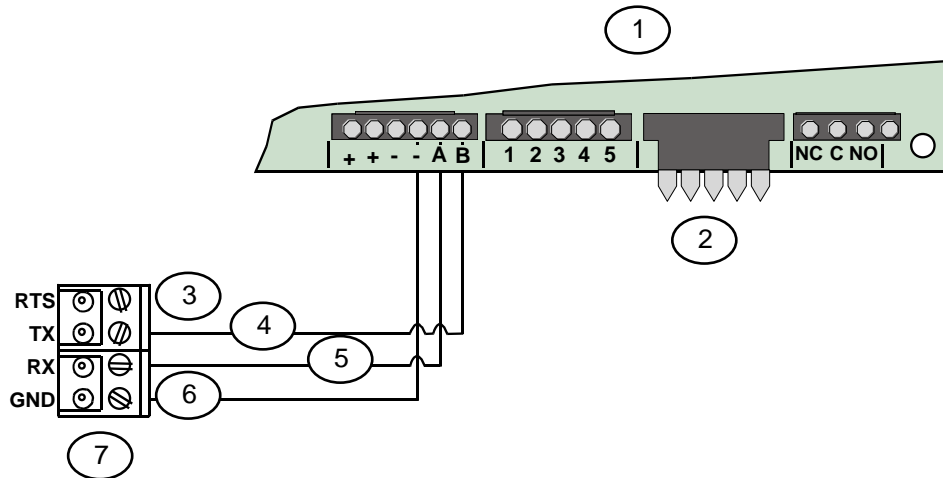
The contact position shows an energized condition, normal standby.

2.2.3 Analog FACP Connections

Use the D9068 with the Bosch D8024 and D10024/D10024A Analog FACP to send reports to a central station. A D9052 RS-232 Bus Module between the FACP and D9068 is required. The FACP must be assigned a network address of 1. Refer to *Appendix F: D8024/D10024/D10024A Analog FACP Operation* on page 64 for the events generated by the D8024 and D10024/D10024A.

Although the D9068 supervises its connection to the D8024 and D10024/D10024A, the analog FACP's do not supervise the connection of the D9068. If the RS-232 link between the D9068 and FACP is broken, the D9068 recognizes the problem but the FACP does not.

Figure 14: D9068 to Analog FACP Connections



- | | |
|--------------------------------|--------------------|
| 1 - D9068 | 5 - Serial receive |
| 2 - Keypad terminals | 6 - Ground |
| 3 - Request to send (not used) | 7 - D9052 |
| 4 - Serial transmit | |



For UL installations, non-supervised operation requires installation within 20 ft (6 m) inside the conduit.

The D9052 mounts on the D8024 and D10024/D10024A PCB. Refer to the installation instructions that accompany the analog FACP and the D9052 RS-232 Bus Module for details.

For installations requiring the FACP to recognize faults on the D9068, connect the D9068's relay output to an analog input module such as a D326A or D339A Point Contact Module. Configure the points on the FACP for Action Fault. Configure the relay on the D9068 for Release on Trouble.

2.2.4 Telephone Connections

Telephone Cord Installation

Connect the primary phone line to the D9068 Modular Jack Line 1 using a telephone cord. Connect the secondary phone line to the D9068 Modular Jack Line 2 using another telephone cord.

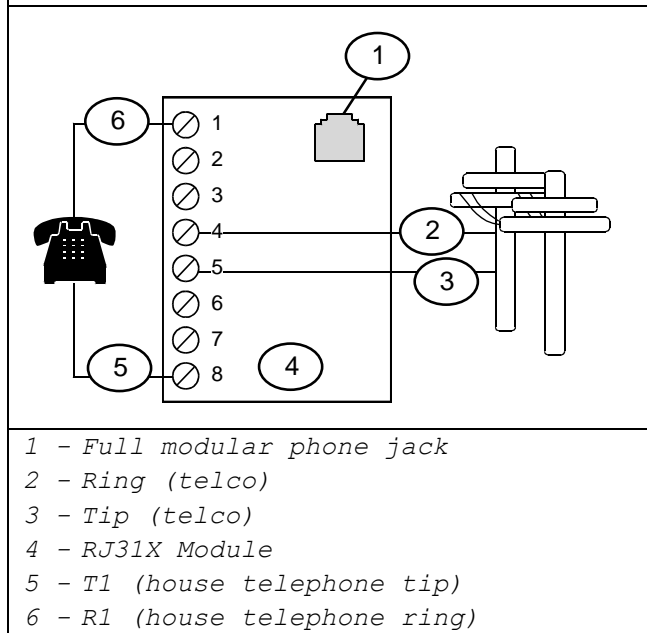


For all applications, connect separate primary and secondary phone lines to the D9068.

Location

To prevent jamming of alarm and other reports, wire and locate the RJ31X jack so that normal phone use is temporarily interrupted while the D9068 transmits data (refer to *Figure 15*). After installation, verify that the D9068 seizes the line, acquires the dial tone, and reports correctly to the receiver.

Figure 15: RJ31X Wiring



Use the supplied telco cable assemblies to connect to an RJ31X jack. Ensure that the RJ31X jacks are mounted in a secure location to prevent unwanted disconnections or tampering.

Notification

Do not connect registered equipment to party lines or coin-operated telephones. If the local telephone company requests notification before you connect the D9068 to the telephone network, tell them:

- Which line you are connecting to the DACT.
- The make, model, and serial number of the device.
- The FCC registration number (ESVMUL-46514-AL-E) and ringer equivalence (0.0B).

If the telephone company changes its communications facilities, equipment, operations, or procedures that could affect the performance of the D9068, the telephone company is obligated to notify the user in writing.

The D9068 meets the UL1950 requirements.

Connecting the Keypad to the D9068

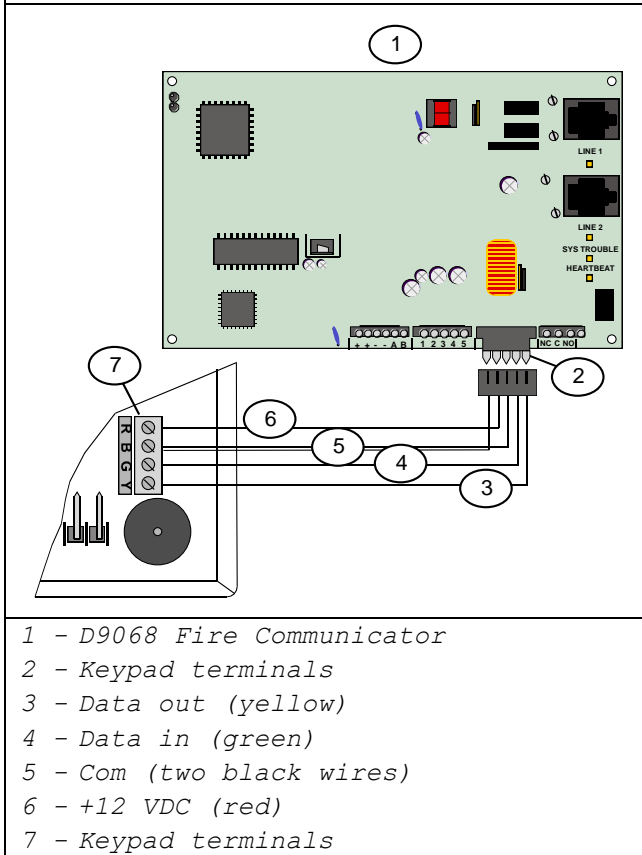
The LCD Remote Keypad is used strictly for programming and debugging purposes.

Use the D7033/FMR-DACT-KEYPAD Keypad Programmer to operate the D9068 Communicator. Remove the cover from the D9068 case and connect the Molex connector from the D7033/FMR-DACT-KEYPAD to the connector pins located on the D9068 board.

When programming the D9068 from the keypad:

1. Set the D7033/FMR-DACT-KEYPAD address between 1 and 15.
2. Use the wire connector supplied with the D9068 to connect the keypad to the D9068 (*Figure 16* on page 19).

Figure 16: Connecting a Keypad to the D9068



3. Program the D9068 as explained in Section 5.0 Programming on page 32.



If no keypad activity occurs for 3 min, the keypad disables. The keypad's buzzer sounds and a SYSTEM FAULT message appears on the keypad. Disconnect the keypad from the D9068 by removing the wire harness plug from the D9068's keypad pins. Then reconnect the wire plug harness to re-enable the keypad.



During the installation of the D7033/FMR-DACT-KEYPAD Keypad Programmer, the system does not monitor the input points or the serial connection to an FACP.

3.0 System Start Up

3.1 System Power-up

This section describes the proper sequence of events when first powering up the D9068.

3.1.1 Before Power-up

Before applying power to the D9068, verify:

- All wiring connections are made according to Section 2.2 Connecting the D9068 on page 13.
- All connectors are firmly seated onto their appropriate headers. Refer to Section 2.2 Connecting the D9068 on page 13.
- Input power requirements comply with the power specifications in Table 1 on page 4. The power supplied to the D9068 from the FACP is not shorted and meets the necessary power requirements for the D9068.
- All telephone line connections are made according to Figure 13 on page 16.
- Both RJ31X male connectors are firmly seated in the RJ31X female connectors located on the D9068 board.
- All input points are properly terminated with the supplied 2.2 k Ω EOL resistors for supervised operation.
- The trouble relay connections are made according to Figure 11 on page 15 and Figure 12 on page 16.

3.1.2 After Power Up

After power is applied to the D9068, verify that the following conditions occur:

- All LEDs light briefly and the trouble relay toggles.
- The System Trouble LED lights.
- The Heartbeat LED flashes to indicate that the D9068 is functional.

3.2 System Quick Start

The D9068 starts in a trouble condition until the installer completes the following steps:

1. Connect the D7033/FMR-DACT-KEYPAD Keypad Programmer. Refer to *Connecting the Keypad to the D9068 in Section 2.2.4 Telephone Connections* on page 17.
2. Program the D9068 using the D7033/FMR-DACT-KEYPAD. Refer to *Section 5.1 Using the Keypad* on page 32.
3. Configure the five input points. Refer to *1: CONFIGURE in Section 5.4.3 PROG INPUTS* on page 39.
4. Assign the D9068 account numbers. Refer to *1: ACCOUNT NUMS in Section 5.4.5 PROG ACC'NTS* on page 42.
5. Assign the D9068 telephone numbers. Refer to *2: PHONE NUMS in Section 5.4.5 PROG ACC'NTS* on page 42.

When you complete *Steps 1* through *5*, refer to *Section 5.0 Programming* on page 32 to finish the programming sequence.



If the D9068 is correctly programmed and the input wiring is properly connected and supervised, only the Heartbeat LED flashes. This indicates normal system operation.

To verify correct communications, perform a manual Communications Test. Refer to *1: TEST COMM in Section 5.5.4 3- TEST* on page 50 for manual communication testing instructions.



Test the system according to NFPA 72 Chapter 10.4.1.2 (2002) after modifications, repairs, upgrades, or adjustments.



Refer to *Appendix A: Troubleshooting* on page 51 for information on error messages or messages indicating abnormal operating conditions.

4.0 System Operation

4.1 Communicator Operation

The D9068 has an integrated communicator that sends reports to a monitoring station. The communicator operates automatically.

When events occur, the communicator sends corresponding reports to the monitoring station by priority according to NFPA requirements. Fire and water-flow alarms are sent first, followed by supervisory alarms and trouble reports, and finally by all other reports.

4.1.1 Phone Line and Phone Number Selection



To comply with UL and NFPA standards, program a primary and an alternate telephone number. The numbers must be different.

The D9068 can report to two telephone numbers with full single, double, and backup reporting. It communicates in Modem IIIa², Contact ID, SIA, and 4/2 formats.

To verify the delivery of critical reports, the D9068 can report over two phone lines. Reports can be directed to one or both of the two phone numbers using the report steering feature in the D9068 programming. Account Number 1 is used with Phone Number 1 and Account Number 2 is used with Phone Number 2.



Except for Test Reports, the D9068 automatically selects the telephone line to use.

Report Routing

Reports are routed in two ways:

1. Report routing starts using Phone Number 1 on Phone Line 1, unless the line monitor shows Phone Number 1 to be bad at the start of reporting. If the report fails on Phone Number 1 on Phone Line 1, the D9068 automatically switches and uses Phone Number 2 on Phone Line 1.
2. If the report still fails on either phone number on Phone Line 1, the D9068 tries to send the report on Phone Line 2 using Phone Number 1. If this fails, it tries Phone Number 2 on Phone Number 1.

The exception to these options occurs when sending Test Reports (Manual or Auto). Test Reports are sent to alternating telephone lines regardless of telephone monitor or initial failure to report, allowing you to test both telephone lines when sending two Manual Test Reports. The first report uses one line; the second uses the other line. Auto Test automatically alternates telephone lines. You determine which telephone line to use for testing purposes in Manual Test (Phone 1, Phone 2, or alternating telephone lines).

Refer to *Table 6* for the complete report routing pattern.

Table 6: Report Routing with Primary and Alternate Phone Number, Phone 2 Backup

Attempt	Primary Phone Line (Phone 1)	Secondary Phone Line (Phone 2)
1	1 st phone number	
2	2 nd phone number	
3		1 st phone number
4		2 nd phone number
5	2 nd phone number	
6	1 st phone number	
7		1 st phone number
8		2 nd phone number
9	2 nd phone number	
10	1 st phone number	

Because the D9068 automatically selects which line to use, both telephone lines must use the same dialing sequences for reporting. For example, a telephone line that requires "9" for dialing an outside line cannot be paired with a line that does not require a "9." The PBX lines and ground start telephone lines do not comply with NFPA requirements for digital communication.



When an Automatic Test Report is received by the central station every other day, and the D9068 is configured to send a Test Report daily, it indicates that one telephone line at the protected premises is inoperative. Correct this condition immediately because other critical reports might be delayed (up to 48 h) while the dialer is attempting to send the test signal through the inoperative telephone line.

4.1.2 Telephone Line Supervision

While the communicator is idle, the D9068 monitors the primary and alternate telephone lines by checking the line for trouble.

The D9068 checks each line every 12 sec. When a trouble remains after three samples (36 sec) the D9068 sends a Trouble Report and activates the yellow telephone line LED and system trouble relay.

The yellow telephone line LED indicates active communication and shows line fault conditions. The LED flashes once every second during active communication. The LED lights steadily for a line fault condition.

4.1.3 Wait for Dial Tone

When enabled, the Wait for Dial Tone feature verifies that a dial tone is present before the DACT dials. When no dial tone is present after 7 sec, the D9068 hangs up and tries again after a 30-sec wait.

When no dial tone is detected on the second try, the D9068 dials again. When this feature is not enabled, the D9068 waits 7 sec after disconnecting and then re-dials whether or not a dial tone is present.

4.1.4 Call Routing

Each type of event (non-supervisory alarms, supervisory alarms, alarm restorals, supervisory restorals, test and trouble, and trouble restorals) can be programmed with a different call routing. For example, the alarm messages can be set for Phone 2 backup while supervisory restorals are sent to Phone 2 only.



Phone 2 Backup is the default and recommended setting for all event types. Changing this setting can cause messages to transmit to the central station.

Each event is routed through the telephone to the central station in one of four ways:

1. **PHONE 1 Only:** Only uses Phone Number 1.
2. **PHONE 2 Only:** Only uses Phone Number 2.
3. **PHON 1 AND 2:** Uses Phone Number 1 and Phone Number 2.
4. **PHN 2 BACKUP:** Primarily uses Phone Number 1 with Phone Number 2 as a backup when communication cannot be established with Phone Number 1. PHN 2 BACKUP is the default setting for the D9068.

Refer to *Appendix E: Report Routing* on page 63 for more information about report steering.



Use the default setting of Phone 1 with Phone 2 as a backup. If this setting changes, the telephone lines used also change and the messages might not transmit to the central station. *Table 6* on page 21 does not apply to the PHONE 1 ONLY and PHONE 2 ONLY route settings.

4.1.5 Call Attempts

When an event must be communicated to the central station, the D9068 makes up to ten attempts to communicate with the central station until the call is answered.

Table 6 on page 21 shows the procedure that the D9068 follows in attempting to communicate with the central station when it is programmed to use Phone 2 Backup (default) or Phones 1 and 2.

4.1.6 Communication Fault

When a report must be transmitted to the central station, the D9068 makes up to ten attempts to communicate (refer to *Table 6* on page 21). If after ten attempts the D9068 does not connect successfully, a communication failure occurs and a Comm Fault Report is generated.

Then, the D9068 makes up to ten attempts to communicate the Comm Fault to the central station. If the D9068 does not succeed, the original report and the Comm Fault Report clear from the D9068's buffer.

The total time from the first sequence of attempts to a communications failure is approximately 15 min. This time varies depending on how ACK Wait time is programmed. A Comm Fault Restoral Report transmits when communication restores after a communications failure.

4.1.7 Programming Fault

Programming faults indicate if specific telephone programming items are not completed.

A programming fault occurs when:

- Both account numbers are not changed from their default values of 0000.
- No telephone number is programmed.
- A report is routed to Phone Number 1 and either Account Number 1 is 0000 or Phone Number 1 is invalid.
- A report is routed to Phone Number 2 and either Account Number 2 is 0000 or Phone Number 2 is invalid.
- A report is routed to Phone Numbers 1 and 2 or to Phone 1 with Phone 2 as backup. At least one of the account numbers is 0000 or one of the telephone numbers is invalid.

4.1.8 Data Lost and Limited Reports

A Data Lost Report generates when an event cannot transmit to the central station. This occurs when:

- The reporting buffer contains the maximum of 32 events and another event occurs. The lowest priority event in the report buffer is deleted and replaced by Data Lost unless the report is already a Data Lost Report. If the new event has a higher priority than an event already in the report buffer, the lower priority event is discarded and replaced with the higher priority event. When the buffer is full, the lowest priority event is discarded when a new event occurs. The Data Lost Report is the last event sent, emptying the report buffer. If the buffer fills again, another Data Lost Report is sent.

- The DACT sent 99 Trouble Reports in a 24-hour period and another Trouble Report generates. That report becomes a Data Lost Report. The Data Lost Report tells the central station that the 100-event limit for trouble messages has been reached.
- The DACT sends only eight events in each call. If more events are present, the DACT hangs up and calls again.

The Data Lost Reports are entered into the history buffer.

The Trouble Report counter can be reset to allow more Trouble Reports sent to the central station. A Manual Test Report resets the counter to zero. The counter is always reset at 9:00 a.m. regardless of when it is manually reset.

4.1.9 Communications Tests

The D9068 can perform two types of communications tests: Auto Test and Manual Test. These tests verify the operation of the D9068 and its ability to transmit a report over the telephone line to a receiver. The Auto Test occurs automatically at a fixed frequency (time interval) set by the installer. The Manual Test occurs when a user or installer initiates it.

Auto Test

Auto Test is an automatic test used to verify the proper operation of each phone line connected to the D9068. The programmable parameters for Auto Test are set at the D7033/FMR-DACT-KEYPAD Keypad Programmer. Refer to 2: *AUTO TEST* in Section 5.4.1 *PROG TIME* on page 37.

The time when automatic testing begins and the testing frequency interval are established from the D7033/FMR-DACT-KEYPAD. This time appears in a 24-hour format.

The frequency (time interval) at which the Auto Test Reports are sent can be set to every 6 h, every 12 h, every 24 h, every 7 days, or every 28 days. For example, if the test time is set to 2300 (11:00 p.m.) and the test frequency is set for every 24 h, automatic testing begins at 2300 h and repeats every 24 h. There is also a Disabled option for turning off automatic testing.



If test frequency is not programmed before test time, the first Auto Test is not performed. Setting Auto Test to 7 days, 28 days, or Disabled is not compliant with UL.



A power failure of more than 5 min can change the system time to 000. Check the system time after a power outage.

The Auto Test Report is sent even if the maximum number of Trouble Reports to be sent in a 24-hour period (100) is exceeded. If the report queue is full of reports waiting to be sent, a Data Lost Report is sent unless one is already in the queue. In this case, the Auto Test Report is not sent.

Every time an Auto Test Report is sent, the telephone lines alternate. For example, if the first report uses Phone Line 1, the second report uses Phone Line 2, and the third report uses Phone Line 1.



Sending a Manual Test Report does not affect the alternating telephone line sequence of the Auto Test Report.

Unless it successfully sends the report on the first attempt, the D9068 continues to send the Auto Test Report up to ten times. These attempts can take up to 15 min to complete. The report priorities are reevaluated for each phone call attempt. If a higher priority event occurs during an Auto Test, the higher priority event is sent on the following phone call.

If the D9068 fails to send the Auto Test Report after ten tries, a Comm Fault Report is sent. The D9068 sends the Comm Fault Report using its normal report routing. When it is time for the next Auto Test attempt, the attempt is conducted on the alternate telephone line, not on the failing telephone line.

When it is time to send a report, the D9068 checks its status. If any alarms, troubles, or system faults are present, the D9068 sends the Off Normal at Test Report instead. When all conditions are normal, the D9068 sends the Auto Test Report.

Manual Test

Initiate a Manual Communications Test from the D7033/FMR-DACT-KEYPAD. Refer to *Section 5.5.4*

3- *TEST* on page 50. When a Manual Test is initiated, you are prompted to select a telephone line (Line 1 or Line 2). After you select a telephone line, a Manual Test Report is sent to the receiver using the specified telephone line.

When the Manual Test Report is successfully added to the report queue, the message COMMUNICATOR INITIALIZING... appears on the keypad. This message remains until the D9068 tries to transmit the report.

While the Manual Test Report is sent, the keypad display updates to show which telephone line is in use and which transmission attempt is occurring. The message COMMUNICATOR LINE 1, TRY 1 indicates Phone Line 1 for transmission attempt 1.

After the report transmits successfully, the keypad display updates to show COMMUNICATOR PASSED. After this message appears for 2 sec, the keypad emits a brief tone and the rotating Test Menu returns to the keypad LCD.

Unless it sends the report successfully, the D9068 tries to send a Manual Test Report twice. This can take up to 3 min. The report priorities are reevaluated on each phone call attempt. If a higher priority event occurs while attempting a Manual Test, the higher priority event is sent on the following telephone call.



Refer to *Appendix A: Troubleshooting* on page 51 for information about error messages or messages indicating abnormal operating conditions.

4.2 Input Point Operation



Refer to *Appendix A: Troubleshooting* on page 51 for information about error messages or messages indicating abnormal operating conditions.

The D9068 supports five inputs that can be activated by dry contact relays or open collector outputs. The initiating circuits or points can be configured for seven conditions (refer to *Table 7* on page 25):

Table 7: Input Point Configuration

Point Condition	Description	Additional Information
Fire	When activated, the D9068 sends a Fire Alarm Report. A restoral is sent when the input is deactivated.	Depending on the input voltage level (from 0 V to 5 V) for these input configuration types, the input operates normally, activates for the event type for which it is configured, or indicates a point trouble. Refer to <i>Table 8</i> on page 26 for more information.
Water flow	When activated, the D9068 sends a Water-flow Alarm Report. A restoral is sent when the input is deactivated.	
Supervisory	When activated, the D9068 sends a Supervisory Alarm Report. A restoral is sent when the input is deactivated.	
Monitor	When activated, the D9068 sends a Monitor Report. A restoral is sent when the input is deactivated.	
System Fault	When activated, the D9068 sends a Trouble Input Report. An input configured for System Fault is automatically supervised. A restoral is sent when the input is deactivated.	
AC Failure	When activated, AC FAILURE appears on the keypad. To decrease the number of reports sent to the central station such as during a blackout, program the D9068 with an AC Fail Delay between 0 and 24 hours. You can also program the D9068 to Wait for DC where the D9068 must detect an AC failure on one input and a low battery condition on a second input. If there is an AC Fail input and a battery input, the D9068 monitors both inputs. If an AC failure occurs and the delay time is initialized, the D9068 looks for a low battery condition and ignores the delay to report the condition if necessary. A restoral is sent when the input deactivates.	Depending on the input voltage level (from 0 V to 5 V) for these input configuration types, the input operates normally, activates for the event type for which it is configured, or indicates a point trouble. Refer to <i>Table 8</i> on page 26 for more information.
Low Battery	When activated, the D9068 sends a Low Battery Report. A restoral is sent when the input deactivates.	

Table 8: Input Point Voltage Levels

Condition	Voltage Range	Description
Open	4.0 VDC to 5.0 VDC	If voltage on the input exceeds 4.0 V, a point trouble is indicated. EOL supervision is required.
Normal	2.0 VDC to 3.0 VDC	If voltage on the input floats between 2 V and 3 V, the input operates normally. EOL supervision is required.
Short	0.0 VDC to 1.3 VDC	If voltage on the input falls below 1.3 V, the input activates for the event type for which it was configured such as fire, water-flow, or supervisory.

Table 9: System Fault (Fault or Open) Voltage Levels

Condition	Voltage Range	Description
Open	4.0 VDC to 5.0 VDC	If voltage on the input exceeds 4 V and EOL supervision is not present, the input indicates a point trouble and activates for System Fault or Fault on Open.
Open	2.0 VDC to 3.0 VDC	If voltage on the input is between 2 V and 3 V and EOL supervision is present, the input activates for System Fault or Fault on Open.
Normal	0.0 VDC to 1.3 VDC	If voltage on the input is between 0 V and 1.3 V, the input operates normally.



The AC Fail Delay time set for the FACP is independent of the AC Fail Delay time set for the D9068. When you program the FACP for an AC Fail Delay time and then program the D9068 for an AC Fail Delay time, the AC Fail Delay times are added together.

For example, if the FACP AC Fail Delay time is set for 6 h and the D9068 AC Fail Delay time is set for 12 h, the AC Fail Report is sent from the D9068 18 h from the time of AC failure.



All inputs are non-latching. A restoral is sent when the input is deactivated.



For fail-safe operation, program the system fault to Fault on Open.



To view specific active events, connect the D7033/FMR-DACT-KEYPAD Keypad Programmer and press [1] for Status.



Refer to *Appendix C: Fire Communicator Report Summary* on page 56 for the specific messages sent for each event.



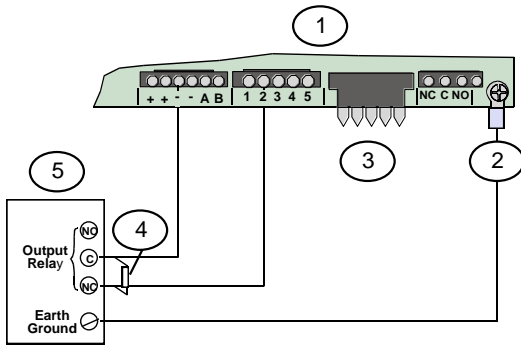
Alarm operation is independent of supervision. If an input point is not supervised and no EOL is device attached, the input point still activates for the event type for which it is configured. The voltage must be below 1.3 V or above 2 V.

Refer to *Figure 17* for the System Fault and Fault on Open wiring connections.



To prevent a Trouble Report from generating every time a system fault occurs, verify that an EOL resistor is connected to the FACP output relay (*Figure 17*).

Figure 17: System Fault/Fault on Open Connections



- 1 - D9068
- 2 - Earth ground (green)
- 3 - Keypad terminals
- 4 - EOL resistor 2.21 k Ω , UL Listed, (Bosch P/N: 25899)
- 5 - FACP

4.3 Trouble Relay Operation

An input programmed to signal a trouble condition from the FACP does not affect or activate the on-board trouble relay. The on-board trouble relay activates on:

- any on-board D9068 trouble condition
- internal diagnostic faults
- telephone line supervision faults
- input point supervision faults
- communication failure and faults



Refer to *Appendix A: Troubleshooting* on page 42 for information about error messages or messages that indicate abnormal operating conditions.

4.4 Keypad Operation



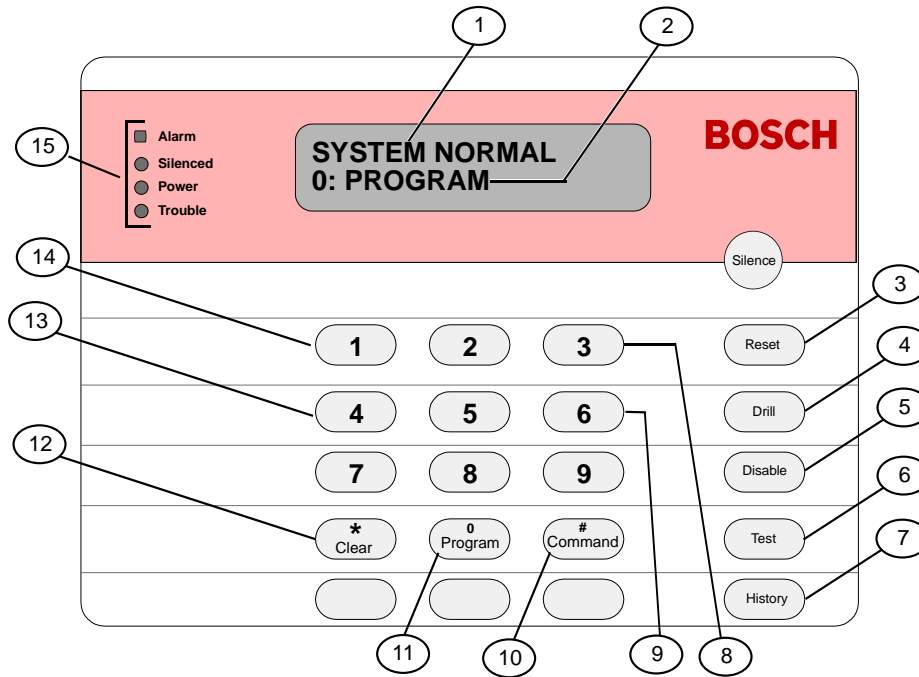
During the installation of the D7033/FMR-DACT-KEYPAD Keypad Programmer, the system does not monitor the input points or the serial connection on the FACP.

4.4.1 D7033/FMR-DACT-KEYPAD Keypad Programmer

The D7033/FMR-DACT-KEYPAD Keypad Programmer is an alphanumeric LCD keypad used for programming and debugging only while it is connected to the D9068. The keypad has a two-line, 16-character display showing information on various D9068 programming functions. In most cases, the first line shows general system status information and the second line describes the specific programming menus and prompts.

Refer to *Figure 16* on page 19 to connect the keypad to the D9068. *Figure 18* identifies the keypad keys. *Table 10* on page 29 describes the keypad keys.

Figure 18: D7033/FMR-DACT-KEYPAD Keypad Programmer



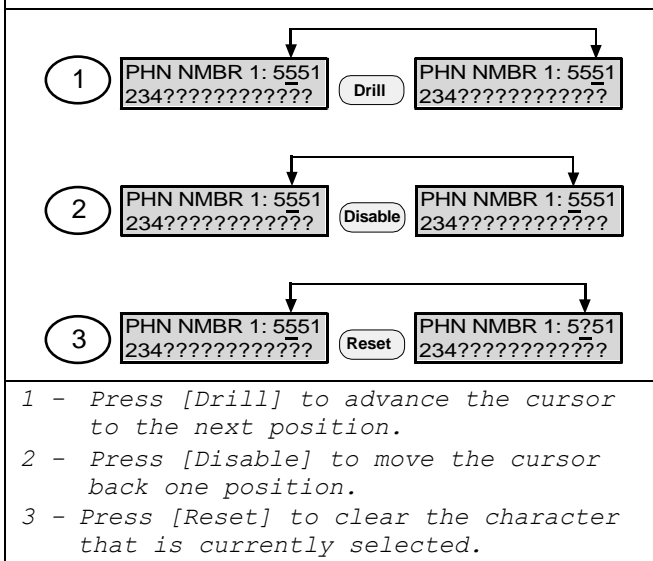
1 - First line of display	6 - [Test] key	11 - [0 Program] key
2 - Second line of display	7 - [History] key	12 - [* Clear] key
3 - [Reset] key	8 - [3] key	13 - [4] key
4 - [Drill] key	9 - [6] key	14 - [1] key
5 - [Disable] key	10 - [# Command] key	15 - LEDs are not used

Table 10: D7033/FMR-DACT-KEYPAD and FMR-DACT-KEYPAD Keypad Function

Key Name	Key Function
Reset	Initiates a manual reset of D9068. Refer to <i>Section 4.5 Reset</i> on page 32 for more information). Clears the character selected by the cursor. Refer to <i>Figure 19</i> on page 29.
Drill	Advances to the next programmable feature or character position. Refer to <i>Figure 19</i> on page 29.
Disable	Returns to the previous programmable feature or character position. Refer to <i>Figure 19</i> on page 29.
Test	Enters Test Mode. Pressing [Test] when entering a phone number accesses three phone control code options. Refer to <i>Section 5.5.4, 3- TEST</i> on page 50 for more information.
History	History Mode. Refer to <i>Section 4.4.4 History</i> on page 30 for more information.
3*	Increases backlight intensity. Press and hold [* Clear] first. Then press [3] to adjust the intensity.
6*	Decreases backlight intensity. Press and hold [* Clear] first, then press [6] to adjust the intensity.
# Command	Accepts programming entries into D9068. Press this key after every programming entry.
0* Program	Enters the Programming Mode menu. Refer to <i>Section 5.0 Programming</i> on page 32 for programming instructions.
* Clear	Cancels any programming menu without making changes. Return to the message SYSTEM NORMAL by pressing [* Clear] until SYSTEM NORMAL appears across the first line.
4 ¹	Decreases keypad sounder volume. Press and hold [* Clear] first, then press [4] to adjust the volume.
1 ¹	Increases keypad sounder volume. Press and hold [* Clear] first, then press [1] to adjust the volume.

* In addition to key value.

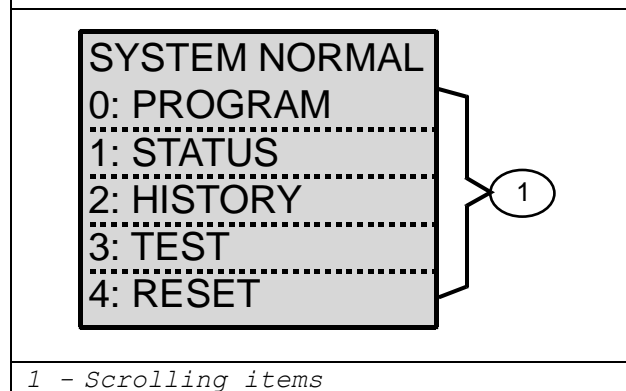
Figure 19: Additional Functions of the [Drill], [Disable], and [Reset] Keys



4.4.2 Scrolling Menus

When properly connected to the D9068, the keypad shows a scrolling menu of possible user actions along its second line. This scrolling menu is the D9068 Main Menu. The scrolling menu items flash one at a time at 1-sec intervals through the list and then start over. When the system is operating normally, SYSTEM NORMAL appears in the first line on the LCD display (refer to *Figure 20*).

Figure 20: Scrolling Main Menu



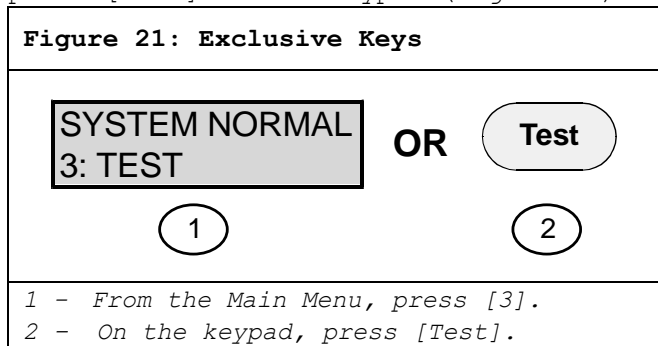
The Programming Menu and Test Menu options also flash across the second line, one at a time at 1-sec intervals. The display rate speed can be adjusted. Refer to 2: TEST RATE in Section 5.4.2 PROG TIMERS on page 38 for more information.

4.4.3 Selecting Menu Items

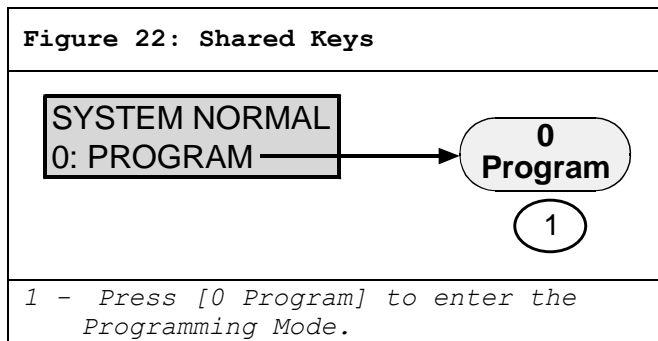
Depending on the menu level (such as the menu, submenu, and sub-submenu), you can select an item using exclusive keys, shared keys, or submenu items.

Exclusive Keys: In the Main Menu, **Test** and **History** have an exclusive key on the keypad.

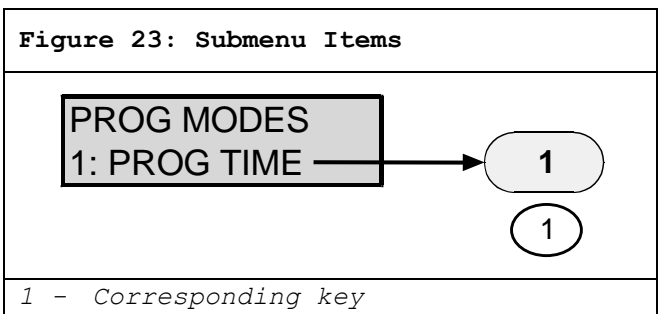
You select these options by pressing the corresponding key or the function key. For example, **3: Test** is the third option so you press [3] from the Main Menu to open the Test Mode Menu. You can also press [Test] on the keypad (Figure 21).



Shared Keys: The [Program] key is not exclusive, but is shared with other characters. The character sharing the corresponding key appears on the same key. To select one of these items, press the shared key. For example, the [PROGRAM] key is also the [0] key (refer to Figure 22).



Submenu Items: The corresponding key to a submenu item appears in the second line preceding a colon. Press the corresponding key to select that item. For example, press [1] to select **PROG TIME** from the Programming Mode Menu (refer to Figure 23).



When a scrolling menu is active, it is not necessary to wait for the desired menu item to appear before making your selection. You can select any item on the current menu rotation at any time.

4.4.4 History

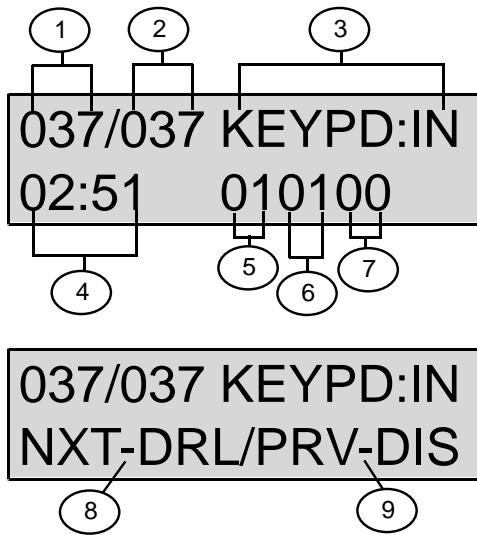
The history buffer can be cleared when the system loses all power for more than 3 min.

The **History** option accesses a list of system events that occurred. To select **History**, press [2] from the Main Menu or press [History] on the keypad.

A maximum of 100 events can be stored in the history buffer.

When you enter the History Mode, the most recent system event appears on the top line of the keypad LCD. The time and date appear on the second line. As a reminder, the bottom line toggles every 4 sec between the time and date when the event occurred and the keys used to navigate through the history buffer (Figure 24).

Figure 24: Event History Example



- 1 - Total of stored events
- 2 - Event number
- 3 - Event name
- 4 - Time
- 5 - Month
- 6 - Day
- 7 - Year
- 8 - Press [Drill] to advance to next event.
- 9 - Press [Disable] to show previous event.

Navigate the history buffer by pressing the following keys:

- [Disable] moves to older events in the history buffer.
- [Drill] moves to newer events in the history buffer.
- [* Clear] finishes the History Mode and returns to the Main Menu.

Table 11 lists the event history abbreviations.

Table 11: Event History Abbreviations

Abbreviation	Meaning
A, ALRM	Alarm
AUTOTST	Auto test
ARST	Alarm restore
BATT:LOW	Battery low
BAT:RSTR	Battery restore
COMM	Communication
DATALOST	Data lost
EE2	EEPROM
F	Fire
FLT	Fault
KEYPD:IN	Keypad installed
KEYPD:RS	Keypad removed
M	Monitor
MANULTST	Manual test
SER:FL	Panel communication failure
OFFNORM	Off normal at test
PGMG:FLT	Trouble programming
PH1	Phone Line 1
PH2	Phone Line 2
RS, RST, RSTR	Restore
S	Supervisory
SYSFLT:F	Trouble input
SYSFLT:R	Trouble input restore
SYS:RSET	System reset
SYSTRB	System trouble
WDOG:RST	Automatic CPU reset (watchdog)
TRBL	Trouble
TRST	Trouble restore
W	Water-flow alarm
SER:RS	Panel communication restore



Events received from an analog FACP over the serial connection are not stored in the history buffer.

4.5 Reset

Reset the D9068 in one of four ways:

1. At the LCD remote keypad, press [4] to select **Reset** from the Main Menu or press [Reset]. Pressing either key resets the D9068 only when off-normal conditions are present. The system sends an Open Reset Report with the user ID parameter of 99.
2. Exit from the Test Mode. The system sends an Open Reset Report with the user ID parameter of 99.
3. Exit from the Programming Mode. The system sends an Open Reset Report with a user ID parameter of 01.
4. Power up the D9068. No Open Reset Report is sent.

5.0 Programming

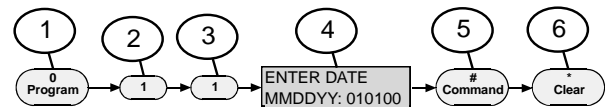
5.1 Using the Keypad

Use the D7033/FMR-DACT-KEYPAD Keypad Programmer to do all programming for the D9068. To properly program the D9068, you must always press the [# Command] and [* Clear] keys in addition to the key(s) necessary to make specific programming entries.

- Press [# Command] to accept an entry into the D9068.
- Press [* Clear] after pressing [# Command] to return to the submenu or menu selections.

Refer to *Figure 25* for the complete programming key sequence for setting the D9068 operational date.

Figure 25: Programming Key Sequence for System Date



- 1 - Press [0 Program] to enter the Programming Mode Menu.
- 2 - Press [1] to enter the Prog Time submenu.
- 3 - Press [1] again to select **SYSTEM** for the system date and time.
- 4 - Enter the current date using the keypad keys [0] to [9].
- 5 - Press [# Command] to enter the date into the system.
- 6 - Press [* Clear] to move to the next menu item, or to return to previous menus.



When you enter the Programming Menu (Level 2), you no longer need to press [0] to re-enter the Programming Menu. If you press [0] while in the Programming Menu, the keypad emits a three-beep error tone.



When you enter Programming Mode, all monitoring ceases. The D9068 does not process input point events, supervise the phone lines, or monitor the serial link. The central station communication is disabled.

5.2 Programming Key Sequences

A programming key sequence is a series of keys you press to reach the desired level option. The programming key reduces repetition and provides brief instructions when programming the D9068.

Level 1 is the Main Menu. Select [0 Program] for all system programming. The first number in the key sequence is "0". The Main Menu selections are:

- PROGRAM
- STATUS
- HISTORY
- TEST
- RESET

Level 2 is the Programming Mode Menu. It represents the second number in the key sequence. The programming options are:

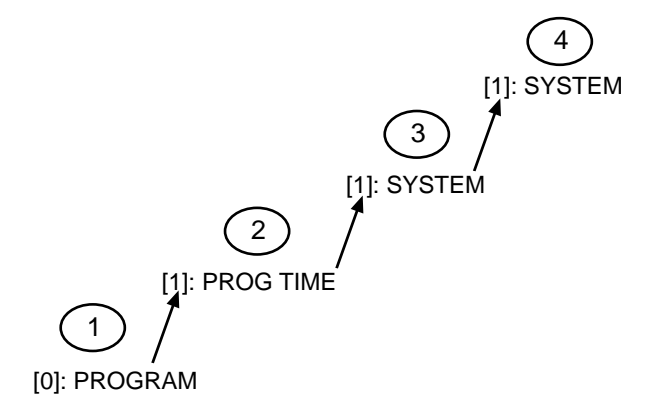
- PROG TIME
- PROG TIMERS
- PROG INPUTS
- PROG RELAY
- PROG ACC'NTS
- PROG FORMATS
- PROG DEFLT5
- SERIAL CONECTN

Level 3 provides options that branch from Level 2. Refer to *Figure 26*. The third number in the key sequence represents the option selected in Level 3.

Level 4 includes keypad prompts that supply instructions specific to the selected menu item.

Level 5 includes submenu prompts specific to Level 4.

Figure 26: Programming Key Sequence Diagram



- 1 - Main Menu (Level 1)
- 2 - Programming Menu (Level 2)
- 3 - Prog Time submenu (Level 3)
- 4 - Level 4



Not all programming menus extend to Level 4. If a menu does not reach Level 4, the instructional prompts appear on the last (highest) menu level.

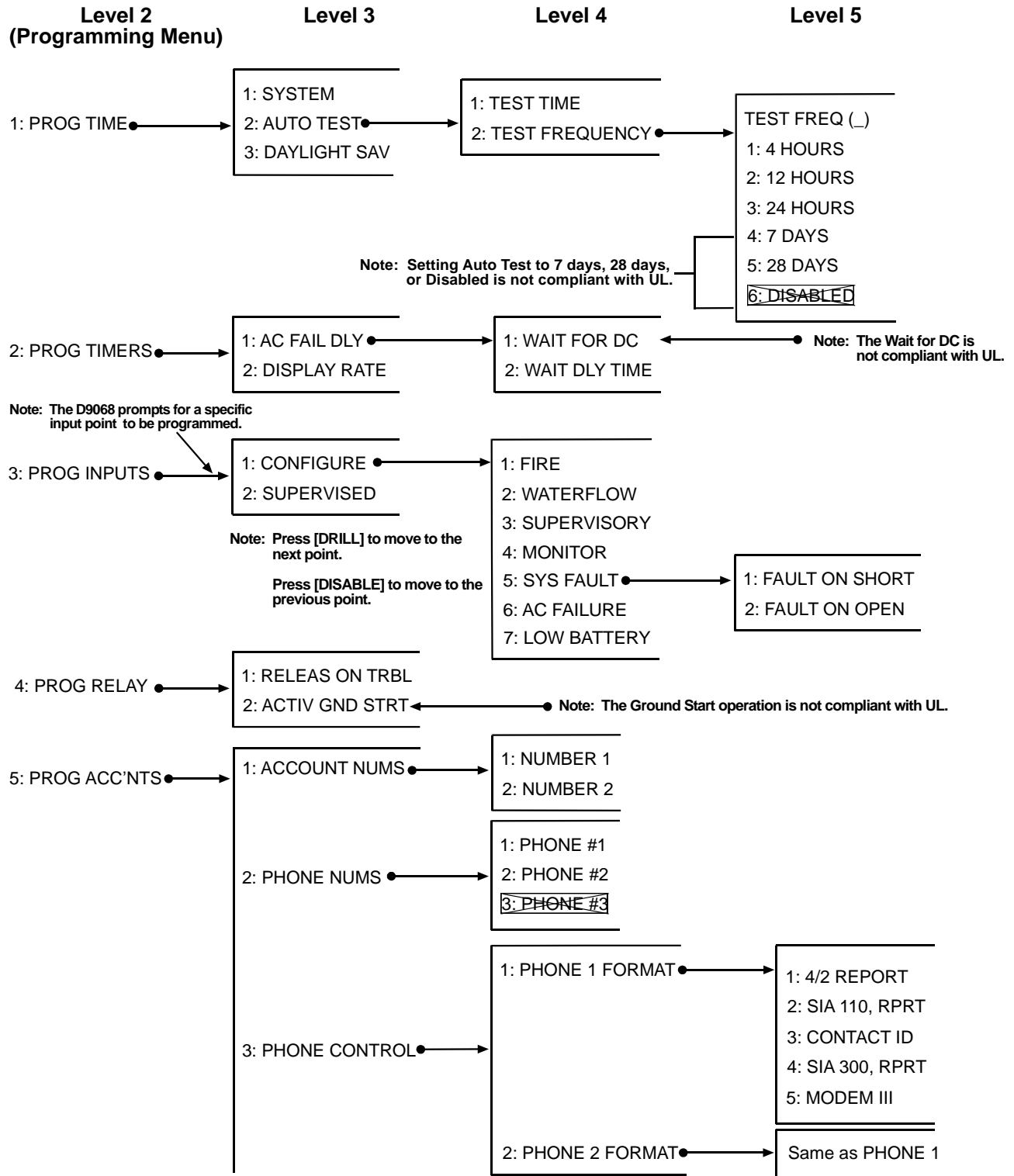
The example in *Figure 26* shows the programming key sequence used to enter system settings such as the date and time. After you enter the key sequence, follow the procedure of the specific function you are programming.

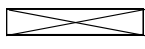


When you enter the Programming Menu (Level 2), you no longer need to press [0] to re-enter the Programming Menu. If you press [0] while already in the Programming Menu, the keypad emits a three-beep error tone.

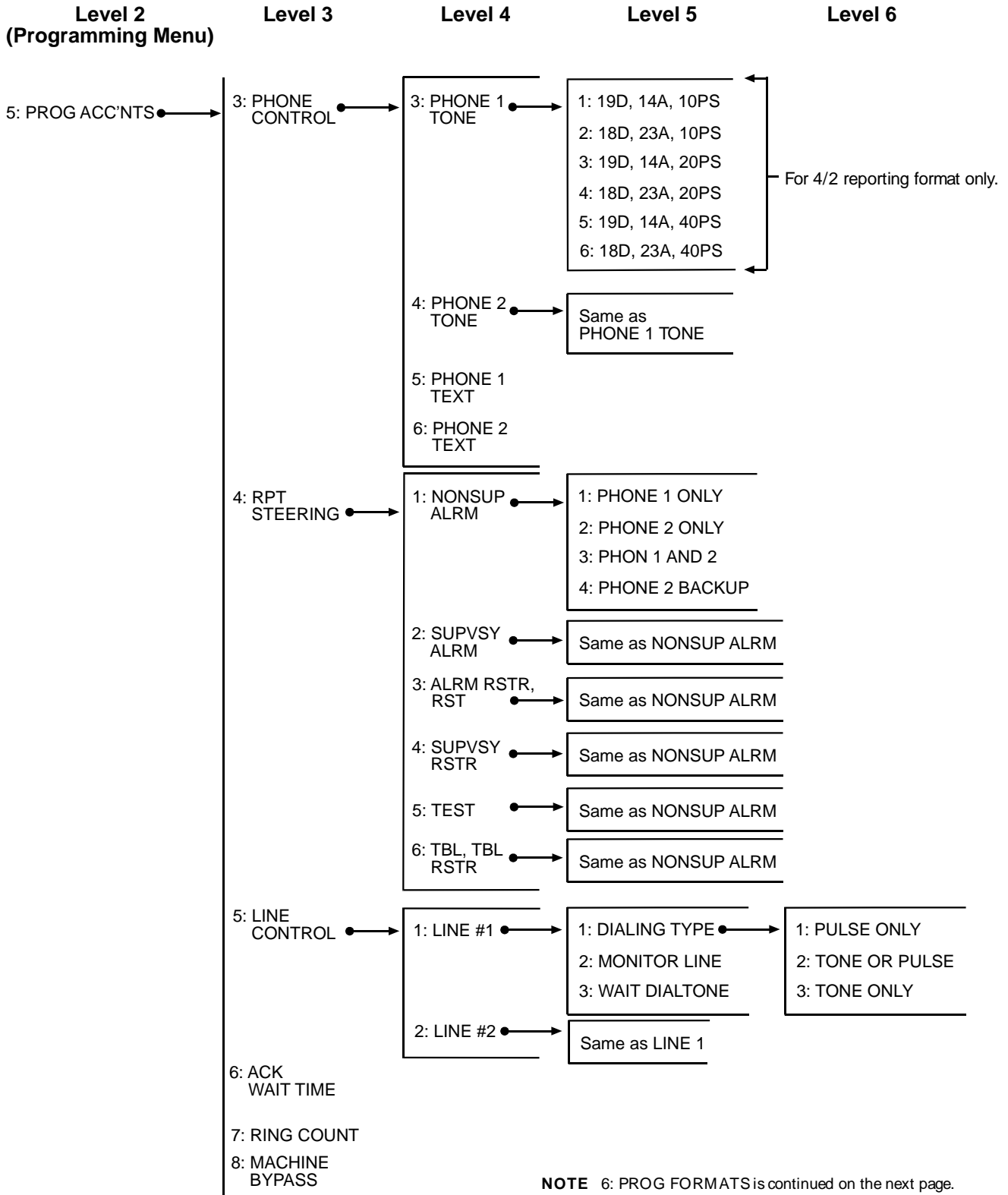
1. At the Main Menu (Level 1), press [0] to enter the Programming Menu (Level 2).
2. At the Programming Menu, press [1] to enter the Prog Time submenu.
3. At the Prog Time submenu (Level 3), press [1] to select **1: SYSTEM** (Level 4).
4. Follow the keypad prompts to select system settings.
5. Press [#] to verify the setting.

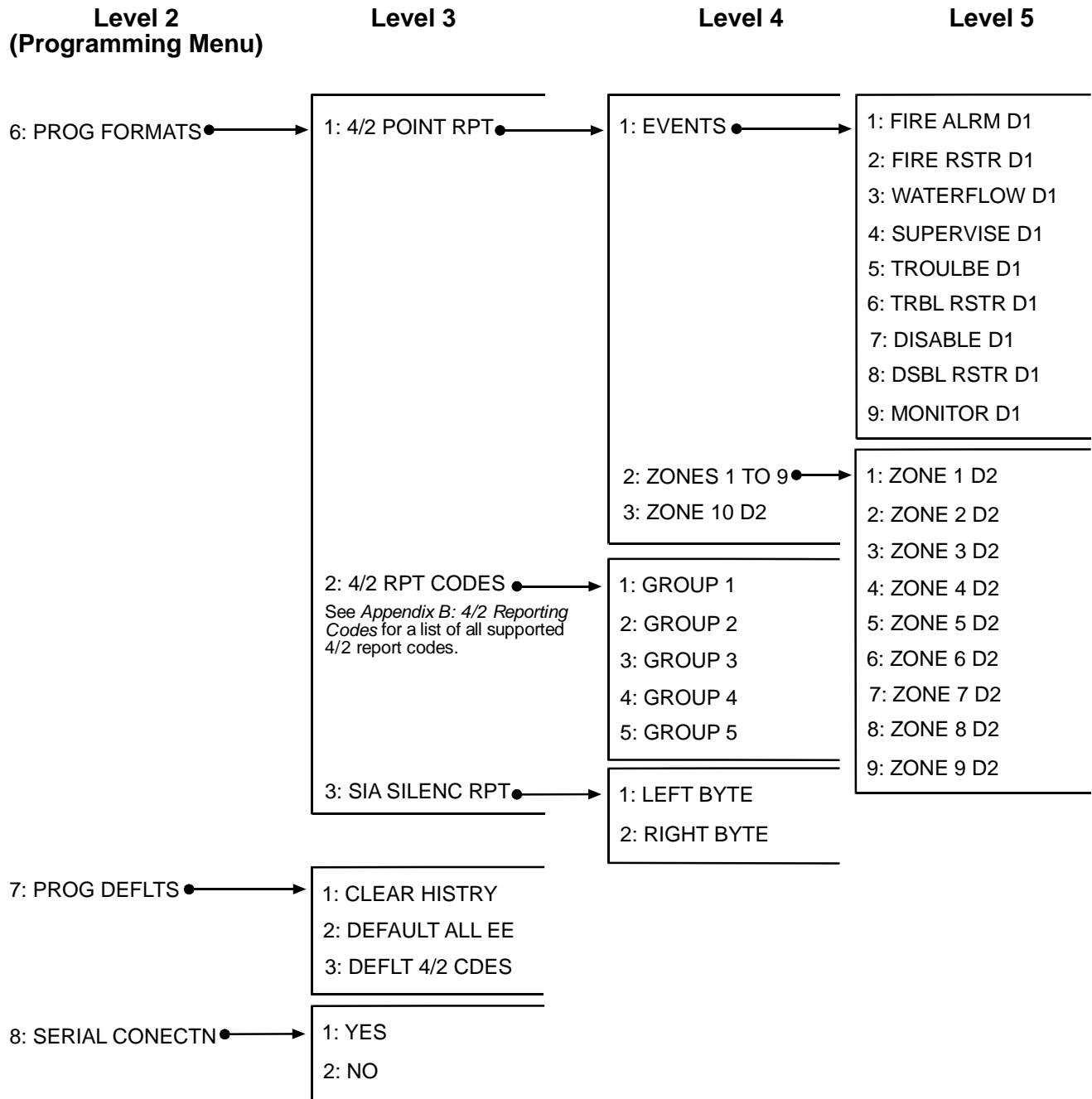
5.3 Program Menu Tree



 Items crossed out are not currently supported.

NOTE 5: PROG ACCTS is continued on the next page.





5.4 Programming the D9068

The D9068 uses scrolling menus to show the menu choices. The Main Menu shows:

```
SYSTEM NORMAL
0: PROGRAM
1: STATUS
2: HISTORY
3: TEST
4: RESET
```

To enter the Programming Menu, press [0]. The Programming Menu shows:

```
1: PROG TIME
2: PROG TIMERS
3: PROG INPUTS
4: PROG RELAY
5: PROG ACC'NTS
6: PROG FORMATS
7: PROG DEFLT
8: SERIAL CONECTN
```



When you enter the Programming Menu (Level 2), you no longer need to press [0] to re-enter the Programming Menu. If you press [0] while already in the Programming Menu, the keypad emits a three-beep error tone.

5.4.1 PROG TIME

The **PROG TIME** feature provides programming options for setting the system date and time, establishing automatic testing times, and adhering to Daylight Saving Time.

To access the **PROG TIME** programming options:

At the Programming Menu, press [1] to select

1: PROG TIME. The window shows:

```
DATE/TIME
1: SYSTEM
2: AUTO TEST
3: DAYLIGHT SAV
```

Refer to the following sections for the **PROG TIME** programming options.

1: SYSTEM

To access **SYSTEM**, select [0]: **PROGRAM→[1]: PROG TIME→[1]: SYSTEM**. This option allows you to set the current date and time for system operations.

To set the current date and time for system operations:

1. At the Prog Time submenu, press [1] to select

1: SYSTEM. The window shows:

```
ENTER DATE
MMDDYY: _____
```

2. Enter the date and press [# Command] to accept the entry.

3. Press [* Clear] to move to the next feature.

```
ENTER TIME
HHMM: _____
```

4. Enter the time in 24-h format and press [# Command] to accept the entry.

5. Press [* Clear] to return to the Prog Time (Date/Time) scrolling menu. The keypad shows the entries that were made before returning to the Prog Time Menu.

2: AUTO TEST

To access **AUTO TEST**, select [0]:

PROGRAM→

[1]: PROG TIME→[2]: AUTO TEST. This option allows you to set the time when the Auto Test is sent and how often the Auto Test occurs.

To set the time when the Automatic Test is sent and how often an Auto Test occurs:

• At the Prog Time submenu, press [2] to select **2: AUTO TEST**. The window shows:

```
AUTOMATIC TEST
1: TEST TIME
2: TEST FREQUENCY
```

Refer to the following sections for the Automatic Test programming options.

2: TEST FREQUENCY

To access **TEST FREQUENCY**, select

[0]: PROGRAM→[1]: PROG TIME→[2]:


AUTO TEST→[2]: TEST FREQUENCY. Choosing this option allows you to program how often the Auto Test Reports are sent. The first test is sent when the system time matches the next programmed test time. Subsequent reports are sent to the selected intervals.

To program the frequency of Auto Test Reports:

- At the Auto Test submenu, press [2] to select **2: TEST FREQUENCY**. The window shows:

```
AUTO FREQ ( )
1: 4 HOURS
2: 12 HOURS
3: 24 HOURS
4: 7 DAYS
5: 28 DAYS
6: DISABLED
```

This item is currently not supported.

 The **6: DISABLED** option is not currently supported.

- Press the number key that corresponds to your selection and then press [# Command]. The revised setting appears in parentheses on the first line.
- After programming this feature, press [* Clear] to return to the Auto Test submenu.

1: TEST TIME

To access **TEST TIME**, select


[0]: PROGRAM→[1]: PROG TIME→[2]: AUTO TEST→[1]: TEST TIME. This option allows you to program the time of day the Auto Tests occur and uses a 24-h clock. For example, enter 2300 for 11:00 p.m.

To program the time an Auto Test occurs:

- At the Auto Test submenu, press [1] to select **1: TEST TIME**. The window shows:

```
AUTO TEST TIME
HHMM: _____
```

- Enter the time in 24-h format and press [# Command].
- Press [* Clear] to return to the Auto Test submenu.

 If the test frequency is not programmed before the test time, the first Auto Test is not performed.

3: DAYLIGHT SAV

To access **DAYLIGHT SAV**, select


[0]: PROGRAM→[1]: PROG TIME→[3]: DAYLIGHT SAV. This option enables the automatic adjustment of system time for daylight saving time. The adjustment dates are pre-programmed into the system.

To set the system for Daylight Saving Time:

- At the Prog Time submenu, press [3] to select **3: DAYLIGHT SAV**. The window shows:

```
DAYLIGHT SAVING?
NO: YES (1)/NO (0)
```

- The current setting precedes the colon (:) in the second line. Press [1] to set **DAYLIGHT SAV** to **Yes**. Press [0] to set it to **No**.
- Press [# Command] to verify your selection.
- After programming this feature, press [* Clear] to return to the Prog Time submenu.

 When using the public switched telephone network (PSTN) to communicate, a Test Report must be sent a minimum of once every 24 h to comply with UL and NFPA standards.

When communicating by means other than the PSTN, a Test Report must be sent a minimum of once each hour to comply with UL and NFPA standards.

5.4.2 PROG TIMERS

The **PROG TIMERS** feature allows you to set time-related parameters for the AC Fail Delay and the Display Rate.

To set time-related parameters for AC Fail Delay and Display Rate:

- At the Programming Menu, press [2] to select **1: PROG TIME**. The window shows:

```
PROG TIMERS
1: AC FAIL DLY
2: DISPLAY RATE
```

Refer to the following sections for the programming options.

1: AC FAIL DLY

Refer to *Table 1* on page 4 for information about settings permitted in UL864 installations.

To access **AC FAIL DLY**, select

[0]: PROGRAM→[2]: PROG TIMERS→[1]: AC FAIL DLY. The window shows:

```
AC FAIL DLY ( )
1: WAIT FOR DC
2: WAIT DLY TIME
```

This option sets the number of hours the D9068 waits after an AC failure is signaled before sending an AC Failure Report.

1: WAIT FOR DC

To access **WAIT FOR DC**, select

[0]: PROGRAM→[2]: PROG TIMERS→[1]: AC FAIL DLY→ [1]: WAIT FOR DC.

Two input points must be programmed with one set for AC Fail and the other for Low Battery. When an AC Fail signal is received on the AC Fail input, the D9068 waits for a low battery signal. The **WAIT FOR DC** function causes the D9068 to wait and then send the AC Fail and Low Batt Reports simultaneously. The current setting appears in parentheses on the first line.



When a Low Battery input followed by an AC Fail input activates, the AC Fail Report is sent immediately.

To set the D9068 to wait and send AC Fail and Low Batt Reports simultaneously:

1. Press [1] and then [# Command]. The setting in parentheses reflects the setting.
2. After programming this feature, press [* Clear] to return to the Prog Timers submenu.

2: WAIT DLY TIME

To access **WAIT DLY TIME**, select

[0]: PROGRAM→[2]: PROG TIMERS→[1]: AC FAIL DLY→[2]: WAIT DLY TIME. This option allows you to select the length of time to wait after an AC Fail signal is received before reporting the event over the phone line.



When the AC Fail and Low Battery events are present together, the AC Fail event is reported regardless of any wait time.



Programming **WAIT DLY TIME** for 00 allows the D9068 to send an AC Fail Report without delay.

To choose the length of time to wait after receiving an AC Fail signal:

1. At the AC Fail Dly submenu, press [2] to select **2: WAIT DLY TIME** and then press [# Command]. The window shows:

```
AC FAIL DLY (___)
(00-24 HRS): _____
```

2. The current setting appears in parentheses on the first line. Enter the time and then press [# Command].

3. After programming this feature, press [* Clear] to return to the Prog Timers submenu.

2: DISPLAY RATE

To access **DISPLAY RATE**, select

[0]: PROGRAM→ [2]: PROG TIMERS→[2]: DISPLAY RATE. This option allows you to set the speed (in units of 0.25 sec) at which the menu lines are updated on the LCD.

To set the speed for updating the LCD menu lines:

1. At the Prog Timers submenu, press [2] to select **2: DISPLAY RATE**. The window shows:

```
DSPLY RATE (___)
.25 X (1-16): _____
```

2. The current setting appears in parentheses on the first line. Enter the desired value and press [# Command].
3. After programming this feature, press [* Clear] to return to the Prog Timers submenu.

5.4.3 PROG INPUTS

The **PROG INPUTS** option allows you to program the five available inputs.

To program the programming inputs:

1. At the Prog Inputs submenu, enter the point number you want to program and press [# Command]. The window shows:

```
POINT NUMBER
(1-5): _____
```

When you enter the point number, the display scrolls through the **PROG INPUT** options:

```
PROG POINT (___)
1: CONFIGURE
2: SUPERVISED
```

2. Press the number key that corresponds to your selection. Press [Drill] to move to the next point. For example, if you are programming Point 2 and you press [Drill], you go to the Point 3 setting. Press [Disable] to return to the previous point. For example, if you are programming Point 2 and you press [Disable], you go to the Point 1 setting.

1: CONFIGURE


To access **CONFIGURE**, select


[0]: PROGRAM→ [3]: PROG INPUTS→[1]: CONFIGURE. This feature allows each input to be set for one of seven options:


- **Fire:** When activated, the D9068 sends a Fire Alarm Report. A restoral is sent when the input is deactivated.
- **Water-flow:** When activated, the D9068 sends a Water-flow Alarm Report. A restoral is sent when the input is deactivated.
- **Supervisory:** When activated, the D9068 sends a Supervisory Alarm Report. A restoral is sent when the input is deactivated.
- **Monitor:** When activated, the D9068 sends a Monitor Report. A restoral is sent when the input is deactivated.
- **System Fault:** When activated, the D9068 sends a Trouble Input Report. If a point is configured for System Fault, a window appears to determine where the point faults. Refer to *Step 2* in this procedure for setting and input option. A restoral is sent when the input is deactivated.
- **AC Failure:** When activated, this point shows AC FAILURE on the keypads. To decrease the number of reports sent to the central station such as during a blackout, program the D9068 with an AC Fail Delay between 0 and 24 h.


You can also program the D9068 to Wait for DC. When programmed to wait for DC, the D9068 must detect an AC failure on one input and a low battery condition on a second input. If there are an AC fail input and a battery input, the D9068 monitors both inputs. If an AC failure occurs and the delay time is initialized, the D9068 looks for a low battery condition and ignores the delay to report the condition if necessary. A restoral is sent when the input is deactivated.


- **Low Battery:** When activated, the D9068 sends a Low Battery Report. A restoral is sent when the input is deactivated.

 The AC Fail Delay time set for the FACP is independent of the AC Fail Delay time set for the D9068. If you program the FACP for an AC Fail Delay time and then program the D9068 for an AC Fail Delay time, the AC Fail Delay times are combined. For example, if the FACP AC Fail Delay time is set for 6 h and the D9068 AC Fail Delay time is set for 12 h, the AC Fail Report is sent from the D9068 18 hours after the AC failure.

 All inputs are non-latching. A restoral is sent when the input is deactivated.

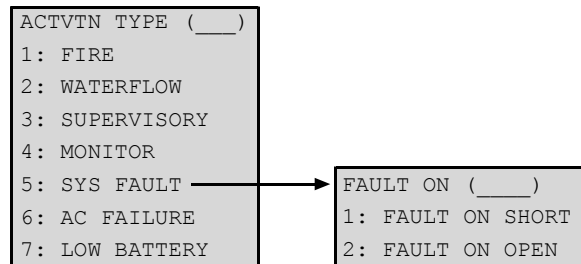
 For fail-safe operation, program the system fault input to Fault on Open.

 To view specific active events, connect the D7033/FMR-DACT-KEYPAD Keypad Programmer and press [1] for Status.

 Refer to *Appendix C: Fire Communicator Report Summary* on page 56 for the specific messages sent for each event.

To set an input option:

1. At the Prog Inputs submenu, enter the point number you want to program and press [1] for CONFIGURE. The window shows [# Command]. The display scrolls through the PROG INPUT options.
2. Press [1] to select FIRE.





Selecting **1: CONFIGURE** determines whether a system fault condition is activated on a short condition or an open condition. Refer to *Section 4.2 Input Point Operation* on page 25 for details. Press [# Command] to confirm the selection. Press [* Clear] to return to the Prog Inputs submenu.

3. Press the number key that corresponds to your selection. The current setting appears in parentheses on the first line.
4. Press [# Command] to enter the selection into the D9068.
5. Press [* Clear] to return to the Prog Inputs submenu.

2: SUPERVISED

To access **SUPERVISED**, select **[0]: PROGRAM→[3]: PROG INPUTS→[2]: SUPERVISED**. This option enables supervision for the connection between the five inputs and the FACP.



A 2.2 kΩ EOL resistor is required. For connection, refer to *Figure 8* or *Figure 10* on pages 14 and 15.

To allow supervision of the input and FACP connection:

1. At the Prog Inputs submenu, press [2] to select **2: SUPERVISED**. The window shows:

```
SUPERVISED? ( )
NO: YES (1)/NO (0)
```

The parentheses on the first line indicate the point you are programming. The current setting for the **SUPERVISED** option appears at the beginning of the second line.

2. Press the number key that corresponds to your selection. To verify your selection, press [# Command].
3. Press [* Clear] to return to the Prog Inputs submenu.



An input configured for System Fault is always supervised and cannot be changed.

5.4.4 PROG RELAY

```
RELAY ( )
1: RELEAS ON TRBL
2: ACTIV GND STRT
```

The D9068 contains a general system trouble relay designed for fail-safe operation.

To access **PROG RELAY**:

2. At the Programming Menu, press [4] to select **4: PROG RELAY**.
3. Press the number key that corresponds to your selection. Refer to **1: RELEAS ON TRBL** and **2: ACTIV GND STRT** below for trouble relay programming information.



The relay can be programmed only for **RELEAS ON TRBL** or **ACTIV GND STRT**. It cannot perform both functions simultaneously.

1: RELEAS ON TRBL

To access **RELEAS ON TRBL**, select:

[0]: PROGRAM→[4]: PROG RELAY→[1]: RELEAS ON TRBL. This option holds the on-board trouble relay normally energized and releases it to indicate a trouble condition.

To set the system to hold and release a trouble relay:

1. At the Prog Relay submenu, press [1] to select **RELEAS ON TRBL**. The current setting appears in parentheses.
2. Press [# Command] to verify your selection.

3. Press [* Clear] to return to the Programming Menu.

2: ACTIV GND STRT

Refer to *Table 1* on page 4 for information about settings permitted in UL864 installations.

To access **ACTIV GND STRT**, select:

[0]: PROGRAM →[4]: PROG RELAY→[2]: ACTIV GND STRT. This option allows the D9068 to use the on-board trouble relay for ground-start operation.

To set the system to use the on-board trouble relay for ground-start operation:

1. At the Prog Relay submenu, press [2] to select **2: ACTIV GND STRT**. The current setting appears in parentheses.
2. Press [# Command] to verify your selection.
3. Press [* Clear] to return to the Programming Menu.

5.4.5 PROG ACC'NTS

```

PROG ACC'NTS
1: ACCOUNT NUMS
2: PHONE NUMS
3: PHONE CONTROL
4: RPT STEERING
5: LINE CONTROL
6: ACK WAIT TIME
    
```

The **PROG ACC'NTS** feature allows you to program parameters for event reporting.

To program parameters for event reporting:

1. At the Programming Menu, press [5] to select **5: PROG ACC'NTS**.
2. Press the number key that corresponds to your selection. Refer to the following sections for account programming information.

1: ACCOUNT NUMS

To access **ACCOUNT NUMS**, select:

[0]: PROGRAM→[5]: PROG ACC'NTS→[1]: ACCOUNT NUMS. The account numbers identify the D9068 when it reports to the central station.

To use account numbers to identify the D9068 when reporting the central station:

1. At the PROG ACC'NTS submenu, press [1] to select **1: ACCOUNT NUMS**. The window shows:

```

ACCOUNT NUMS
1: NUMBER 1
2: NUMBER 2
    
```

2. Press the number that corresponds with the account number you want to set. The window shows:

```

ACCOUNT #1: 0000
NEW NUMBER: 0000
    
```

3. The existing number appears on the top line. Access hexadecimal digits A through F by pressing [Test].
4. Press [1] for A, [2] for B, [3] for C, [4] for D, [5] for E, and [6] for F.
5. Enter the new number on the second line and press [# Command] to verify your entry.
6. Press [* Clear] to return to the Prog Acc'nts submenu.
7. Program Account Number 2 using the same procedure.

0000 is not a valid account number. At least one of the digits must be a character other than zero.

2: PHONE NUMS

Refer to *Table 1* on page 4 for information about settings permitted in UL864 installations.

To access **PHONE NUMS**, select **[0]: PROGRAM**

→[5]: PROG ACC'NTS→[2]: PHONE NUMS.

You can program the system with two reporting phone numbers. Use Phone Number 1 with Account Number 1 and Phone Number 2 with Account Number 2. Remote programming occurs on Phone Line 1 using Phone Number 3.

- PHONE #1 is Phone Number 1.
- PHONE #2 is Phone Number 2.
- PHONE #3 is Phone Number 3. This telephone number is not available at this time. It is reserved for future use.

To comply with UL and NFPA standards, use two telephone numbers.

To program the system with phone numbers:

1. At the Prog Acc'nts submenu, press [2] to select **PHONE NUMS**. The window shows:

```
PHONE NUMS
1- PHONE #1
2- PHONE #2
3- PHONE #3
```

2. Press the number key that corresponds with the phone number you want to configure. In this example, [1] was pressed to select **1: PHONE #1**. The window shows:

```
PHN NMBR 1: ???
???????????????
```

3. Enter the telephone number and press [Drill] or [Disable] to move between the digits. Refer to *Figure 18* on page 28 and *Table 10* on page 29.

4. Press [# Command] when the entry is complete. Then, press [* Clear] to return to the Prog Acc'nts submenu.

Before exiting from the Phone Numbers Programming submenu, refer to the following information on special control codes for telephone numbers.

You can include several special control codes in the phone number by pressing [Test]. These phone control codes are:

```
PHONE CONTROL CODE
1: * CODE
2: # CODE
3: /3 SEC DELAY
```

- * CODE: Press [Test] and then [1] for Touch Tone "*" (star) action.
- # CODE: Press [Test] and then [2] for Touch Tone "#" (pound) action.
- /3 SEC DELAY: Press [Test] and then [3] for a 3-sec delay.

3: PHONE CONTROL

To access **PHONE CONTROL**, select **[0]: PROGRAM→[5]: PROG ACC'NTS→[3]: PHONE CONTROL**. The following information describes the features associated with each telephone number.

To set telephone control:

1. At the Prog Acc'nts submenu, press [3] to select **3: PHONE CONTROL**. The window shows:

```
PHONE CONTROL
1: PHONE 1 FORMAT
2: PHONE 2 FORMAT
3: PHONE 1 TONE
4: PHONE 2 TONE
5: PHONE 1 TEXT
6: PHONE 2 TEXT
```

3: PHONE 1 TONE and **4: PHONE 2 TONE** options are in 4/2 format only. Refer to *Step 4* in this procedure for tone settings.

2. Press the number key (1 or 2 for Phone Format) that corresponds to the phone you want to configure. In this example, **PHONE #1** is selected. The window shows:

```
PHONE FORMAT ( )
1: 4/2 REPORT
2: SIA 110, RPRT
3: CONTACT ID
4: SIA 300, RPRT
5: MODEM III
```

3. Press the number key that corresponds to your selection. The current setting appears in parentheses on the first line. Press [# Command] to verify your selection. Then press [* Clear] to return to the Phone Control submenu.

4. Use the Phone 1 Format instructions when setting the Phone 2 Format.

5. Configure the tone setting by pressing [3] at the Phone Control submenu. In this example, **PHONE #1** is selected. The window shows:

```
TONE ( )
1: 19D, 14A, 10PS
2: 18D, 23A, 10PS
3: 19D, 14A, 20PS
4: 18D, 23A, 20PS
5: 19D, 14A, 40PS
6: 18D, 23A, 40PS
```

The "D" in "XXD" is the data frequency. "A" in "XXA" is the acknowledge tone. "PS" in "XXPS" is the pulse per second.

6. Press the number key that corresponds to your selection. The current setting appears in parentheses on the first line.

7. Press [# Command] to verify your selection. Press [* Clear] to return to the Phone Control submenu.

8. Use the Phone 1 Tone instructions when setting Phone 2 Tone.


9. Press [5] to enable or disable sending text with reports.

```
PHONE 1 SEND TEXT
NO: (1) YES (0) NO
```

10. Press the number key that corresponds to your selection. The current

setting appears in parentheses on the first line.

11. Press [# Command] to verify your selection. Press [* Clear] to return to the Phone Control submenu.




Event text is sent only for the Modem IIIa² format, and only when the serial link to an analog FACP is used.

4: RPT STEERING

To access **RPT STEERING**, select **[0]: PROGRAM→ [5]: PROG ACC'NTS→[4]: RPT STEERING**.

You can direct the various classes of reports to specific phone numbers. The report classes are:

- **Non-supervisory Alarms:** Include fire alarms, water-flow alarms, and monitor alarms.
- **Supervisory Alarms:** Come from points that are configured as supervisory types.
- **Non-supervisory Restorals:** Include fire, water-flow, and monitor restorals.
- **Supervisory Restorals:** Come from points that are configured as supervisory types.
- **Trouble Reports:** Include all point and system troubles and restorals. The tests include Auto Tests, Manual Tests, and Off-normal at Test Reports.



Refer to *Appendix E: Report Routing* on page 63 for the appropriate routing of each report.

To direct reports to particular telephone numbers:

1. From the PROG ACC'NTS submenu, press [4] to select **4: RPT STEERING**. The window shows:


REPORT STEERING
 1: NONSUP ALRM
 2: SUPVSY ALRM
 3: ALM RSTR, RST
 4: SUPVSY RSTR
 5: TESTS
 6: TBL, TBL RSTR

2. Press the number key that corresponds to your selection. The window that appears depends on your choice. In this example, the non-supervisory alarm is selected. The window shows:

NONSUP ALRM ()
 1- PHONE 1 ONLY
 2- PHONE 2 ONLY
 3- PHON 1 AND 2
 4- PHN 2 BACKUP

The options on this window are:

- **PHONE 1 ONLY:** Sends the report only to Phone #1.
 - **PHONE 2 ONLY:** Sends the report only to Phone #2.
 - **PHONE 1 AND 2:** Sends the report to Phone #1 and Phone #2.
 - **PHONE 2 BACKUP:** Sends the report to Phone #1 and then to Phone #2 if Phone #1 fails. The D9068 attempts to send the report to Phone Number 1 first, and if that attempt fails, the D9068 sends the report to Phone Number 2.
3. Press the number key that corresponds with your selection followed by [# Command]. Then press [* Clear] to return to the Report Steering submenu.



Report Steering menu choices 2 to 6 have the same menu options as Report Steering 1: **NONSUP ALRM**. Use the instructions for NONSUP ALRM to set Report Steering Menu choices 2 through 6.

5: LINE CONTROL

Refer to *Table 1* on page 4 for information about settings permitted in UL864 installations.

To access **LINE CONTROL**, select **[0]: PROGRAM→ [5]: PROG ACC'NTS→[5]: LINE CONTROL**. This option allows you to set the dialing type and line supervision for each telephone line.

To set the dialing type and line supervision for phone lines:

1. From the Prog Acc'nts submenu, press [5] to select **5: LINE CONTROL**. The window shows:

LINE CONTROL
 1: LINE #1
 2: LINE #2

2. Press the number key that corresponds with the line you want to configure. The example here is **LINE #1**. The window shows:

LINE 1 CONTROL
 1: DIALING TYPE
 2: MONITOR LINE
 3: WAIT DIALTONE

The Dialing Type determines which format the D9068 uses for dialing on each telephone line. Tone/Pulse attempts tone dialing first, and then pulse dialing if tone dialing fails.

Monitor Line supervises telephone line integrity.



Use both telephone lines (enabled and supervised) for UL installations.

If Wait DIALTONE is set to **Yes**, the D9068 starts dialing when it receives a dial tone. When WAIT DIALTONE is set to **No**, the D9068 waits 7 sec before dialing.

- Press [1] to select **1: DIALING TYPE**. The window shows:

```
DIAL #1 (____)
1: PULSE ONLY
2: TONE/PULSE
3: TONE ONLY
```

- Press the number key that corresponds with your selection followed by [# Command]. Then press [* Clear] to return to the Line Control submenu.
- At the Line Control submenu, press [2] for **2: MONITOR LINE**. The window shows:

```
MONITOR LINE #1
YES: YES (1)/NO (0)
```

- The current selection precedes the colon (:) on the second line. Press the number key that corresponds with your selection.
- Press [# Command]. Then press [* Clear] to return to the Line Control submenu.
- At the Line Control submenu, press [3] to select **3: WAIT DIALTONE**. The window shows:

```
WAIT DIALTONE #1
YES: YES (1)/NO (0)
```

- The current selection precedes the colon (:) on the second line. Press the number key that corresponds with your selection followed by [# Command]. Then press [* Clear] to return to the Line Control submenu.
- Use this same procedure to configure Line 2.

6: ACK WAIT TIME

To access ACK WAIT TIME, select

[0]: PROGRAM→[5]: PROG ACC'NTS→

[6]: ACK WAIT TIME. After the D9068 dials the telephone number, it waits for the receiver to answer the telephone and send the proper handshake tones. If the handshake is not detected, the D9068 hangs up. This parameter sets the length of time the D9068 waits before hanging up.

To set the amount of time the D9068 waits before hanging up:

- At the PROG ACC'NTS submenu, press [6] to select **6: ACK WAIT TIME**. The window shows:

```
ACK WAIT TIME (____)
(20-99 SECS): _____
```

- Enter a value between 20 and 99 for the ACK WAIT TIME and then press [# Command]. The default value is 45 sec.
- Press the [* Clear] key to return to the Prog Acc'nts submenu.

5.4.6 PROG FORMATS

The PROG FORMATS feature allows you to program the reporting formats and codes used by the D9068 in reporting 4/2 formats.

To program reporting formats and codes:

- At the Programming Menu, press [6] to enter the PROG FORMATS submenu. The window shows:

```
PROG FORMATS
1: 4/2 POINT RPT
2: 4/2 RPT CODES
3: SIA SILENC RPT
```

The following sections include format programming information.

1: 4/2 POINT RPT

To access **4/2 POINT RPT**, select **[0]:**

PROGRAM→[6]: PROG FORMATS→[1]: 4/2

POINT RPT. The 4/2 Reports consist of an event type (first digit) and a point number (second digit). These reports apply to points, and only when 4/2 format is selected. Refer to *Figure 27* for more information.

Figure 27: 4/2 Point Report Example



- 1 - Digit 1 (D1) is the event type identifier. The event type in this example is 1: FIRE ALRM.
- 2 - Digit 2 (D2) is the point identifier. The point identifier identifies the point assigned to the D1 event type. The event type in this example is assigned to Point 2. The point range is 1 to 5.

To set the event and point format of a report:

1. At the Prog Formats submenu, press [1] to select **1: 4/2 POINT RPT**. The window shows:

```
4/2 POINT RPT
1: EVENTS
2: ZONES 1 TO 9
3: ZONE 10 D2
```

2. Press [1] to select **1: EVENTS**. The window shows:

```
4/2 POINT RPT
1: FIRE ALRM D1
2: FIRE RSTR D1
3: WATERFLOW D1
4: SUPERVISE D1
5: TROUBLE D1
6: TRBL RSTR D1
7: DISABLE D1
8: DSBL RSTR D1
9: MONITOR D1
```

3. D1 refers to Digit number 1. Press the number key that corresponds with your selection of event type. In this example, **1: FIRE ALRM D1** is selected. The window shows:

```
FIRE ALRM D1 (____)
0-9, <TEST>:
```

4. The current setting appears in parentheses on the first line. Press [# Command] to verify your selection.
5. If you prefer to assign a hexadecimal value, press [Test]. The window shows:

```
SELECT HEX CODE
1: HEX A
2: HEX B
3: HEX C
4: HEX D
5: HEX E
6: HEX F
```



In 4/2 formats, HEX A reports as 0 (zero).

6. Press the number key that corresponds with your selection.
7. Press [# Command] to verify the selection, then press [* Clear] to return to the 4/2 Point Rpt submenu.

8. At the 4/2 Point Rpt submenu, press [2] to select ZONES 1 TO 9 and assign the event type to a point. The window shows:

```
4/2 POINT RPT
1: ZONE 1 D2
2: ZONE 2 D2
3: ZONE 3 D2
4: ZONE 4 D2
5: ZONE 5 D2
6: ZONE 6 D2
7: ZONE 7 D2
8: ZONE 8 D2
9: ZONE 9 D2
```

9. D2 refers to phone number 2. Press the number key for the zone that corresponds with your selection of event type. In this example, Zone 2 is selected. Refer to *Figure 17* on page 27 for details. The window shows:

```
ZONE 2 D2 (__)
0-9, <TEST>:
```

10. The current setting appears in parentheses on the first line. Press [# Command] to verify your selection.
11. If you prefer to assign a hexadecimal value, press [Test]. The window shows:

```
SELECT HEX CODE
1: HEX A
2: HEX B
3: HEX C
4: HEX D
5: HEX E
6: HEX F
```

12. Press the number key that corresponds with your selection.
13. Press [# Command] to verify the selection. Then press [* Clear] to return to the 4/2 Point RPT submenu.



If you want to assign an event type to Point (Zone) 10, choose **[3]-ZONE 10 D2** on the 4/2 Point Rpt submenu and follow the preceding instructions for Zones 1 to 9.

2: RPT CODES

To access RPT CODES, select [0]:

PROGRAM→

[6]: PROG FORMATS→[2]: 4/2 RPT CODES.

The 4/2 Report Codes apply to the system conditions only when the 4/2 format is selected. You can program two digits to be sent for each condition. Refer to *Appendix B: 4/2 Reporting Codes* on page 54 for a description of each 4/2 Report Code that is supported by the D9068.

To set report codes for system conditions:

- At the Prog Formats submenu, press [2] to select **2: 4/2 RPT CODES**. The window shows:

```
4/2 RPT CODES
1: GROUP 1
2: GROUP 2
3: GROUP 3
4: GROUP 4
5: GROUP 5
```

- The 4/2 reporting codes are divided into five groups. Press the number key that corresponds with your selection. In this example, **1: GROUP 1** is selected. The window shows:


```
4/2 RPT CODES
1: SYSTM IN TST
2: SYS TEST RST
3: SILENCE
4: FIRE DRILL
5: FIRE DRL RST
6: OPEN RST RPT
7: LOW BATTERY
8: LOW BATT RST
9: AC FAILURE
```

- Press the number key that corresponds to your selection. In this example, **1: SYSTM IN TST** is selected. The window shows:

```
SYSTM IN TST (__)
0-9, <TEST>:
```

- The current setting appears in parentheses on the first line. Using the keypad, enter a value from 1 to 9, or press [Test] for a list of hexadecimal entries. Pressing [Test] shows the window:

```
SELECT HEX CODE
1: HEX A
2: HEX B
3: HEX C
4: HEX D
5: HEX E
6: HEX F
```

 Use the programming procedure for 4/2 reporting codes in Groups 2 to 5. Refer to *Appendix A: Troubleshooting* on page 51 for definitions of each 4/2 reporting code.

3: SIA SILENC RPT

To access **SIA SILENC RPT**, select [0]: **PROGRAM**→ [6]: **PROG FORMATS**→[3]: **SIA SILENC RPT**. When using SIA reporting, all reporting codes except one are fixed and do not require programming. The Silence Report is not a standard SIA code and can be programmed.

Use hexadecimal numbers to enter the required ASCII value. Enter one number for the left character or byte and another number for the right character or byte.

Use the factory default KB = 0B x 4B, 0B x 42B.

Refer to a standard table of ASCII values. All data that is entered consists of hexadecimal values. The SIA event codes use characters ranging from A to Z.

To program SIA event codes for the Silence Report:

- At the Prog Formats submenu, press [3] to select **3: SIA SILENC RPT**. The window shows:

```
SIA SILENC RPT
1: LEFT BYTE
2: RIGHT BYTE
```

- Press the number key that corresponds with your selection. In this example, **1: LEFT BYTE** is selected. The window shows:


```
LEFT BYTE ( )
0-9, <TEST>:
```

- The current setting appears in the parentheses on the first line. Enter

a hexadecimal value and press [# Command].

- To view the hexadecimal codes, press [Test]. The window shows:

```
SELECT HEX CODE
1: HEX A
2: HEX B
3: HEX C
4: HEX D
5: HEX E
6: HEX F
```

 Program 2: **RIGHT BYTE** using the same procedure as programming SIA event codes for the Silence Report.

5.4.7 PROG DEFLT5

```
PROG DEFLT5
1: CLEAR HISTORY
2: DEFAULT ALL EE
3: DEFLT 4/2 CDES
```

The **PROG DEFLT5** feature clears the history logger, resets the D9068 to its default EEPROM settings, and applies default reporting codes.

1: CLEAR HISTORY

To access **CLEAR HISTORY**, select [0]: **PROGRAM**→ [7]: **PROG DEFLT5**→ [1]: **CLEAR HISTORY**. You can clear some or all of the history records in the system using this option.

To clear the history logger, reset the D9068 to default settings, and apply default reporting codes:

- At the Prog Defaults submenu, press [1] to select **1: CLEAR HISTORY**. The window shows:

```
HIST ITEMS= _____
DEL OLDEST ###
```

- The number on the first line shows the total number of records stored in the history logger. Enter the number of history records you want to delete and press [# Command]. Those events are erased and the D9068 returns to the Prog Defaults Menu.

2: DEFAULT ALL EE

To access **DEFAULT ALL EE**, select [0]: **PROGRAM**→ [7]: **PROG DEFLT5**→ [2]: **DEFAULT ALL EE**.

This option allows you to set the D9068 to the original factory programming configuration.



All programming, including the point configurations and option selections, is lost when this operation is performed.



The Date/Time settings are not affected when the D9068 uses the default settings.

To set the D9068 to the original factory programming configuration:

1. At the Prog Defaults submenu, press [2] to select **2: DEFAULT ALL EE**. The window shows:

```
DEFAULT EE?
NO: YES (1)/NO (0)
```

2. The entry preceding the colon (:) on the second line indicates the current setting. To restore the D9068 to its factory settings, press [1] and [# Command].
3. Press [* Clear]. The window shows:

```
SETTING EEPROM
TO DEFAULT...
```

3: DEFLT 4/2 CDES

To access **DEFLT 4/2 CDES**, select **[0]: PROGRAM→[7]: PROG DEFLTS→[3]: DEFLT 4/2 CDES**. This option sets all of the programming for 4/2 codes to the default.

To set all 4/2 code programming to the default:

1. At the Prog Defaults submenu, press [3] to select **3: DEFLT 4/2 CDES**. The window shows:

```
DEFLT 4/2 CDES?
NO: YES (1)/NO (0)
```

2. The entry preceding the colon (:) on the second line indicates the current setting. To default 4/2 reports, press [1] followed by [# Command]. Pressing [* Clear] shows:

```
SETTING EEPROM
TO DEFAULT...
```

5.4.8 SERIAL CONECTN

To access **SERIAL CONECTN**, select **[0]: PROGRAM→[8]: SERIAL CONECTN**. This menu selection allows the D9068 to be configured to use the serial connection to a Bosch D10024/D10024A or D8024.

Analog FACP: Setting this option to **Yes** enables the D9068 to communicate with a D10024/D10024A or D8024 using an RS-232 serial link. If the serial connection is set to **YES** and interrupted, such as connecting a keypad, an Event Serial Fail is generated. A Serial Restore is generated when communication restores.

For more information, refer to *Appendix F: D8024/D10024/D10024A Analog FACP Operation* on page 64 and the *D9068 Quick Start* (P/N: 48575).

To configure the D9068 to use the serial connection to a D8024 or D10024/D10024A Analog FACP:

1. At the Programming Menu, press [8] to select **8: SERIAL CONECTN**. The window shows:

```
SERIAL CONECTN
NO: YES (1)/NO (0)
```

2. The number preceding the colon (:) on the second line indicates the current setting. Press [1] followed by [# Command] to enable the serial connection.
3. Press [0] followed by [# Command] to disable the serial connection.
4. Press [* Clear] to return to the Programming Menu.

5.5 Operating Modes

The D9068 operating modes are Program, Status, History, Test, and Reset. Each mode appears as an option on the D9068's Main Menu.

```
SYSTEM NORMAL
0- PROGRAM
1- STATUS
2- HISTORY
3- TEST
4- RESET
```

5.5.1 0- PROGRAM

When the D7033/FMR-DACT-KEYPAD Keypad Programmer is connected to the D9068, the Main Menu appears a short time after the keypad starts up. Refer to *Section 5.0 Programming* on page 32 for programming instructions.

5.5.2 1- STATUS

When you select **1- STATUS**, the top line shows the highest priority off-normal condition. The second line shows each off-normal condition sequentially.

Press [* Clear] to finish the Status Mode and return to the Main Menu.

5.5.3 2- HISTORY

When you select **2- HISTORY**, the most recent event in the history log appears. Refer to *Section 4.4.4 History* on page 30 for a detailed description of History Mode operation.

5.5.4 3- TEST



Do not select **2: TEST TONES**. This selection is for factory testing only.

When you select **3- TEST**, the window shows the test items:

```
TEST MODES
1: TEST COMM
2: TEST TONES
```

1: TEST COMM

To access **TEST COMM**, select **[3]: TEST→ [1]: TEST COMM**. Selecting this option allows you to initiate a Manual Communications Test.

To initiate a Manual Communications Test:

1. At the Main Menu, press [3] to select **3: TEST**. The Test Modes window appears.
2. Press [1] to select **1: TEST COMM**. The window shows:

```
SEL PHONE LINE
1: LINE 1
2: LINE 2
3: ALTERNATE
```



The **ALTERNATE** option uses the telephone line not used in the previous Comm Test.

3. Select the appropriate line to be tested, LINE 1 or LINE 2. You can also press [* Clear] to end testing. When a line is selected, a Manual Communications Test is initiated and the window shows:

```
COMMUNICATOR
LINE 1, TRY 1
```

The bottom line indicates the telephone line on which the Manual Communications Test was initiated and the current attempt (try). The D9068 makes up to two attempts before declaring a failure. When the D9068 declares a failure, the window shows:

```
COMMUNICATOR
FAILED
```

This message appears briefly and then the LCD returns to the Test Modes Menu.

If the Manual Communications Test passes, the window shows:

```
COMMUNICATOR
PASSED
```

This message appears briefly, and then the LCD returns to the Test Modes Menu.

Appendix A: Troubleshooting

Do not use this section as an acceptance testing procedure. This information is provided as a general guide to help you determine, recognize, and resolve a system problem during installation, maintenance, and normal standby.

A.1 On-Board LEDs

The D9068 has four on-board LEDs to indicate various system conditions. Refer to *Figure 1* on page 10.

Line 1 LED: This LED blinks when a report is sent on Line 1. When a line fault condition occurs on Line 1, this LED lights steadily in conjunction with the Sys Trouble LED. If the Line 1 LED lights steadily:

1. Use a voltmeter to measure the voltage present across each telephone line (Tip to Ring), while the telephone line is idle.



The voltage present while there is an incoming call can be more than 100 VAC.

Ensure that the standby telco battery voltage is between 30 VDC and 50 VDC. The D9068 accepts any voltage over 6 VDC.

The voltage polarity is not important.

2. Check for other devices that use the telephone line, such as fax machines, credit card verifiers, or PBX systems. NFPA 72 requires a dedicated telephone line for fire reporting. If the devices sharing the telephone line cannot be removed, ensure that they are wired so that the D9068's line seizure relay disconnects them when necessary. Measure the line voltage while these devices are in use, to verify that it remains above 6 V.

3. Check for intermittent faults on the phone line.

Make a test call to verify that the line is free of distortion and noise. Temporarily swap Lines 1 and 2 on the D9068 to check if the problem indication moves to the D9068's other telephone line channel. If the problem indication moves, the telephone line is causing the problem rather than the line monitor.

Ensure that the fault message is PHONE FAULT and not COMM FAULT. Set report steering for all events to Phone 1 Only if only one telephone number is available for reporting.

COMM FAULT can also occur if one of the telephone lines has telco battery voltage, but does not complete a call. Make test calls to the receiver(s) on both telephone lines, listening for the receiver ACK tone.

4. Verify that two phone lines are available.

NFPA 72 requires that the Auto Test Report is sent on a different telephone line each time it is sent. If only one telephone line is connected to the D9068, a COMM FAULT is generated on every other test call.

Line 2 LED: This LED blinks when a report is sent on Line 2. When a line fault condition occurs on Line 2, this LED lights steadily along with the System Trouble LED. When the Line 2 LED lights steadily, refer to the preceding steps for Line 1 LED.

Heartbeat LED: This LED illuminates and flashes if the D9068 is functioning properly. When this LED does not light:


- Check the D9068's main power. Refer to *Table 1* on page 4 for information about settings permitted in UL864 installations.
- Verify that the power connections do not have wire faults.
- Refer to *Section 1.2.1 Power* on page 7 for additional power requirements.

Sys Trouble LED: This LED is off when the D9068 operates properly, and lights steadily for D9068 system trouble. It also operates with the D9068's on-board trouble relay. The number of times the Sys Trouble LED flashes determines the trouble condition indicated. Refer to *Table 12* on page 52.

Table 12: Sys Trouble LED Indications

No. of Flashes	Indicates	Description
2	Internal RAM Test failure	The internal RAM failed. This failure can occur any time. During failure, the D9068 continuously cycles through its start-up routine. Each time the start-up routine takes place, the SYS TROUBLE LED flashes two times. Contact Bosch Security Systems, Inc. Technical Support immediately at (800) 289-0096.
3	External RAM Test failure	The external RAM failed. This failure can occur any time. During failure, the D9068 continuously cycles through its start-up routine. Each time the start-up routine takes place, the SYS TROUBLE LED flashes three times. Contact Bosch Security Systems, Inc. Technical Support immediately at (800) 289-0096.
4	ROM Checksum Failure	The ROM checksum failed. This failure can occur at any time. During failure, the D9068 continuously cycles through its start-up routine. Each time the start-up routine occurs, the SYS TROUBLE LED flashes four times. Contact Bosch Security Systems, Inc. Technical Support immediately at (800) 289-0096.
5	EEPROM Checksum Failure	An EEPROM Test is performed every 10 minutes. If the checksum fails, the D9068 automatically defaults. The SYS TROUBLE LED illuminates and TROUBLE PROGRAMMING appears on the keypad.

	You must reprogram all configuration settings. If this failure occurs often, contact Bosch Security Systems, Inc. Technical Support immediately at (800) 289-0096.
--	---

	The D9068 considers the D7033/FMR-DACT-KEYPAD Keypad Programmer connection as an abnormal condition.
---	--

A.2 Input Points

When a problem exists with the D9068's input points, the Sys Trouble LED remains steady on. If the input point(s) are programmed for supervision, plug in the D7033/FMR-DACT-KEYPAD Keypad Programmer and press [1] to select **1: STATUS** from the Main Menu. If the status shows any point troubles, check the input point wiring and verify that all EOL resistors, if attached, are intact. Refer to *Section 4.2 Input Point Operation* on page 25 for additional information.

A.3 Trouble Relay

When powered up, the D9068's on-board trouble relay is energized (normal standby). Refer to *Figure 12* and *Figure 13* on page 16. When the on-board trouble relay remains in the off-normal (de-energized) position, check the trouble relay's programming configuration.

Releas on Trbl: This setting, Release on Trouble, keeps the trouble relay activated and releases it to indicate a trouble condition.

Activ Gnd Strt: This setting, Activate on Ground Start, keeps the trouble relay deactivated and activates it when the D9068 needs to place a call.

If the FACP supervises the connection to the D9068's on-board trouble relay and a wiring fault occurs or the EOL resistor is missing, the FACP shows a system trouble condition on the appropriate D9068 input point (if it is used and programmed). The D9068 sends a System Trouble Report. The Sys Trouble LED and on-board trouble relay on the D9068 do not activate.

A.4 Manual Test Report Failure

If the D9068 fails to send the Manual Test Report in two attempts, or the [* Clear] key is pressed, the report transmission is aborted. A COMM FAULT message is not sent. The D7033/FMR-DACT-KEYPAD emits a three-beep tone and the message COMMUNICATOR FAILED appears.

After 2 sec the keypad display updates to show CLEARING ALL REPORTS!! Any report in the report queue, including the Manual Test Report, is deleted. The rotating Test Menu appears after 2 sec.

A.5 Reports in Queue

If any reports are in the queue, the D7033/FMR-DACT-KEYPAD Keypad Programmer shows the message REPORTS IN QUEUE PLEASE WAIT. The D9068 waits for these reports to be sent. If you press [* Clear] on the keypad, the wait ends, the keypad emits a three-beep tone, and the keypad's LCD shows the message, ERROR DURING COMM TEST. The rotating Test Menu returns to the keypad's LCD after showing the message for 2 sec.

When the report queue is empty, the D9068 prompts you to select the telephone line to be used (either Line 1 or Line 2). The D9068 can also prompt you to alternate the telephone lines. For details, refer to 1: *TEST COMM* in Section 5.5.4 3- *TEST* on page 50.

When the third option (**ALTERNATE**) is selected, the telephone line is switched from the line used in the last Manual Test Report to the other line. This switch occurs whether you select the line number or **ALTERNATE**. Pressing [* Clear] instead of a selection key switches between Line 1 and Line 2. Sending an Auto Test does not affect the telephone line sequence of the Manual Test Report. When the line selection is complete, the Manual Test Report is added to the report queue.

If the report queue is full of reports to send, a Data Lost Report is sent unless one is already in the queue and the Manual Test Report is not sent. The Data Lost Report goes in the History Log when it is added to the report queue.

A.6 Error During Comm Test

When a Manual Test is requested, the D9068 verifies there is at least one good telephone line. If not, the keypad emits a three-beep tone and ERROR DURING COMM TEST appears for 2 sec. The rotating Test Menu returns to the keypad LCD.

Appendix B: 4/2 Reporting Codes

Table 13 lists the 4/2 codes supported by the D9068 Fire Communicator. Refer to Section 5.4.6 *PROG FORMATS, 2: RPT CODES*, on page 45 for programming information.

4/2 Report Code	Keypad Number Key	Group Number	Definition
SYSTEM IN TST ¹	[1]	1	System in Test. Sent for Walk Test operations.
SYS IN RPT ¹	[2]	1	System in Test Restore. Sent for Walk Test operations.
SILENCE ¹	[3]	1	Silence. Sent when the [SILENCE] key is pressed.
FIRE DRILL ¹	[4]	1	Fire Drill. Sent for fire drill operations.
FIRE DRL RST ¹	[5]	1	Fire Drill Restore. Sent for fire drill operations.
OPEN RST RPT	[6]	1	Open Reset Report. Sent when the [RESET] key is pressed.
LOW BATTERY	[7]	1	Low Battery: Sent when a low battery input is active.
LOW BATT RST	[8]	1	Low Battery Restore. Restoral occurs when a low battery input is active.
AC FAILURE	[9]	1	AC Failure. Sent when an AC Fail input is active.
AC FAIL RST	[1]	2	AC Failure Restore. Restoral occurs for AC Failure.
AUTO TST RPT	[2]	2	Automatic Test Report. Sent for automatic communicator tests.
OFF NORM TST	[3]	2	Off Normal at Test. Sent if the control panel is off-normal at the Automatic Test time.
PHONE 1 TRBL	[4]	2	Phone Line 1 Trouble. Sent for Phone Line 1 problems.
PN 1 TRB RST	[5]	2	Phone Line 1 Trouble Restore. Sent for Phone Line 1 problems.
PHONE 2 TRBL	[6]	2	Phone Line 2 Trouble. Sent for Phone Line 2 problems.
PN 2 TRB RST	[7]	2	Phone Line 2 Trouble Restore. Sent for Phone Line 2 problems.
SYSTEM TROUB ¹	[8]	2	System Trouble. Sent for general system problems.
SYS TRB RST ¹	[9]	2	System Trouble Restore. Sent for general system problems.
MAN TST RPT	[1]	3	Manual Test Report. Sent for manual communicator tests.
DATA LOST RP	[2]	3	Data Lost Report. Sent if events occur too rapidly.
EEPROM FAIL	[3]	3	EEPROM Failure. Sent for EEPROM problems.
RESET REBOOT ¹	[4]	3	System power up and reboot.
SMK PWR TBL	[5]	3	Smoke Power Trouble. Sent for smoke detector power supply problems.
SMK PWR RSTR	[6]	3	Smoke Power Trouble Restore. Sent for smoke detector power supply problems.
GND FLT TRBL	[7]	3	Ground Fault Trouble. Sent for ground fault trouble problems.
GND FLT RSTR	[8]	3	Ground Fault Trouble Restore. Sent for ground fault trouble problems.

¹ Item is sent only when the D9068 is configured to communicate with a Bosch Security Systems, Inc. D8024 or D10024/D10024A Analog FACP.

Table 13: 4/2 Reporting Codes (Continued)

4/2 Report Code	Keypad Number Key	Group Number	Definition
TRBL INP RPT	[9]	3	Trouble Input Report. Sent when system fault input is active.
TRBL INP RST	[1]	4	Trouble Input Report Restore. Sent when system fault input restores.
ANALOG SERVC	[2]	4	Analog service.
ANALOG RESTR	[3]	4	Analog restore.
EQUIP FAILR ¹	[4]	4	Equipment Failure.: Sent for equipment failure problems.
EQUIP RESTOR ¹	[5]	4	Equipment Restore. Sent for equipment failure problems.
NETWORK FAIL ¹	[6]	4	Network Failure. Sent for network failure problems.
NETWORK RSTR	[7]	4	Network Restore. Sent for network failure problems.
SENS BUS RPT ¹	[8]	4	Sensor Bus Report.
SENS BUS RST	[9]	4	Sensor Bus Restore.
RMT PGM FAIL ²	[1]	5	Remote Programming Failure. Sent when there are problems with remote programming.
RMT PGM SUCC ²	[2]	5	Remote Programming Success. Sent when remote programming is successful.
UNKNOWN FALT	[3]	5	Unknown Fault. Sent for problems of an unknown nature.

1 Item is sent only when the D9068 is configured to communicate with a Bosch Security Systems, Inc. D8024 or D10024/D10024A Analog FACP.

2 Item is for future use.

Appendix C: Fire Communicator Report Summary



- Note 1: Some codes are used for more than one event type.
- Note 2: For SIA and Modem IIIa², no area is reported.
- Note 3: For contact ID, the area is 0.
- Note 4: The point is reported as Points 1 to 5, corresponding to the five inputs.
- Note 5: ppp and pppp are point numbers. The SIA can be one to four digits.
- Note 6: a, aa, and aaaa are numbers. The SIA can be one to four digits.
- Note 7: iii and iiii are used IDs. The SIA can be one to four digits.
- Note 8: nn, nnn, and nnnn are condition parameters. The SIA can be one to four digits.
- Note 9: For the 4/2 code, P is a programmable digit for each input point.

Table 14: Reporting Summaries

Point-Related Events						
Report Description	SIA Code	SIA Description	Contact ID Code	Contact ID Description	4/2 Code Default Values	Modem IIIa ² Description
Point Fire Alarm	FA pppp	Fire Alarm	1 110 aa ppp	Fire Alarm	0P	Fire Alarm□Point = ppp
Point Water-flow Alarm	SA pppp	Sprinkler Alarm	1 113 aa ppp	Waterflow	0P	Fire Alarm□Point = ppp
Point Supervisory Alarm	SS pppp	Sprinkler Supervisory	1 200 aa ppp	Fire Supervisory	0P	Fire Supervision Point = ppp
Point Monitor Alarm	UA pppp	Untyped Zone Alarm	1 140 aa ppp	General Alarm	0P	Alarm Point = ppp
Point Fire Trouble	FT pppp	Fire Trouble	1 373 aa ppp	Fire Trouble	6P	Fire Trouble□Point = ppp
Point Water-flow Trouble	ST pppp	Sprinkler Trouble	1 373 aa ppp	Fire Trouble	6P	Fire Trouble□Point = ppp
Point Supervisory Trouble	ST pppp	Sprinkler Trouble	1 373 aa ppp	Fire Trouble	6P	Fire Trouble□Point = ppp
Point Monitor Trouble	UT pppp	Untyped Zone Trouble	1 373 aa ppp	Fire Trouble	6P	Trouble□ Point = ppp
Point Fire Alarm Restore	FR pppp	Fire Restoral	3 110 aa ppp	Fire Alarm	3P	Fire Restoral□Point = ppp
Point Water-flow Restore	SH pppp	Sprinkler Alarm Restore	3 113 aa ppp	Waterflow	3P	Fire Restoral□Point = ppp
Point Supervisory Restore	SR pppp	Sprinkler Restoral	3 200 aa ppp	Fire Supervisory	3P	Fire Restoral□Point = ppp
Point Monitor Restore	UR pppp	Untyped Zone Restoral	3 140 aa ppp	General Alarm	3P	Restoral From Alarm □Point = ppp
Point Fire Trouble Restore	FJ pppp	Fire Trouble Restore	3 373 aa ppp	Fire Trouble	3P	Fire Trouble Restoral□Point = ppp
Point Water-flow Trouble Restore	SJ pppp	Sprinkler Trouble Restore	3 373 aa ppp	Fire Trouble	3P	Fire Trouble Restoral□Point = ppp
Point Supervisory Trouble Restore	SJ pppp	Sprinkler Trouble Restore	3 373 aa ppp	Fire Trouble	3P	Fire Trouble Restoral□Point = ppp
Point Monitor Trouble Restore	UJ pppp	Untyped Trouble Restore	3 373 aa ppp	Fire Trouble	3P	Restoral□Point = ppp
Open Reset	OR iii	Disarm From Alarm	1 401 aa iii	O/C By User	9F	Sensor Reset□ID = iii
Low Battery	YT	System Battery Trouble	1 302 aa 000	Low System Battery	F9	Battery Low
Low Battery Restore	YR	System Battery Restoral	3 302 aa 000	Low System Battery	E9	Battery Restoral

Refer to Note 1 through Note 9 above.

Table 14: Reporting Summaries (Continued)

Point-Related Events						
Report Description	SIA Code	SIA Description	Contact ID Code	Contact ID Description	4/2 Code Default Values	Modem IIIa ² Description
AC Fail	AT	AC Trouble	1 301 aa 000	AC Loss	F8	AC Fail
AC Fail Restore	AR	AC Restoral	3 301 aa 000	AC Loss	E8	AC Restoral
Auto Test	RP	Automatic Test	1 602 aa 000	Periodic Test Report	EE	Test Report☐Non Expanded
Off Normal at Test	YX	Service Required	6 300 aa 000	System Trouble	FD	Test-Off Normal☐Non Expanded
Phone 1 Trouble	LT 1	Phone Line Trouble	1 351 aa 000	Telco 1 Fault	FB	Phone Line Fail☐Phone Line = 1
Phone 1 Restore	LR 1	Phone Line Restoral	3 351 aa 000	Telco 1 Fault	EB	Phone Line Restoral Phone Line = 1
Phone 2 Trouble	LT 2	Phone Line Trouble	1 352 aa 000	Telco 2 Fault	FC	Phone Line Fail☐Phone Line = 2
Phone 2 Restore	LR 2	Phone Line Restoral	3 352 aa 000	Telco 2 Fault	EC	Phone Line Restoral☐Phone Line = 2
System Trouble	IA	Equipment Failure Condition	1 300 aa 000	System Trouble	FD	Equipment Fail
System Trouble Restore	IR	Equipment Fail Restoral	3 300 aa 000	System Trouble	ED	Equipment Restoral
Fire Drill Start	FI	Fire Test Begin	1 607 00 000	Walk Test Mode	F2	Fire Walk Start ID: 0000
Fire Drill End	FK	Fire Test End	3 607 00 000	Walk Test Mode Restore	E2	Fire Walk End ID: 0000
System Test	TS	Test Start	1 607 aa 000	Walk Test Mode	26	Walk Test Start
System Test Restore	TE	Test End	3 607 aa 000	Walk Test Mode Restore	27	Walk Test End
Silence	KB	Heat/Bypass	1 607 aa 000	Open/Close	1F	Alarm Silence
Manual Test	RX	Manual Test	1 601 aa 000	Manual Trigger Test	FE	Test Report☐Non Expanded
Data Lost	RT	Data Lost	1 354 aa 000	Fail to Communicate	FF	Communications Fail *
EEPROM Failure	IA 4	Equipment Failure Condition	1 307 aa 000	Self Test Failure	FD	Parameter Checksum Fail
Trouble Input	IA 2	Equipment Failure Condition	1 300 aa 002	System Trouble	FD	Equipment Fail☐COND = 002
Trouble Input Restore	IR 2	Equipment Fail Restoral	3 300 aa 002	System Trouble	ED	Equipment Restoral☐COND = 002
System Trouble Keypad	IA 5	Equipment Failure Condition	1 300 aa 005	System Trouble	FD	Equipment Fail☐Cond = 005
System Restore Keypad	IR 5	Equipment Fail - Restoral	3 300 aa 005	System Trouble	ED	Equipment Restoral☐Cond = 005
System Trouble Comm Fault	IA 6	Equipment Failure Condition	1 300 aa 006	System Trouble	FD	Equipment Fail☐Cond = 006
System Restore Comm	IR 6	Equipment Fail	3 300 aa 006	System Trouble	ED	Equipment Restoral☐Cond = 006

Fault		Restoral				
System Trouble Programming	IA 11	Equipment Failure Condition	1 300 aa 011	System Trouble	FD	Equipment Fail□Cond = 011
Refer to Note 1 through Note 9 on page 56						

* In Modem IIIa², the D9068 uses Communications Fail to report a Data Lost event. The D9068 reports an Equipment Fail and Equipment Fail Restore with Condition 006 to report an actual Communications Fault.

Table 14: Reporting Summaries (Continued)

Point-Related Events						
Report Description	SIA Code	SIA Description	Contact ID Code	Contact ID Description	4/2 Code Default Values	Modem IIIa ² Description
System Restore Programming	IR 11	Equipment Fail Restoral	3 300 aa 011	System Trouble	ED	Equipment Restoral□Cond = 011
Serial Communication Fault	YC	Communications Fail	1 350 aa 000	Communication Trouble	FD	Comm Fail, RG = 1
Serial Communication Restore	YK	Communications Restoral	6 350 aa 000	Communication Trouble Restoral	ED	Comm Fail Restr = RG1
Refer to Note 1 through Note 9 on page 56.						

Table 15 identifies equipment fail conditions. These conditions appear as a System Trouble in Contact ID.

On a D9068 that is serially connected to a Bosch Analog FACP, Table 15 only applies when the reported address (C for Contact ID, SDI for Modem IIIa²) is less than 100. If the reported address is more than 100, the reported event is a peripheral fault. Refer to Appendix F: D8024/D10024/D10024A Analog FACP Operation on page 64 for more information.

Table 15: Equipment Fail Conditions

Code	Event	Data in Address Field	Generated By	Description
2	Dialer Trouble Input	Point	Dialer	A point configured for Fault on Open or Fault on Short was tripped.
5	System Trouble Keypad	N/A	Dialer	The programming keypad was connected to the D9068.
6	Comm Fault	N/A	Dialer	A Comm Fault occurred.
11	System Trouble Programming	N/A	Dialer	Programming was entered on the D9068.
12	Network Failure	Control panel address	Control panel	A control panel fail or restore occurred.
13	FACP Programming	Control panel address	Control panel	The control panel was left in the Programming Mode.
14	FACP Config RPS Fail	Control panel address	Control panel	The RPS Config failed.
15	FACP Processor Reset	Control panel address	Control panel	The processor reset.
16	FACP Unresolved IRQ	Control panel address	Control panel	There is an unresolved interrupt request (IRQ).
17	FACP Ground Fault	Control panel address	Control panel	There is a ground fault.
18	FACP Loop Wiring Fault	Control panel address	Control panel	There is a fault in wiring loop.

Table 15: Equipment Fail Conditions (Continued)

Code	Event	Data in Address Field	Generated By	Description
19	FACP NAC A Open	Control panel address	Control panel	The notification appliance circuit (NAC) A is open.
20	FACP NAC A Short	Control panel address	Control panel	The NAC A is short.
21	FACP NAC B Open	Control panel address	Control panel	The NAC B is open.
22	FACP NAC B Short	Control panel address	Control panel	The NAC B is short.
23	FACP NAC C Open	Control panel address	Control panel	The NAC C is open.
24	FACP NAC C Short	Control panel address	Control panel	The NAC C is short.
25	FACP NAC D Open	Control panel address	Control panel	The NAC D is open.
26	FACP NAC D Short	Control panel address	Control panel	The NAC D is short.
27	FACP NAC Other Open	Control panel address	Control panel	The other NAC is open.
28	FACP NAC Other Short	Control panel address	Control panel	The other NAC is short.
29	FACP Unknown Event	Control panel address	Control panel	An unprocessed or decoded event occurred.
30	FACP Non Point Disable	Control panel address	Control panel	There is a disable that is not a point.
32	FACP General Disable	Control panel address	Control panel	There are disables, sets, and restored.
33	FACP Trouble Input Tripped	Control panel address	Control panel	A trouble input tripped on an analog FACP.

Appendix D: Programming Defaults

This appendix contains a list of the programming defaults for the D9068. Use the *D9068 Program Record Sheet* (P/N: 46086) to record programming entries.

Program Time

- **System Date*:** 01 01 00
- **System Time*:** 0000

* After the user enters the system date and time, resetting the D9068 to its default settings does not reset the system date and time. The system time can be corrupted if the power fails for more than 5 min.

Auto Test

- **Auto Test Time:** 0400
- **Auto Test Frequency:** 24 h

Daylight Saving Time: No

Timers

- **AC Fail Delay:** 6 h
- **Display Rate:** 1 sec

Program Inputs (Configure)

- **Point 1:** Water flow
- **Point 2:** Fire
- **Point 3:** Supervisory
- **Point 4:** Fire
- **Point 5:** Fire

Program Inputs (Supervised)

- **Point 1:** No
- **Point 2:** No
- **Point 3:** No
- **Point 4:** No
- **Point 5:** No

Configure Relay: Release on Trouble

Program Accounts

- **Account #1:** 0000
- **Account #2:** 0000

Phone Numbers

- **Phone #1:** ??????????
- **Phone #2:** ??????????
- **Phone #3:** ~~??????????~~

Phone Control

- **Phone #1 Format:** SIA 300
- **Phone #2 Format:** SIA 300

Phone Control (Continued)

- **Phone #1 Tone:** 19D, 14A, 10PS
- **Phone #2 Tone:** 19D, 14A, 10PS

- **Phone #1 Text:** No
- **Phone #2 Text:** No

Report Steering

- **Non-SUP Alarm:** Phone 2 Backup
- **Supervisory Alarm:** Phone 2 Backup
- **Alarm Restor, Reset:** Phone 2 Backup
- **Supervisory Restore:** Phone 2 Backup
- **Tests:** Phone 2 Backup
- **Trbl, Trbl Restore:** Phone 2 Backup

Line Control

- **Line 1 Dialing Type:** Tone/Pulse
- **Line 2 Dialing Type:** Tone/Pulse
- **Line 1 Monitor Line:** Yes
- **Line 2 Monitor Line:** Yes
- **Line 1 Wait Dial Tone:** Yes
- **Line 2 Wait Dial Tone:** Yes

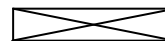
ACK WAIT TIME: 45 sec

Program Formats (4/2 Point Rpt)

- **Fire Alarm Digit 1:** 0
- **Fire Rstrl Digit 1:** 3
- **Waterflow Digit 1:** 0
- **Supervise Digit 1:** 0
- **Trouble Digit 1:** 6
- **Trbl Rstrl Digit 1:** 3
- **Disable Digit 1:** B
- **Disable Rtrl Digit 1:** 3
- **Monitor Digit 1:** 0
- **Zone 1 Digit 1:** 1
- **Zone 2 Digit 1:** 2
- **Zone 3 Digit 1:** 3
- **Zone 4 Digit 1:** 4
- **Zone 5 Digit 1:** 5

Program Formats (4/2 Rpt Codes Group 1)

- **System in Tst:** F1
- **Sys Tst Rstrl:** E1
- **Silence:** 9F
- **Fire Drill:** F2
- **Fire Drill Rstrl:** E2
- **Open Reset:** 9F
- **Low Batt:** F9
- **Low Batt Rstrl:** E9
- **AC Fail:** F8



Crossed out items are not currently supported.

Program Formats (4/2 Rpt Codes Group 2)

- AC Fail Rst: E8
- Auto Tst Rpt: EE
- Off Norm Tst: FD
- Phone 1 Trbl: FB
- Phone 1 Trbl Rstrl: EB
- Phone 2 Trbl: FC
- Phone 2 Trbl Rstrl: EC
- System Trbl: FD
- System Trbl Rstrl: ED

Program Formats (4/2 Rpt Codes Group 3)

- Man Tst Rpt: FE
- Data Lost: FF
- EEPROM Fail: FD
- Reset Reboot: ED
- ~~Smk Pwr Trbl: FD~~
- ~~Smk Pwr Trbl Rstr: ED~~
- ~~Gnd Flt Trbl: FD~~
- ~~Gnd Flt Rstrl: ED~~
- Trbl Input Rpt: FD

Program Formats (4/2 Rpt Codes Group 4)

- Trbl Input Rtrl: ED
- Analog Servc: FD
- ~~Analog Rstrl: ED~~
- Equip Fail: FD
- Equip Restore: ED
- Network Fail: FD
- Network Restor: ED
- Sens Bus Rpt: FD
- Sens Bus Rstrl: ED

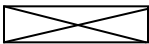
Program Formats (4/2 Rpt Codes Group 5)

- ~~Rmt Prg Fail: FD~~
- ~~Rmt Prg Succ: ED~~
- Unknown Flt: FF

SIA Silence Report

- Left Byte: 4B
- Right Byte: 42

SERIAL CONECTN No



Crossed out items are not currently supported.

Appendix E: Report Routing

The information in this appendix shows the mapping of point-related (Table 16) and non-point-related (Table 17) events to their respective report routing group, lists the priority level of each event, and identifies the reporting limit for specific types of events.

Point-Related Events		
Report Description	Report Routing	Report Priority
Point Fire Alarm	NONSUP ALRM	0
Point Waterflow Alarm	NONSUP ALRM	0
Point Supervisory Alarm	SUPVSY ALRM	3
Point Monitor Alarm	NONSUP ALRM	3
Point Fire Trouble*	TBL, TBL RSTR	3
Point Waterflow Trouble*	TBL, TBL RSTR	3
Point Supervisory Trouble*	TBL, TBL RSTR	3
Point Monitor*	TBL, TBL RSTR	3
Point Fire Dirty Report*	TBL, TBL RSTR	3
Point Fire Disable*	TBL, TBL RSTR	3
Point Fire Alarm Restore	ALM RSTR, RST	4
Point Waterflow Restore	ALM RSTR, RST	4
Point Supervisory Restore	SUPVSY RSTR	4
Point Monitor Restore	SUPVSY RSTR	4
Point Fire Trouble Restore*	TBL, TBL RSTR	4
Point Waterflow Trouble Restore*	TBL, TBL RSTR	4
Point Supervisory Trouble Restore*	TBL, TBL RSTR	4
Point Monitor Trouble Restore*	TBL, TBL RSTR	4

* Event is limited to a total of 100 reports sent in a 24-h period. If this limit is exceeded, the 100th event is replaced with a Data Lost Report.

Table 17: Non-Point Related Report Routing

Non-Point-Related Events		
Report Description	Report Routing	Report Priority
System Test	TESTS	4
System Test Restore	TESTS	4
Silence	TESTS	4
Fire Drill	TESTS	4
Open Reset	ALM RSTR, RST	4
Low Battery ¹	TBL, TBL RSTR	3
Low Battery Restore ¹	TBL, TBL RSTR	3
AC Fail ¹	TBL, TBL RSTR	3
AC Fail Restore ¹	TBL, TBL RSTR	3
Auto Test	TESTS	4
Off Normal at Test	TESTS	4
Phone 1 Trouble ¹	TBL, TBL RSTR	3
Phone 2 Trouble ¹	TBL, TBL RSTR	3
Phone 1 Restore ¹	TBL, TBL RSTR	3
Phone 2 Restore ¹	TBL, TBL RSTR	3
Manual Test ²	TESTS	4
Data Lost	TBL, TBL RSTR	6
EEPROM Failure ¹	TBL, TBL RSTR	3
System Reset, Reboot	TBL, TBL RSTR	3
Equipment Fail ¹	TBL, TBL RSTR	3
Equipment Restore ¹	TBL, TBL RSTR	3
Network Failure ¹	TBL, TBL RSTR	3
Sensor Bus Failure ¹	TBL, TBL RSTR	3
Trouble Input ¹	TBL, TBL RSTR	3
Trouble Input Restore ¹	TBL, TBL RSTR	3
System Trouble Keypad ¹	TBL, TBL RSTR	3
System Restore Keypad ¹	TBL, TBL RSTR	3
System Trouble Comm Fault ¹	TBL, TBL RSTR	3
System Restore Comm Fault ¹	TBL, TBL RSTR	3
System Trouble Programming ¹	TBL, TBL RSTR	3
System Restore Programming ¹	TBL, TBL RSTR	3

¹ Event is limited to a total of 100 reports sent in a 24-h period. If this limit is exceeded, the 100th event is replaced with a Data Lost Report.

² Event resets the count of limited reports and can send 100 additional reports.

Appendix F: D8024/D10024/D10024A Analog FACP Operation

The D9068 intelligently interfaces to either the D8024 Analog FACP or the D10024/D10024A Analog FACP through an RS-232 connection. The D9068 receives events from the control panel to which it is directly connected and from other networked FACPs.

The digital inputs on the D9068 are used as backup inputs. If the serial connection between the D9068 and the Analog FACP breaks, the inputs are monitored for alarm and trouble conditions, and the D9068 sends a report. Refer to *Section 2.2.3 Analog FACP Connections* on page 17 for more information.

Use the D9068 Trouble Relay for installations that require the FACP to detect trouble conditions on the D9068.

F.1 Limitations

This section discusses the limitations of the connection between the D9068 and a Bosch D8024 or D10024/D10024A Analog FACP.

F.1.1 FACP Limitations

FACP Serial Connections and Networked Control Panels

The D9068 interfaces to an Analog FACP primarily through an RS-232 interface. This requires installing a D9052 RS-232 Bus Module on the Analog FACP to which the D9068 is connected. On the D8024, install the D9052 in Port C. On the D10024/D10024A, install the D9052 in either Port B or Port C.

The installation limitations of the D8024 prevent the D9068 from connecting directly to a D8024 used in a network installation. The D9068 works properly if it is connected to a D10024/D10024A that is used in a network. The events from client D8024 Control Panels report correctly through the D10024/D10024A to the D9068.

For networked control panel installations, connect the D9068 to a D10024/D10024A that functions as a network host.

D9061 PC Graphics

Because the D9061 PC Graphics software application and the D9068 Fire Dialer both use the RS-232 interface, only one

device can be connected to the D9052 RS-232 Bus Module. The D9061 PC Graphics application and the D9068 can be used only on a FACP with two D9052 RS-232 Interface Modules installed. In this configuration, connect the D9068 to the second D9052 Module.

Network Addresses

The D9068 firmware supports only communications with an analog FACP using a network address of 1. The D9068 has a fixed network address of 0.

F.1.2 Restorals

No individual restorals are sent. A System Reboot/Reset Report is sent when the system is all clear.

F.2 Setup

This section discusses the setup procedures required for D9068 operation with a Bosch FACP, such as the D8024 or D10024/D10024A. Refer to the appropriate sections of this document and the *D9068 Quick Start Fire Communicator* (P/N: 48575).



For UL installations, install the D9068 in the same room as the analog FACP. Ensure that the D9068 is within 20 ft (6 m) of the analog FACP. Enclose all wiring in conduit between the D9068 and the analog FACP.

F.2.1 D9068 to FACP Power Connections

If the total current draw of all devices connected to the FACP's auxiliary power does not exceed the maximum rating of the control panel, connect the D9068 to the 24 V auxiliary power provided by an analog FACP.

Refer to *Figure 28* on page 66 when wiring the power from the D9068's to the 24 V auxiliary power from the D8024 and the D10024/D10024A.



Before making or breaking any connections, disconnect all AC power and standby battery power from the system.

To connect the D9068 to the D8024 or the D10024/D10024A:

1. Connect the power (+) terminal on the D9068 to the +24 V auxiliary power terminal on the FACP (*Figure 28* on page 66).
2. Connect the power (-) terminal on the D9068 to the 0 V auxiliary power terminal on the FACP (*Figure 28* on page 66).

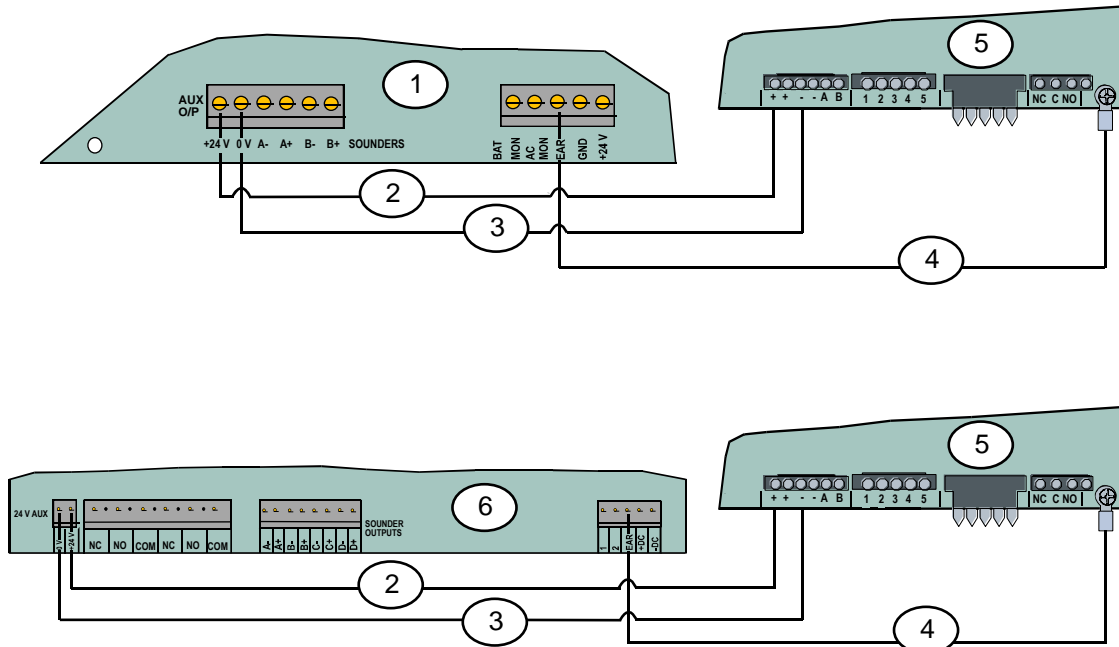
3. Connect the earth ground line (green) on the D9068 to the FACP terminal labeled "EAR."



The D9068 draws a maximum of 192 mA. The analog FACP can provide up to 320 mA. Verify that the total current draw on the analog FACP 24 V auxiliary power is less than 320 mA.

D9068 to D8024 Serial Connections

Figure 28: D9068 to D8024 or D10024/D10024A Power Connections



1 - D8024 FACP

2 - Power + terminal

3 - Power - terminal

4 - Earth ground line (green)

5 - D9068 FACP

6 - D10024A FACP

A network address of 1 must be assigned for the FACP. Refer to the following information for instructions on setting the FACP's network address.



Install the D9052 in Port C on the D8024. The D8024 cannot support the D9068 and a network connection simultaneously through Port C. Connect the D9052 to Port B on the D10024/D10024A.

Refer to the *D9052 Installation Guide* (P/N: 34096) for instructions about installing, addressing, and operating the D9052. Refer to *Figure 14* on page 17 for serial connections between the D9068 and the Analog FACP.



The D9052 mounts to the D8024/D10024/ D10024A PCB. Refer to the installation instructions accompanying the analog FACP and the D9052 RS-232 Bus Module for details.

F.2.2 FACP Relay Connections to D9068 (Optional)


The five inputs on the D9068 can be used as backup connections to a FACP. The D8024 and D10024/D10024A each provide two on-board relays. Use the D328A Addressable Analog Relay Modules to add more relay outputs to the FACP.

Install and configure the relays to activate only for the specified FACP events. For FACP relay programming instructions, refer to the *D8024/D9024/D10024 Programming Guide* (P/N: 38789). For D9068 detailed relay wiring instructions, refer to *Section 2.2.2 Trouble Relay Connections* on page 16. For D328A wiring, addressing, and operating instructions, refer to the *D328A Installation Instructions* (P/N: 37095).

When using the inputs on the D9068 as backup connections, use the mappings from the FACP event to the D9068 input activation type shown in *Table 18*.

Table 18: D9068 Input to FACP Event Messages	
FACP General System Event	D9068 Input Activation Type
Fault Event	Fault on short
AC Fail	AC Fail
Common Fire	Alarm

To access the D9068 input point configuration from the D7033/FMR-DACT-KEYPAD Keypad Programmer, press [0] and [3]. Then press the corresponding number key followed by [#] and [1] to select the point number.

 The inputs on the D9068 can detect alarm (shorted) conditions only when the RS-232 link is broken. When the RS-232 link to the FACP is active, the inputs are not monitored.

F.3 Programming

This section provides the necessary programming steps required to set up the D8024 or the D10024/D10024A for use with the D9068.

F.3.1 FACP Programming

The D9068 must be connected to an analog FACP with a network address of 1. Communication with the D9068 is not possible if the FACP's network address is set to any other number. The D9068 uses a network address of 0.

To set the network address on the D8024 or the D10024/D10024A:

1. Press [>] to access the Main Menu.
2. Press [1] to select **Commission**.
3. When the display shows Please key in your passcode, enter the Control Level 3 passcode. The Commission Menu 1 appears.
4. Press [YES] twice to access Commission Menu 3.
5. Press [3] to enter the Network options.
6. If the display prompts Memory Locked!, unlock the memory by moving the Memory Lock switch into the OPEN position. Refer to the *D8024/D9024/D10024 Programming Guide* (P/N: 38789) for the Memory Lock switch locations.



The memory must be locked at the end of the programming session. The FACP does not exit from the Commissioning Mode unless the memory is locked.

7. Press [3] to access Network Menu 1.
8. When the message Panel Network - address number? appears, press [1] to enter a network address of 1.
9. When you complete the control panel programming, press [NO] twice to return the FACP to the Normal Operating Mode. Then press [3] to select the Normal Operation from Commission Menu 1.
10. Move the Memory Lock switch to CLOSED.

F.3.2 D9068 Programming

To operate the D9068 with a Bosch Analog FACP, program the D9068 account numbers and the D9068 phone numbers as described in *Section 5.4.5 PROG ACC'NTS* on page 42. Also, enable the serial connection as described in *Section 5.4.8 SERIAL CONECTN* on page 41.

F.4 Reporting Information

F.4.1 General Report Information

The D9068 can be connected to stand-alone and networked Bosch Analog FACPs. The FACPs can have multiple loops of detectors. The D9068 handles this by encoding the control panel, loop, and detector addresses as described in the *Point Events* section on page 67.

Refer to *Appendix C: Fire Communicator Report Summary* on page 56 for details about the message report formats.

Restorals

The D8024 and D10024/D10024A do not provide individual event restoral information. The D9068 does not send individual restoral messages for events. Instead, when the D9068 determines that there are no active events on the control panel (or networked panel), it sends a System Reset/Reboot message. This message also reports when a Walk Test or Fire Walk Test is terminating.

Point Events

For point events such as Fire Alarm and Point Trouble, the control panel address reports as the area parameter.

The point and loop addresses are encoded using the following formula and are sent as the point address.

reported_point_address = (loop_number - 1) * 200 + point_on_loop

If Point 20 on Loop 3 goes into alarm, it is reported as 420. If Point 122 on Loop 1 goes into alarm, it is reported as Point 122. Refer to *Table 19* for clarification.

Table 19: Point Event Coding	
Reported Point Address	Loop and Points
1 to 126	Loop 1, Points 1 to 126
201 to 326	Loop 2, Points 1 to 126
401 to 526	Loop 3, Points 1 to 126
601 to 726	Loop 4, Points 1 to 126
801 to 926	Loop 5, Points 1 to 126

Point Type Mapping Report: The D8024/D10024/D10024A Analog FACP and the D9068 perform point-function reporting differently. *Table 20* shows the mappings made for alarm reporting. You can also refer to *Table 12* on page 52.

Table 20: Alarm Report Mapping	
Point Type Configured as FACP	D9068 Reported Event
Zone Alarm	Point Fire Alarm
Sprinkler Supervisory	Point Supervisory Alarm
Fault Warning	Trouble Input or FACP Trouble Input Tripped

Point Trouble or Dirty Report: Because the communications between the D9068 and the Analog FACP have a limit, point troubles are not reported on a point-type basis. If a point is in trouble, a Point Fire Trouble is sent regardless of what type of point it is (such as fire, sprinkler supervisory, or fault warning). This also applies for Dirty Reports. All dirty points are reported with a Point Fire Dirty regardless of the configured type of point.

F.4.2 Peripheral Events

If a problem occurs with a peripheral attached to an Analog FACP, the report is sent as an Equipment Fail Report. The address of the control panel is sent as the Condition. The address of the peripheral plus 100 is sent as the device.

For example, if the remote notification appliance circuit (NAC) at Peripheral Address 10 on Panel 5 has a fault, the message Equipment Fail, Device = 105, Condition = 10 is sent.

F.4.3 Other Non-Point Events

Most non-point events are reported using Equipment Fail Messages. *Table 15* on page 59 shows the condition codes that are reported with the equipment fail messages and causes. The control panel address is reported as the Device Number.



The data format for the Equipment Fail Report is different between the Peripheral Events and Other Non-point Events. This allows the Peripheral Address to send in Contact ID format. The two types of events are distinguishable by the device parameter. If the device parameter is greater than 100, it is a Peripheral event. If it is less than 100, it is a Non-point Event.

Refer to *Appendix F: D8024/D10024/D10024A Analog FACP Operation* on page 64 for sample reports.

F.4.4 Event Text

When Event Text reporting is enabled, the alarm text provided by the FACP is sent for some events (refer to 3: PHONE CONTROL on page 36). For point events, the zone and point text are sent. For non-point disables and unknown events, the event message text is sent. The event message text usually appears on the second line of the control panel display.

F.4.5 Sample Reports

Table 21: Sample Reports lists the sample reports and the data sent to the central station. Refer to *Appendix C: Fire Communicator Report Summary* on page 56 for information on the Equipment Fail Codes.


 Table 20 does not show the event text that can be sent in Modem IIIa² format.

Table 21: Sample Reports					
Report Description	SIA		Contact ID		Modem IIa ² Printer Text
	Code	Description	Code	Description	
Point Fire Alarm□Point 21, Loop 3, Panel 5	FA421	Fire alarm	1 110 05 421	Fire alarm	Fire Alarm Area=5 Point=421
Fire Point Trouble□Point 10, Loop 1, Panel 2	FT10	Fire trouble	1 373 02 010	Fire trouble	Fire Trouble Area=2 Point=010
Low Battery on Panel 1	YT	System battery trouble	1 302 00 000	Low system battery	Battery Low
All Events Cleared	RR		1 305 00 000		Re-boot
Peripheral 10 failed on Panel 3	ET110	Equipment failure condition	1 333 03 110	System trouble	Equip Fail SDI=110 Cond=003
FACP Ground Fault, Panel 2 (Equipment Fail #17)	ET17	Equipment failure condition	1 333 17 002	System trouble	Equip Fail SDI=002 Cond=017
General Disable (any device on Panel 4 disabled - Equipment Fail #32)	ET32	Equipment failure condition	1 333 32 004	System trouble	Equip Fail SDI=004 Cond=032
General Disable Restoral (Panel 4 no longer shows disables - Equipment Restoral #32)	ER32	Restoral	3 333 32 004	System trouble	Equip Restoral SDI=004 Cond=032
Fire Drill Start Panel 2	FI	Fire Test begins	1 607 00 002	Walk Test Mode	Fire Walk Start ID=002
Fire Drill End Panel 2*	FK	Fire Test ends	3 607 00 002	Walk Test Mode restore	Fire Walk End ID=002
Silence from Panel 1	KB1	Heat or bypass	1 400 00 000	Open or close	Alarm Silence ID=001 Relay=001

* Report is not supported at this time.

F.4.6 Analog FACP Event Code to D9068 Report Mapping

Table 22 lists the event codes generated by a Bosch D8024 and D10024/D10024A Analog FACP and the respective D9068 Dialer Report Code.

Analog FACP Event Code	Dialer Report Code	Comments
Low signal output from detector.	Equipment Fail - 18	There is a loop wire fault.
High signal from detector.	Point Trouble ¹	The sensor is out of calibration.
Pre-alarm signal.	N/A	There is a pre-alarm.
Fire alarm signal.	Point Alarm ¹	There is an alarm.
CPU reset. ²	Equipment Fail - 15	The CPU reset.
Commissioning Mode entered. ¹	Equipment Fail - 13	The system was left in the Programming Mode.
Panel reset.	Reset Reboot	The panel reset.
Evacuation from panel keypad.	Fire Drill	There is a fire drill.
Silence alarms. ¹	Silence	Interpolated by panel status.
Unconfirmed interrupt from call point.	Equipment Fail - 16	The sensor failed.
Confirmed interrupt from call point.	Point Alarm ¹	The sensor failed.
Detector contaminated.	Point Dirty ¹	The detector is dirty.
No reply from detector.	Point Trouble ¹	The detector is not responding.
Digital input signal set from input unit.	Panel Event ³	There is a peripheral fault.
Detector failed Loop Overcurrent Test.	Point Trouble ¹	The loop is drawing too much current.
External link master failed to poll.	Equipment Fail - 29	There is a network panel failure.
Detector data corrupted.	Point Trouble ¹	There is a data error.
Keypad enabled.	N/A	The keypad is enabled.
Problem with loop wiring.	Equipment Fail - 18	There is a problem with the loop wiring.
Problem with sounder circuit.	Equipment Fail ⁴	There is a problem with the sounder circuit.
Problem with power supply.	Equipment Fail ⁴	There is a problem with the power supply.
Problem with internal memory.	Equipment Fail - 14	There is a problem with the internal memory.
Earth fault on external wiring.	Equipment Fail - 17	There is an earth fault on the external wiring.
Zone is totally disabled.	Equipment Fail - 30	The zone is totally disabled.
No reply from slave panel data link.	Network Fail	There is no reply from the client panel.
Corrupt reply from slave panel data link.	Network Fail	There is a data error from the client panel.
Panel left in Commissioning Mode	N/A	There was a program switch.
Walk Test commenced. ¹	System Test	The Walk Test or Output Test was set from the panel status.
Zone partially disabled.	Equipment Fail - 30	The zone is partially disabled.

1 The exact message is determined by the point function, such as fire and water flow.

2 Code is not supported at this time.

3 The exact message is determined by the priority reported.

4 The exact message depends on the device type and condition, such as NAC A short and battery fault.

F.4.7 Reported Event to FACP Cause Mapping

Table 23 lists the events generated by a D8024 and D10024/D10024A Analog FACP and the causes of the events.

Table 23: Analog Reports and Causes		
Analog FACP Event	Comments	Cause
Point Fire Alarm	Control panel generated.	There is a point zone alarm.
Point Supervisory Alarm	Control panel generated.	There is sprinkler supervisory input.
Point Monitor Alarm	Control panel generated.	An alarm from the point is programmed as type = monitor.
Point Fire Trouble	Control panel generated.	Any point trouble.
Point Fire Dirty Report	Control panel generated.	Any point is dirty.
Point Fire Disable	Control panel generated.	Any point disabled.
System Test	Control panel generated.	The Walk Test or Output Test entered.
System Test Restore	Control panel generated.	The Walk Test or Output Test exited.
Silence	Control panel generated.	Only Silence reported; resound not reported.
Fire Drill	Control panel generated.	A fire drill initiated (local and remote).
Open Reset	Dialer generated.	The control panel reset.
Low Battery	Control panel generated.	A low battery is detected.
AC Fail	Control panel generated.	There is an AC Fail (after the control panel and dialer time-outs).
Auto Test	Dialer generated.	An Auto Test is in progress.
Off Normal at Test	Dialer generated.	Control panel trouble occurred when the Test Report was sent.
Phone 1 Trouble	Dialer generated.	There is trouble on Phone Line 1.
Phone 1 Restore	Dialer generated.	The line is restored.
Phone 2 Trouble	Dialer generated.	There is trouble on Phone Line 2.
Phone 2 Restore	Dialer generated.	The line is restored.
Manual Comm Test	Dialer generated.	The Communications Test is in progress.
Data Lost	Dialer generated.	There is a communication error.
EEPROM Failure	Dialer generated.	There is an EEPROM failure.
System Reboot Reset	Control panel generated.	All trouble and alarms are cleared. This message is sent when the D9068 receives an all clear message from the control panel after the control panel resets.
Trouble Input		Trouble.
Trouble Input Restore		Trouble is stored.
Equipment Fail	Control panel generated.	This message occurs for several trouble type events. To identify the specific type of trouble that the condition parameter uses, refer to Table 15 on page 59. Look for the Equipment Fail (Restore) Reports. Not all events have an equivalent Equipment Restore message.
Equipment Restore	Control panel generated.	

Table 23: Analog Reports and Causes (Continued)

Analog FACP Event	Comments	Cause
Network Failure	Control panel generated.	A network failure is detected.
Remote Programming Failed*	Future	There is a problem with programming.
Remote Programming Successful*	Future	The remote programming is successful.
Control Panel Communication Failure	Dialer generated.	The control panel lost communication.
Control Panel Communication Restore	Dialer generated.	This message is sent if control panel communications are restored. If there were any off-normal control panel conditions prior to losing communications, and the control panel is normal, a System Reboot Reset is also sent when communications are restored.
System Trouble - Keypad Installed	Dialer generated.	No keypad activity for 3 minutes.
System Trouble - Restoral Keypad Installed	Dialer generated.	The keypad trouble is restored.
System Trouble - Communications Fault	Dialer generated.	There is a communication error.
System Trouble Restoral - Communications Fault	Dialer generated.	The communication is restored.
System Trouble - Programming Error	Dialer generated.	There is a programming error.
System Trouble Restoral - Programming	Dialer generated.	The programming error is restored.
Invalid Events	32 to 39, 94 to 255	Not valid.

* Event is not supported at this time.

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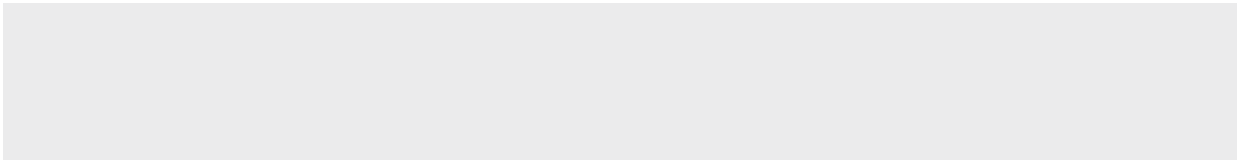
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Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, NY 14450
USA
www.boschsecurity.com
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