



D2000 Series Keypad Diagnostics

Putting the Keypad into the Diagnostics Mode

The panel sends SERVICE START and SERVICE END messages upon entering and exiting Diagnostics Mode.

1. Lock the Standby Switch down.
2. Press the [1] key on the keypad.
3. Enter your "Installer" passcode. The default Installer passcode is 6 5 4 3 2 1. The default passcode length is three, so if you have not changed the default entries, press 6 5 4.

If the passcode you've entered is valid, the keypad's display scrolls the functions that are available.

Now that you're in...

When you select a function, the system displays messages informing you of test status. Once inside a function, press the [Clear] key to return to the previous level.

Bell Test

The Bell Test powers the external bell with the burglar pattern for 2 seconds.

- Press the [1] key. The display shows:

TESTING BELL

The Bell Test times out after 2 seconds.

Battery Test

The Battery Test causes the panel to run on the battery only, for 4 minutes. During this time, if the voltage drops below 12.2, the trouble tone sounds and the low battery condition appears in the Check System mode (Key 4).

When the Battery Test is started, a Low Battery report or a Missing Battery report will be sent, if programmed.

- Press the [2] key. The display shows:

**TESTING BATTERY
MAY TAKE 4 MIN.**

The test times out in approximately 4 minutes, and the results are displayed. If the battery is good, the display shows:

**BATTERY TEST
PASSED**

Press the [Clear] key to return to the main menu.

If the battery is bad, the display shows:

**BATTERY TEST
FAILED**

Press the [Clear] key to return to the main menu.

Communication Test

The Communication Test sends a test report to the receiver. If the report fails to be acknowledged after all dialing attempts, the panel goes into Communications Failure.

- Press the [3] key. The display shows :

**TESTING PHONE
MAY TAKE 10 MIN.**

The test times out in approximately 10 minutes, and the results are displayed. If the phone line is good, the display shows:

**PHONE TEST
PASSED**

Press the [Clear] key to return to the main menu. If the phone line is bad, the display shows:

**PHONE TEST
FAILED**

Press the [Clear] key to return to the main menu.

RF Programming

Before RF Points can be learned, the D208 Receiver must be connected to the panel and powered.

It is possible to encounter RF receiver errors when attempting these operations. An example would be programming the point code for point 10 as an RF point using a receiver on address 8, when there is no receiver connected to address 8. When you attempt to learn point 10, the system will be unable to communicate to a receiver. In this event, you'll see the display:

**NO REPLY RCVR 8
PRESS CLEAR**

After pressing the [Clear] key, the display will return to the RF menu.

1. Press the [4] key to display the RF programming menu.
2. The display scrolls the three RF menu options:

**TO LEARN POINTS
PRESS 1**

**TO TEST POINTS
PRESS 2**

**TO REMOVE POINTS
PRESS 3**

3. To exit the RF Programming menu and return to the diagnostics menu, press the [Clear] key.

Learning RF Points

To learn a point, you must have previously given it an RF point code (digits 4 and 5).

1. In the RF menu, press (1) to Learn Points. If there are unlearned points whose point codes have been programmed as RF, the keypad displays the first one to be learned (in this example, point 1 is the first point programmed as an RF point):

**LEARN POINT 1
PRESS ***

To scroll the remaining RF points, press the [C] key repeatedly. If there is only one RF point, it will be continually re-displayed.

If there are no points programmed as RF points, or all programmed points have already been learned, the display shows the following.

**NO POINTS TO LEARN!
PRESS CLEAR**

After pressing the [Clear] key, the system returns to the RF menu.

2. Press the [*] key to select the point displayed. The display shows:

ACTIVATE

POINT 1

3. Press the tamper switch on the sensor you want to learn as point 1. When the transmission is received, the point is learned and the display shows:

**POINT 1 LEARNED
PRESS CLEAR**

If the sensor has already been learned into some other point, or two points were inadvertently programmed to the same sensor loop, the display shows the following (in this example, the sensor had previously been learned as point 2, although it could be any point number):

**DUPLICATES PT 2
PRESS CLEAR**

Press the [Clear] key and repeat the procedure using a sensor that hasn't already been learned, or check point programming making sure that two points were not assigned to the same location (see digit 4 and 5 of point code).

4. Pressing the [Clear] key returns the display to the next RF point to be learned:

**LEARN POINT 2
PRESS ***

5. Pressing the [Clear] key again returns the display to the RF menu.

Testing RF Points

To test a point, it must have been learned.

1. In the RF menu, press (2) to Test Points. If there are RF points which have been learned, the first one will be shown.

**TEST POINT 1
PRESS ***

To scroll the remaining learned points, press the [C] key repeatedly. If there is only one learned point, it will be continually re-displayed.

If no RF points have been learned, the display shows the following:

**NO PTS LEARNED!
PRESS CLEAR**

2. Press the [*] key to select the point displayed. The display shows:

**TESTING POINT 1
ROUNDS: 00**

3. To begin the test, trip the sensor on the point you're testing (in this case, point 1), and listen for and count the beeps from the keypad. The beeps indicate rounds of data sent from the sensor when tripped. Each sensor sends 8 rounds per each trip. The counter next to the word "ROUNDS" is incremented once for each round received.
4. The number of rounds (beeps) can be used to determine whether a sensor is in a good location or not. Intrusion and other types of sensors (doors/window, shock, PIR & sound sensors, smoke/heat sensors, portable panics) have the following validation:

7 to 8 rounds = Acceptable

6 or fewer rounds = Poor or Unacceptable

The testing procedure is slightly different for RF keypads. Rather than relying on the count of rounds transmitted, position the keypad where it will likely be used, and press any key. If you hear a beep, and the function associated with the key is performed by the panel, the location is a suitable one for keypad operation.

5. Pressing the [Clear] key ends the test and returns the display to the next point to be tested (if any):

TEST POINT 2
PRESS *

6. Pressing the [Clear] key again returns the display to the RF menu.

Removing RF Points

To remove a point, it must have previously been learned.

1. In the RF menu, press (3) to Remove Points. If there are RF points which have been learned, the first one will appear in the display (in this example, point 1 is the first point programmed as an RF point):

REMOVE POINT 1
PRESS *

To scroll the remaining learned points, press the [C] key repeatedly. If there is only one RF point, it will be continually re-displayed.

If there are no learned RF points, the display shows the following.

NO PTS LEARNED!
PRESS CLEAR

After pressing the [Clear] key, the system returns to the RF menu.

2. Pressing the [*] key removes the point displayed. The display shows:

POINT 1 REMOVED
PRESS CLEAR

3. If the [Clear] key is pressed and there are more learned RF points, the display shows the next learned point:

**REMOVE POINT 2
PRESS ***

You can continue to remove as many learned RF points as you want.

4. If there are no more learned RF points, the display shows:

**NO PTS LEARNED!
PRESS CLEAR**

Pressing the [Clear] key returns the display to the RF menu.

5. When you've finished removing points, press the [Clear] key to return to the RF menu.

Point Status

The Point Status function displays the electrical state of all points. The state of each point is shown in the system's display. Points that are not programmed are displayed as normal.

1. Press the [5] key. The display shows the status of points 1 and 2:

**POINT 1 NORMAL
POINT 2 OPEN**

2. Press the [*] key repeatedly to scroll the remaining points. Points may be Normal, Open, or Short:

**POINT 3 SHORT
POINT 4 OPEN**

3. Press the [Clear] key to exit this test.

Relays

The Relays function can activate either of the two external relay outputs.

1. Press the [6] key to enter the Relays function.
2. Hold the [1] key to turn on relay 1. The relay stays on as long as key 1 is held down. Follow the same procedure to test relay 2.
3. Press the [Clear] key to exit this test.

Power Supply Status*

The Power Supply Status function performs four different tests on the power supply and battery.

Obtained readings are + or - 200mA / 200mV.

1. Press the [7] key. The display shows:

POWER SUPPLY*

...To display Fire Alarm Load

2. Disconnect the battery.
3. Press the [1] key.

The bell and external relays activate and the display shows:

**FIRE ALARM LOAD
LESS THAN ### MA**

4. Use the scale on the following page to verify that the current consumption is less than 860mA:

* *Some panels do not include the Power Supply Status function.*

Maximum Fire Alarm Load	860mA
	732mA
	605mA

	477mA
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Max Normal Supervisory Load	350mA
	222mA
	95mA

- If current consumption is more than 860mA, the display will show:

**FIRE ALARM LOAD
MORE THAN 860 MA**

- Press the [Clear] key.
- Reconnect the battery.

...To display the Minimum Battery Voltage

- Make sure the battery is connected.
- Press the [2] key.

The panel automatically disconnects AC, and the display shows the lowest battery voltage during the test and gives an acknowledge tone after 1 minute:

**MIN BATT VOLTAGE
VOLTS**

- Verify that the battery does not drop below 13.2 volts within the minute.

	13.7 Volts
Minimum Battery Voltage after 1 Minute	13.2 Volts

	12.7 Volts
Read Battery Voltage	12.2 Volts
	11.7 Volts
	11.2 Volts
	10.7 Volts
	10.2 Volts

5. Press the [Clear] key.

...To Read Battery Voltage

2. Make sure the battery is connected.
3. Press the [4] key. The battery voltage displays:

**BATT VOLTAGE
##.# VOLTS**

4. Verify that the battery is above 11.7 volts.
5. Press the [Clear] key.

...To display Normal Supervisory Load

2. Disconnect the battery.
3. Press the [5] key. The display shows:

**NORMAL LOAD
LESS THAN ##.# AMPS**

4. Verify that the current consumption is less than 350mA.
5. Press the [Clear] key.

6. Reconnect the battery.

To exit the Power Supply Status function, press the [Clear] key again.

Programming

Function 8 is the Keypad Programming Mode. For complete instructions on programming from the keypad, see the *Program Entry Guide*.

System Trouble

This diagnostic check is available in the user's Check System (Key 4) mode.

1. Press the [Clear] key to exit the Diagnostic Mode. The display shows:

**SYSTEM TROUBLE
PRESS 4 TO VIEW**

2. Press the [4] key. The display shows:

CALL FOR SERVICE

3. Press the [5] key. The display scrolls through the trouble messages:

**LOW OR MISSING
BATTERY**

**STAND-BY SWITCH
LOCKED**

**AUX PWR TRBL
TERMINAL**

**BELL PWR TRBL
TERMINAL**

**RCVR ## TAMPER
RCVR ## TROUBLE**