Installation instructions for the SAW sensors listed in the following table are included in this document. The SAW sensor installation instructions in this booklet are to be used with the panel installation instructions for the Simon® Panel. These instructions will not be packaged with the sensor hardware.

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Product Summary

A motion sensor (passive-infrared or PIR) detects movement within a specific area by sensing the infrared energy emitted from a body as it moves across the sensor’s field of view, causing a temperature change in the sensor’s zones. When this motion is detected, the sensor transmits an alarm signal to the control panel.

Use the indoor motion sensor to protect locations where door/window sensors are impractical or not needed. For example, use a motion sensor to protect large areas or open floor plans. Motion sensors also provide backup protection for door/window sensors.

Use the outdoor motion sensor to identify motion in a protected outdoor area. Detected motion in this protected area can sound chimes or turn on outside lights.

Do not use outdoor motion sensors for intrusion protection.

The wireless motion sensor includes the following features:

- Cover-activated tamper (optional wall-activated tamper is included)
- Supervisory signal transmitted every 64 minutes to the control panel
- Sensor low battery reports (trouble) to the control panel
- Field-selectable sensitivity options

### Indoor Motion Sensor Installation Guidelines

Use the following guidelines for installing indoor motion sensors.

1. If possible, locate sensors within 100 feet of the panel. While a transmitter may have a range of 500 feet or more out in the open, the environment at the installation site can have a significant effect on transmitter range. Sometimes a change in sensor location can help overcome adverse wireless conditions.

2. The recommended mounting height is 7 1/2 feet, but the sensor can be mounted from 5 to 8 feet high in the corner of the area you want to protect. See the animal alley lens guidelines for mounting the optional animal alley lens. Higher mounting provides better range (up to 35 feet), and lower mounting provides better protection close to the motion sensor (see Figures 2 and 3). The optional swivel mount (part #60-737) can be used for difficult mounting locations.

3. Position the sensor to protect an area where an intruder would be most likely to walk across the detection pattern (see Figure 1).

4. Mount the motion sensor on an insulated, outside wall facing in.

5. Mount the motion sensor on a rigid surface which is free from vibrations.

6. Position the sensor so it faces a solid reference point, like a wall.

7. Do not aim the sensor at windows, fireplaces, air conditioners, area heaters, forced air heating vents, or place it in direct sunlight. Sudden changes in temperature may trigger a false alarm from these devices.
8. Do not mount the sensor near duct work or other large metallic surfaces which may affect the RF signals (see RF Testing). Actual acceptable transmitter range should be verified for each installation.

9. Mount the sensor permanently on a flat wall or in a corner. Do not set it on a shelf.

10. Windows should be closed in any area which has an armed motion sensor.

11. A pet will trigger a motion sensor. See animal alley lens guidelines to use a motion sensor when pets are present.

**Outdoor Motion Sensor Installation Guidelines**

Use the following guidelines for installing outdoor motion sensors.

1. Always select the outdoor motion sensor with the weather-resistant case and the extended operating temperature range (10 to 120° F) for outdoor applications.

2. Do not use outdoor motion sensors for intrusion protection since any human, pet, or heated mechanical motion such as an automobile can activate the sensor.

3. Follow the indoor motion sensor installation guidelines except for items numbered 4, 6, 10, and 11.

4. Do not aim the sensor at objects that may be heated excessively by the sun, such as black top or dark colored objects.

5. Do not aim the sensor at foliage or shrubbery which has a dark background.

6. The housing is water-resistant but not waterproof. Mount the sensor underneath eaves or porch coverings to prevent over exposure to rain, ice, and direct sunlight.

7. The sensor’s coverage area is shown in Figures 2 and 4.
Figure 3. Side view show the differences in the coverage area when using the indoor motion sensor’s standard lens mounted at different heights.

Figure 4. Shows the side view of the indoor motion sensor’s animal alley lens when the flush-mount position is used. The outdoor motion sensor’s lens also has this side view, however, its swivel mount makes the viewing angle adjustable.

Mounting the Indoor Motion Sensor

The sensor can be flush-mounted, incline-mounted, or corner-mounted depending on the lens used (see Figure 5). Also, the optional swivel mount (ITI #60-737) can be used for difficult mounting locations.

Use the following procedure to mount the sensor.

1. Remove the mounting plate by depressing the button on the top of the sensor body. With the opposite hand pull the mounting plate away from the body of the sensor.
2. Punch out the mounting holes that best fit your application. See Figure 5 for wall mount options. See also Figure 6 to determine which knockouts to use when mounting the motion sensor. Use the lower-side holes for corner mounting, or the lower-back holes for surface mounting with the standard lens.
3. For applications with pets, use the upper mounting holes and the optional animal alley lens.
4. If you desire wall-tamper functionality, remove the wall-tamper knockout (see Figure 6).

Note: The wall-tamper switch cannot be used when the sensor is swivel or corner mounted.
4. Mark the location of the required holes on the mounting surface.
5. Use wall anchors and screws to secure into place. Attach the sensor to the mounting plate.
6. When testing is completed the PIR can be securely attached to its mounting plate by screwing the smallest enclosed screw into the hole at the top of the mounting plate.

**Mounting the Outdoor Motion Sensor**

1. Determine the desired mounting location for the sensor leaving at least four inches of room above the wall mount plate to attach the sensor.
2. Attach the wall mount plate with the opening for the swivel mount facing downward using the screws and anchors supplied.
3. Attach the sensor assembly to the wall mount plate by screwing the sensor assembly up into the opening in the wall mount plate.
4. To remove the sensor for testing or battery replacement, slide the front cover of the sensor upward until the sensor can be removed.

**Indoor Motion Sensor Lens Replacement:**

1. To change the lens, first remove the sensor from its mounting plate by depressing the button on the top of the sensor.
2. Remove the cover by depressing the two tabs on the top and the one tab on the bottom of the sensor body and sliding the cover off (see Figure 8).
3. Remove the installed lens by gently placing pressure on the lens from the outside of the lens.
4. Replace with the appropriate lens by aligning its notches with the appropriate tabs in the cover.
5. Install the new lens with the smooth side facing out and the grooved side facing in.
6. Replace the cover and then replace the sensor in its mounting plate.

**Indoor Motion Sensor Animal Alley Lens Guidelines**

The optional animal alley lens (part #60-709) provides protection in installations where pets move about freely. See figures 2 and 4 for coverage.

- Allowed mounting height is between 3 and 5 feet.
- Be sure to use the flush-mount position or the corner mount position with the back of the PIR parallel to the walls. Do not use the inclined mount position since this would tilt the PIR’s field of view downward.
- Position the sensor to have a clear line of sight across the protected room.
- For best results, install the sensor higher than the highest point that the pet might reach in the detection area.
- If the detection area contains furniture or other objects upon which the pet could climb or jump, either remove these objects, mount the PIR a safe distance above these objects, or mask these areas.
Setting the Sensitivity on the Indoor Motion Sensor

The PIR is set to standard sensitivity at the factory. This sensitivity is preferred for most applications and provides the best immunity to false alarms.

CAUTION: High sensitivity should only be used in extremely quiet environments where thermal transients are not expected.

1. Locate the sensitivity pins by first removing the mounting plate and the sensor cover as described in steps 1 and 2 of Lens Replacement process.

2. Locate the sensitivity pins under the battery on the right side of the PIR when looking at the front of the PIR.

3. To change to high sensitivity move the shorting jumper to the pair of pins that are closer to the top of the PIR (see Figure 7).

4. Walk test the PIR to verify the sensitivity.

Walk Testing the Indoor and Outdoor Motion Sensors

Walk testing should be done to determine the sensor’s actual coverage area. The edge of the coverage pattern is determined by the first flash of the LED. This may change slightly depending upon the sensitivity setting. Walk test the unit from both directions to determine the pattern boundaries.

1. Remove the sensor body from the mounted mounting plate, activate the tamper switch, and then remount the body to activate the 60 second walk test mode.

2. Walk across the coverage pattern to determine the coverage area, indicated by LED activation. Each activation extends the walk test mode for an additional 60 seconds.

After 60 seconds without motion the walk test mode and the LED will no longer activate when motion is detected.

Note: Excessive use of the walk test mode may reduce battery life. Use only for initial setup and maintenance testing.

Note: When the walk test mode has ended, an alarm can be transmitted only after 3 minutes have passed since the previous alarm. This 3 minute lockout time reduces unnecessary RF transmissions in high traffic areas thereby extending battery life.

Environment Testing

Indoor Motion Sensors:

Turn on all heating or air conditioning sources which would normally be active during the protection period. Stand away from the sensor and outside the coverage pattern and watch for alarms.

Outdoor Motion Sensors:

Verify that the sensor’s coverage area does not extend into undesired areas that might cause unwanted activations. These areas may include undesired human, pet, or automobile motion.
**Coverage Masking**

After walk testing and environment testing are completed, masking labels can be applied to the sensor’s lens to block detection of problem areas. The masking labels provided are cut to match the corresponding lens segments.

1. Determine which detection zone/lens segment needs a masking label.
2. Peel the desired mask label from its backing and apply to the inside of the lens segment to be blocked.

**Outdoor Motion Sensor Filter Installation:**

A 1 inch by 1 inch piece of lens material has been included with the outdoor motion sensor. This filter reduces the sensor’s sensitivity to white light sources (sunlight and head lights) and infrared sources. Install this filter when experiencing unwanted sensor activations due to these sources.

1. Remove the sensor from its water resistant enclosure by sliding the front cover upward until the sensor can be removed.
2. Remove the mounting plate of the sensor by depressing the button on top of the sensor.
3. Remove the front cover of the sensor by depressing the two tabs on the top and the one tab on the bottom of the sensor body and sliding the cover off (see figure 8)
4. Place the sensor on its back and drop the filter into the lens chamber covering the sensor’s detector.
5. Replace the cover making sure the filter remains in the lens chamber and does not interfere with the attachment of the cover.
6. Replace the sensor’s mounting plate and install the sensor in its water resistant enclosure.

**Programming**

Follow these instructions to program the sensor:

1. Open the Control Panel.
2. Enter Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press Add from the Start Menu.
4. Press the Sensor/Remote button from the Main menu until you hear the location you wish to use with the sensor.
   
   The order of names the Control Panel uses are: keychain remote, touchpad remote, front door, back door, garage door, bedroom, guest room, child’s room, utility room, living room, dining room, bathroom, laundry room, kitchen, office, den, garage, special chime, basement, upstairs, downstairs, hallway, medicine cabinet, closet, attic. Each name may be used more than once.

   Note: When adding sensors, if you wish to use a more descriptive location you may press the option button to use the compass directions (north, north east, east, south east, south, south west, west, north west).

5. Press DONE.
6. Enter the sensor type number (17 (intrusion), 25 (chime)) with the red numbered keys.
   
   Note: If you wish to use a sensor number other than the next available, enter a 2 digit sensor number with the red numbered keys immediately after entering the sensor type.

7. Trip the PIR by removing the PIR from its mounting plate and activating the tamper switch.
8. Exit the program mode after all appropriate assignments have been made.
9. Return the PIR to its mounting plate.
Maintenance

At least once a year, the range and coverage should be verified for proper operation. The end user should be instructed to put the sensor in walk test mode and walk through the far end of the coverage pattern to verify proper detection.

Replacing Batteries

When battery replacement is necessary, observe proper polarity (as shown in the battery compartment) when installing the new battery, or the sensor may be damaged. Be sure to note that as you look at the battery compartment, on the left side the positive side is down and on the right side the positive end is up. When the battery is replaced, wait at least 3 minutes after installing the battery before activating the walk test mode. See Figure 8 for battery locations.

Final Testing

Final testing should be done to verify radio signal integrity and confirm control panel programming and response. The actual transmitter range can be determined by performing a sensor test as follows:

1. After the sensor has been mounted, remove it from its mounting plate and activate the tamper switch to start the walk test mode.
2. Replace the sensor in its mounting plate.
3. Place the control panel in test mode. Move across the detection pattern until the sensor’s LED turns on. STOP your motion.
4. Listen for the appropriate system response. If the system does not respond, proceed to the “Troubleshooting” section.

Troubleshooting

Use the following guidelines if the system does not respond correctly when the sensor is activated.

- Check programming and re-program sensor into panel if necessary.
- Move the sensor to another location and test for correct response.

To relocate a sensor:

1. Test the sensor a few inches from the original position.
2. Increase the distance from the original position and retest until an acceptable location is found.
3. Mount the sensor in the new location.
4. If no location is acceptable, test the sensor as described below:
   1. Test a known good sensor at the same location.
   2. If the system does not respond, avoid mounting a sensor at that location.
   3. If the replacement sensor functions, return the problem sensor for repair or replacement.
Specifications

Power source: 2 AA alkaline batteries
Typical battery life: 2-4 years at 68° F (not verified by U.L.)

Operating temperature range:
32° to 120° F (Indoor Motion Sensor)
10° to 120° F (Outdoor Motion Sensor)

Dimensions: L = 2.875” X W = 2.375” X H = 1.875”

Notices

These devices comply with part 15 of the FCC rules. Operation is subject to the following two conditions:
1. These devices may not cause harmful interference.
2. These devices must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the users' authority to operate the equipment.
Product Summary

The KeyChain Touchpad enables the user to turn the system on and off after exiting or before entering the home or to turn on the siren and to call the central monitoring station if there is an emergency. If lamp modules have been installed, the KeyChain Touchpad can be used to turn all lights using the lamp modules on or off.

Control Panel Compatibility: SIMON™, Concord™

Installation Overview

General Information

The KeyChain Touchpad is an alkaline battery-powered, wireless touchpad designed to fit on a keychain, in a pocket or purse. It provides users a convenient option for the following system operations:
• Arm the system (doors, windows, and motion sensors)
• Arm the system with no entry delay (if programmed)
• Disarm the system
• Trigger Panic alarms
• Turn system controlled lights on or off
• Open the garage door or turn outside lights on (if programmed)

Installation Guidelines

Use the following guidelines when adding KeyChain Touchpads to the system:
• KeyChain Touchpads are learned into the Control Panel as sensors or touchpads.
• KeyChain Touchpads when programmed as sensors are programmed as a non-supervised sensor.
• Each learned KeyChain Touchpad uses one of the available sensor numbers.
• KeyChain Touchpads can be programmed with no entry delay.

Programming

Follow these instructions to program the touchpad:
1. Open the control panel cover.
2. Enter Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press Add from the Start Menu.
4. Press the Sensor/Remote button from the Main menu and you will hear keychain remote.
   Note: When adding sensors, if you wish to use a more descriptive location you may press the option button to use the compass directions (north, north east, east, south east, south, south west, west, north west).
5. Press DONE.
6. Enter the sensor type number (01, 03, 06, or 07) with the red numbered keys.
   Note: If you wish to use a sensor number other than the next available, enter a 2 digit sensor number with the red numbered keys immediately after entering the sensor type.
7. Press the lock and unlock buttons simultaneously until the transmitter LED is lit.
Testing KeyChain Touchpads
Used with the SIMON ™ Control Panel

Perform Sensor Test

The following steps describe the guidelines for testing sensors.

1. Open the Control Panel cover.
2. Enter the Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press the Test button once.
4. Press DONE.
5. Trip the sensor by pressing the Lock and Unlock buttons simultaneously until the LED is lit.
6. Note the number of siren beeps indicating how many RF packets the Control Panel received from the sensor. You should hear 7-8 beeps.

Test the KeyChain Touchpad by pressing the buttons as described below:

1. Disarm or Unlock Button - The Control Panel is disarmed. Doors, Windows, and Motion Sensors are disarmed.
2. Lock Button - The Control Panel may be programmed with no delay from KeyChain on or off. The following keypresses will be dependent on programming option 28.
   • if pressed once, the Control Panel arms doors and windows.
   • if pressed twice, the Control Panel arms motion sensors.
   • if pressed three times, the Control Panel activates the latchkey feature when this option is off.
3. Light Button toggles system controlled lights on/off.
4. Star Button - If used with the X-10 Universal Module, the Control Panel will cause the garage door to open or close.
5. Lock and Unlock Buttons - If learned as sensor type: Intrusion, Silent Alarm, or Emergency, when pressed simultaneously, will activate alarm reports to the central station. These 2 buttons are also used to test the sensor.

Specifications

Power Source: 12 V 33 mAh alkaline battery
Typical battery life: 5 - 8 years
Operating temperature range: 10° to 120° F
Dimensions: L = 2.30” x W = 1.45” x H = .48”

FCC NOTICE

This device complies with FCC Rules Part 15. operation is subject to the following two conditions:

1) This may not cause harmful interference.
2) This device must accept any interference that may be received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the user’s authority to operate the equipment.
**General Information**

Door/Window Sensors can be installed on doors, windows, or many other objects that open and close. The sensors transmit signals to the Control Panel when a magnet mounted near the sensor is moved away from or closer to the sensor.

**Control Panel Compatibility:** *SIMON™*

**Installation Guidelines**

Use the following guidelines for installing Door/Window sensors.

- Mount the sensor on the door frame and the magnet on the door. If the sensor is to be used on double doors, mount the sensor on the least-used door and the magnet on the other door.
- If possible, locate sensors within 100 feet of the panel. While a transmitter may have a range of 500 feet or more out in the open, the environment at the installation site can have a significant effect on transmitter range. Sometimes a change in sensor location can help overcome adverse wireless conditions.
- Make sure the alignment arrow on the magnet points to the alignment mark on the sensor.
- Place sensors at least 5 inches above the floor to avoid damaging them.
- Avoid mounting sensors in areas where they will be exposed to moisture or where the operating temperature (10°-120°F) will be exceeded.
- Use spacers (not included) to keep sensors and magnets away from metal or metallic surfaces such as foil wallpaper.

**Materials Needed**

- #6 flathead screws
- Screwdriver or brad driver

The following illustrations and procedure describe how to install the Door/Window sensor.
To install Door/Window sensors:
1. Remove the sensor cover by pressing the button on the narrow end.
2. Remove the batteries to access the mounting holes.
3. Mount the sensor base with two #6 flathead screws at the locations shown in Figure 3. If you need to connect external switches, they should be installed at this point. Use the procedure for connecting external switches.
4. Remove the magnet from its base. Line up the arrow on the magnet with the mark on the sensor.
5. Mount the magnet base no more than 3/8-inch away from the sensor base. Replace the magnet cover.
6. Re-install the batteries and circuit board; and attach the sensor cover to the sensor base.

Note: When window or door construction does not allow the transmitter to be installed next to the magnet, use an external switch to install the Door/Window Sensor.

Connecting External Switches
External switches used with Door/Window Sensors allow you to protect doors and windows when there is inadequate room for directly mounting the sensor or when you want to locate the Door/Window Sensor in an adjacent but less visible place.

Materials and Tools Needed
• Hermetically sealed external switches (sealed reed switch) that supply a minimum 250-millisecond open or closure on alarm (only normally closed circuits can be used on the Simon panel)
• Stranded 22-gauge wire
• Small wire cutters
• Sensor and magnet spacers (optional)

Installation Guidelines
1. Install the magnet on the opening edge of the door or movable part of a window.
2. Position the switch on the door or window frame within one inch of the magnet.
3. Remove the cover from the Door/Window Sensor.
4. Pass the wires on the external switch through the rear opening at the bottom of the Door/Window Sensor.
5. Attach each wire to one side of the screw terminal (#31-255). Press the screw terminal over the wire posts.
6. Mount the sensor.

Programming
Follow these instructions to program the touchpad:
1. Open the control panel cover.
2. Enter Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press Add from the Start Menu.
4. Press the Sensor/Remote button from the Main menu until you hear the location you wish to use with the sensor.

The order of names the Control Panel uses are: keychain remote, touchpad remote, front door, back door, garage door, bedroom, guest room, child’s room, utility room, living room, dining room, bathroom, laundry room, kitchen, office, den, garage, special chime, basement, upstairs, downstairs, hallway, medicine cabinet, closet, attic. Each name may be used more than once.

Note: When adding sensors, if you wish to use a more descriptive location you may press the option button to use the compass directions (north, north east, east, south east, south, south west, west, north west).

5. Press DONE.
6. Enter the sensor type number (10 for exterior door, 14 for interior door, and 13 for window) with the red numbered keys.

Note: If you wish to use a sensor number other than the next available, enter a 2 digit sensor number with the red numbered keys immediately after entering the sensor type.

7. Press the button on the top of the sensor (cover removed).
Testing Door/Window Sensors used with the Simon Control Panel

The following steps describe the guidelines for testing sensors.

1. Open the Control Panel cover.
2. Enter the Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press the Test button once.
4. Press DONE.
5. Trip the sensor (move the magnet away from the sensor) and do not replace the magnet until the Control Panel indicates the number of RF packets received.
6. Note the number of siren beeps indicating how many RF packets the Control Panel received from the sensor. You should hear 7-8 beeps.

We recommend that you test the sensors after all programming is completed and whenever a sensor-related problem occurs.

Note: While the sensor test is a valuable installation and service tool, it only tests sensor operation for the current conditions. You should perform a sensor test after any change in environment, equipment, or programming.

If a Sensor Fails the Sensor Test

If sirens do not beep when a sensor is tripped, use an ITI RF Sniffer (60-401) test tool to verify that the sensor is transmitting. Constant beeps from the RF Sniffer indicate a runaway (faulty) sensor. Replace the sensor.

To improve sensor communication, you can:

- reposition the sensor
- relocate the sensor
- if necessary, replace the sensor

To relocate a sensor:

1. Test the sensor a few inches from the original position.
2. Increase the distance from the original position and retest until an acceptable location is found.
3. Mount the sensor in the new location.
4. If no location is acceptable, replace the sensor.

To replace a sensor:

1. Test a known good sensor at the same location.
2. If the transmission beeps remain below the minimum level, avoid mounting a sensor at that location.
3. If the replacement sensor functions, contact ITI for repair or replacement of the problem sensor.

Specifications

Power source: 2 AAA Alkaline batteries
Typical battery life: 4-6 years (Not verified by UL)
Operating temperature range: 10° to 120° F
Dimensions: L = 4.5” X W = 1.2” H = .94”

FCC NOTICE

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

1) This may not cause harmful interference.
2) This device must accept any interference that may be received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the user’s authority to operate the equipment.
Product Summary

The Remote Handheld Touchpad enables you to turn the SIMON™ security system on and off while in the home, turn lights controlled by the system on and off (all or individual lights), or turn on a system siren and call the central monitoring station if there is a non-medical emergency.

Control Panel Compatibility: SIMON™

Installation Overview

General Information

The Remote Handheld Touchpad is an alkaline battery-powered, wireless touchpad designed to provide users a convenient option for the following system operations:

- Arm the system (doors, windows, and motion sensors)
- Arm the system with no entry delay
- Disarm the system
- Panic alarm
- Access System Status
- Turn system controlled lights on or off
- Open the garage door or turn outside lights on

Installation Guidelines

Use the following guidelines when adding Remote Handheld Touchpads to the system:

- Remote Handheld Touchpads are learned into the Control Panel as sensors.
- They are generally programmed as non-supervised sensors using sensor type 01, 03, 06 or 07, but may be programmed into a supervised type.
- Each learned Touchpad uses one of the 24 available sensor numbers.

Programming

Follow these instructions to program the touchpad:

1. Open the control panel cover.
2. Enter Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press Add from the Start Menu.
4. Press the Sensor/Remote button from the Main menu until you hear touchpad remote.
5. Press DONE.
6. Enter the sensor type number (01, 03, 06, or 07) , with the red-numbered buttons.

Note: When adding sensors, if you wish to use a more descriptive location you may press the option button to use the compass directions (north, north east, east, south east, south, south west, west, north west).
Note: If you wish to use a sensor number other than the next available, enter a 2 digit sensor number with the red numbered keys immediately after entering the sensor type.

7. Press and hold the 2 emergency buttons to trip the sensor.

**Testing Remote Handheld Touchpads**

**Perform Sensor Test**

The following steps describe the guidelines for testing sensors.

1. Open the Control Panel cover.
2. Enter the Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press the Test button once.
4. Press DONE.
5. Trip the sensor by pressing the 2 emergency buttons until the Control Panel indicates the number of RF packets received.
6. Note the number of siren beeps indicating how many RF packets the Control Panel received from the sensor. You should hear 7-8 beeps.

Test Touchpad operation by pressing the buttons as described below:

1. Numeric Buttons (0 - 9) - Used to enter an access code or turn individual lights on or off.
2. Disarm Button - The Control Panel is disarmed to level 1. Doors, Windows, and Motion Sensors are disarmed. Disarm also requires the access code to be entered.
3. ARM Doors & Windows Button - The Control Panel is armed to level 2.
4. ARM Motion Sensors Button - The Control Panel is armed to level 3. If the ARM Doors & Windows button was previously pressed, the Control Panel is armed to level 4 (Doors/Windows and Motion Sensors armed).
5. On Lights Button - Pressing this button twice quickly activates all lights controlled by the system. Or when pressed once and used with the Numeric Buttons can turn specific lights on.
6. Off Lights Button - Pressing this button twice quickly turns off all lights controlled by the system. Or when pressed once and used with the Numeric Buttons can turn specific lights off.
7. Emergency Buttons - If learned in as sensor type 01-Intrusion, 03-Silent, 06 or 07-Emergency, when pressed simultaneously, will activate alarm reports to the central station.

**Specifications**

- Power source: 2 AAA Alkaline batteries
- Typical battery life: 1 year
- Operating temperature range: 10° to 120° F
- Dimensions: L = 4.88” x W = 2.25” x H = .88”

**FCC NOTICE**

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

1) This may not cause harmful interference.
2) This device must accept any interference that may be received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the user’s authority to operate the equipment.
Learn Mode Freeze Sensor

Product Summary

The ITI Learn Mode™ Freeze Sensor detects a furnace failure in a home or business. The Freeze Sensor contains a bimetallic switch wired to a transmitter. It activates the switch when the surrounding temperature drops to about 41°F. After the sensor is tripped, the Freeze Sensor will send a restore signal to the panel when the temperature rises to 50°F.

Tools and Equipment Needed

- Slotted screwdriver, if using screws instead of the included double-faced tape
- The panel installation instructions, for more detailed instructions on programming sensors
- Ice cube
- Plastic bag

Installation Guidelines

**Do**
- Keep the transmitter within 100 feet of the panel. In open air, the transmitter has a range of 500 feet, but the indoor range will be shorter.
- Locate the sensor in an area that is likely to get cold first.
- Locate the sensor on an interior wall where there is free movement of air.
- Program and test the Freeze Sensor before you permanently attach it to anything.

**Do not**
- Locate the sensor in the same room as a furnace, water heater, or any other heat source that may stay warm after the furnace fails.
- Locate the sensor on an outside wall or near the basement floor.
- Place in areas with excessive metal or electrical wiring; these may keep the sensor’s signals from reaching the panel.
- Place sensor in an area where it will be exposed to moisture.
- Place sensor in a location where the temperature will exceed the sensor’s operating limits of 10° to 120°F.

Programming

Follow these instructions to program the freeze sensor:

1. Open the control panel cover.
2. Enter Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press Add from the Start Menu.
4. Press the Sensor/Remote button from the Main menu until you hear the location you wish to use with the sensor.

The order of names the Control Panel uses are: key-chain remote, touchpad remote, front door, back door, garage door, bedroom, guest room, child’s room, utility room, living room, dining room, bathroom, laundry room, kitchen, office, den, garage, special chime, basement, upstairs, downstairs, hallway, medicine cabinet, closet, attic. Each name may be used more than once.

**Note**
When adding sensors, if you wish to use a more descriptive location you may press the option button to use the compass directions (north, north east, east, south east, south, south west, west, north west).

5. Press DONE.
6. Enter the sensor type number (29) with the red numbered keys.

**Note**
If you wish to use a sensor number other than the next available, enter a 2 digit sensor number with the red numbered keys immediately after entering the sensor type.

7. Press the button on the top of the sensor (cover removed) until the control panel confirms the programming. If the button is not held down long enough, SYSTEM STATUS will report the sensor is open.

Testing

Perform Sensor Test

The following steps describe the guidelines for testing sensors.
1. Open the Control Panel cover.
2. Enter the Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press the Test button once.
4. Press DONE.
5. Trip the sensor by pressing the button on the top of the sensor (cover removed) until the control panel indicates the number of RF packets received. If the button is not held down long enough, SYSTEM STATUS will report the sensor is open.
6. Note the number of siren beeps indicating how many RF packets the Control Panel received from the sensor. You should hear 7-8 beeps.

To test sensor operation:
1. Make sure the Freeze Sensor is in its secure (non-alarm) state.
2. From the panel, begin a sensor test, as explained above.
3. To trip the Freeze Sensor, use a piece of ice in a plastic bag to cool the bimetallic switch. When the bimetallic switch reaches approximately 41°F, the sensor sends an RF signal to the panel.
4. Note the number of beeps, which indicates the device’s signal strength.
5. The Freeze Sensor will reset when the surrounding temperature reaches 50°F.

Installation

In case there are problems with the Freeze Sensor, permanently install it only after programming and testing it.

CAUTION
You must be free of all static electricity when handling sensors. Touch a grounded metal object before handling the circuit board.

1. Secure the sensor base to the clean, dry, nonporous mounting surface using the double-faced tape.

Or—Follow steps 2 through 7 to secure the sensor base to the mounting surface using the screws (included).

2. Remove the Freeze Sensor’s outer cover by pressing the round button on the end of the sensor.
3. Remove the batteries from the sensor to access the screw mounting holes underneath it.
4. Use the included #6 pan head screws to secure the sensor base to the mounting surface. If mounting on plaster, use the appropriate fasteners. Use the slotted mounting hole for alignment (see Figure 5).
5. Location of screw mounting holes
6. Replace the batteries.
7. Replace the sensor’s outer cover.

Specifications

Battery: two 1.5 VDC alkaline AAA batteries
Battery life: 4 to 5 years
Compatibility: Simon™, Generic Loop Receiver
Dimensions: 4.5" × 1.13" × 0.88" (L × W × D)
Temperature range: 10° to 120°F
Supervisory signal transmission: Every 64 minutes
Transmitter range: 500 feet in open air
Transmitter type: SAW (Surface Acoustical Wave), 319.5 MHz radio frequency

FCC NOTICE

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1) This device may not cause harmful interference.
2) This device must accept any interference that may be received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the user’s authority to operate the equipment.

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Product Summary

The ITI SAW Learn Mode™ Water Sensor detects a water leak in a home or business. The detector is connected to the sensor by an 8-foot (2.4-meter) cable. Water that reaches both detector contact points activates the sensor, causing it to transmit an alarm signal.

The SAW 319.5 MHz transmitter has an operating range of at least 500 feet in open air (depending on panel type and installation environment). The sensor has an estimated battery life of 3 to 5 years.

Tools and Equipment Needed

- Double-sided tape (included) for mounting the detector and sensor
- 1.5-inch wire (used for programming the sensor)
- #6 pan head screws (included) if mounting sensor without double-sided tape is preferred
- Slotted screwdriver (not included) if mounting sensor with screws

Installation Guidelines

This section describes the detector and sensor (transmitter) mounting requirements.

Detector Mounting:

- Install the detector on the floor for low water-level detection or on the bottom of a wall, just above the floor for higher water-level detection.

Sensor Mounting:

- Program and test the sensor before mounting.
- Install the sensor where it is easily accessible and not exposed to moisture or extreme temperatures.
- Locate the sensor within 100 feet of the panel whenever possible. Although the sensor has an open-air range of at least 500 feet, the indoor range may be less.

Programming

This section describes how to add (learn) the sensor into the memory of compatible panels.

Simon® Panels

1. Open the control panel cover.
2. Enter Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press Add from the Start Menu.
4. Press the Sensor/Remote button from the Main menu until you hear the location name you wish to use with the sensor. The panel announces the names in the following order:
   keychain remote, touchpad remote, front door, back door, garage door, bedroom, guest room, child’s room, utility room, living room, dining room, bathroom, laundry room, kitchen, office, den, garage, special chime, basement, upstairs, downstairs, hallway, medicine cabinet, closet, attic.
   Each name may be used more than once.

   Note
   When adding sensors, if you wish to use a more descriptive location you may press the option button to use the compass directions (north, north east, east, south east, south, south west, west, north west).
5. Press DONE.
6. Enter the sensor type number (29) with the red numbered keys.
Note
If you wish to use a sensor number other than the next available, enter a 2-digit sensor number with the red numbered keys immediately after entering the sensor type.

7. Remove the sensor outer cover by pressing the cover release button on the end of the transmitter (see Figure 2).

Figure 2. Transmitter Cover Release Button

8. Press and hold the “PRESS TO PROGRAM” plastic tab on the sensor until the control panel confirms the programming.

Concord™ and Concord Express™ Panels

The sensor must be in the alarm state for Concord family panels to learn the sensor correctly.

1. Remove the sensor outer cover by pressing the cover release button on the end of the transmitter (see Figure 2).

2. Short across the detector by wrapping the wire around the two contact points (see Figure 3).

3. Using an alphanumeric touchpad, enter program mode by pressing 8 + 4 3 2 1 + 0 + 0. The display shows SYSTEM PROGRAMMING.

4. Press # and the display shows SECURITY.

5. Press A or B repeatedly until the display shows SENSORS.

6. Press # and the display shows LEARN SENSORS.

7. For panels with partitions, press # and the display shows SENSOR PTN 1.

Press # to select partition 1 or press 2 + # to select partition 2.

8. The display should now show SENSOR GROUP 00.

Press 1 + # to select sensor group 29, then press #.

9. The display shows TRIP SENSOR nn, where nn is the next available sensor number. To change the displayed sensor number, select the desired 2-digit sensor number and press #.

10. Press and hold the “PRESS TO PROGRAM” plastic tab on the sensor for at least one full second. The touchpad display should advance to the next available sensor number, indicating the panel learned the Water Sensor.

11. Press # repeatedly until the display shows SYSTEM PROGRAMMING.

12. Press A or B until the display shows EXIT PROGRAMMING, then press #.

13. Remove the wire from the detector.

Quik Bridge® Loop Receivers

The sensor must be in the alarm state for loop receivers to learn the sensor correctly.

1. Remove the sensor outer cover by pressing the cover release button on the end of the transmitter (see Figure 2).

2. Short across the detector by wrapping the wire around the two contact points (see Figure 3).

3. Enter program mode by sliding the DIP switch up. The low battery and supervisory LEDs blink back and forth. Zone LEDs turn on if sensors are already learned into those zones.

4. Press and release the ADV switch until the desired zone LED turns on. (Pressing and holding the ADV switch advances to the next zone and causes the zone LED to flicker.)

5. Press and release the SEL switch once to select this zone for learning sensors. The zone LED remains on and the low battery and supervisory LEDs stop flashing.

6. Trip the sensor by pressing and holding the “PRESS TO PROGRAM” plastic tab on the sensor for at least one full second. Each time the receiver learns a sensor, the selected zone LED blinks once.

7. Exit program mode by sliding the DIP switch back down.

8. Remove the wire from the detector.

Testing the Water Sensor

Perform Sensor Test

The following steps describe the general guidelines for testing the sensor. Refer to the specific panel installation instructions or reference manual for complete testing details.

1. Place the control panel into dealer sensor test mode.

2. Trip the sensor by pressing the “PRESS TO PROGRAM” plastic tab on the sensor (cover removed) until the panel indicates the number of RF packets received.

3. Listen for the appropriate siren response as described in the panel installation instructions.
4. Exit from dealer sensor test mode.

**Test Sensor Operation**

1. Make sure the Water Sensor is in the secure (non-alarm, dry) state.
2. Place the control panel into sensor test mode.
3. Trip the sensor by shorting across the detector by wrapping the wire around the two contact points (see Figure 3).
4. Listen for the appropriate siren response as described in the panel installation instructions.
5. Remove the wire from the two detector contact points to send a restore signal to the panel.
6. Exit from sensor test mode.

**Installation**

Permanently install the Water Sensor only after programming and testing it.

**Note**

Once the sensor has been installed it is recommended that you test the sensor range.

**To install the Water Sensor without using screws:**

1. Prepare a clean, dry mounting surface for the detector and transmitter.
2. Secure the detector to the mounting surface using the double-faced tape (included).
3. Secure the Water Sensor transmitter to the mounting surface using the double-faced tape.

![Figure 4. Installing the Water Sensor without Screws](image)

6. Replace the batteries.
7. Replace the transmitter outer cover.

**To install the Water Sensor using screws:**

1. Prepare a clean, dry mounting surface for the detector.
2. Secure the detector to the mounting surface using the double-faced tape (included).
3. Remove the Water Sensor transmitter outer cover by pressing the round button on the end of the transmitter (see Figure 2).
4. Remove the batteries from the transmitter to access the screw mounting hole underneath them.
5. Use the included #6 pan head screws to secure the transmitter to the mounting surface. If mounting on plaster, use the appropriate fasteners. Use the slotted mounting hole for alignment (see Figure 5).

![Figure 5. Installing the Water Sensor with Screws](image)
Specifications

Compatibility: Simon, Concord, Concord Express, Quik Bridge Loop Receiver

Power Source: Two 1.5 V Alkaline AAA batteries

Temperature Range: 10° to 120° F

Dimensions: Detector
1.80” x 0.94” x 0.50” (L x W x D)

Transmitter
4.5” x 1.13” x 0.94” (L x W x D)

Notices

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Product Summary

The wall-mounted wireless Touchtalk 2-Way RF Touchpad combines a conventional ITI Learn Mode™ touchpad with an RF receiver, speech chip, and voice amplification circuit. The Touchtalk 2-Way RF Touchpad enables you to turn the SIMON® security system on and off while in the home, turn lights controlled by the system on and off (all or individual lights), or turn on a system siren and call the central monitoring station if there is a non-medical emergency. It enables the user to hear the same voice feedback as would be heard at the Simon Control Panel.

The voice feedback is heard only at the touchpad that is in use. If the touchpad is talking, the panel is silent; when the panel is talking, the touchpad is silent. The touchpad is not a siren and will not make any alarm sounds or status beeps. This feature extends battery life to the touchpad and gives feedback only to the user who needs it.

The Touchtalk 2-Way RF Touchpad is not supervised and has no tamper detection. A low battery condition is automatically detected by the touchpad and communicated to the control panel.

Control Panel Compatibility: SIMON® (Only Version 2 and later [# 60-776])

Installation Overview

General Information

The Touchtalk 2-Way RF Touchpad is an alkaline battery-powered, wireless touchpad designed to provide users a convenient option for the following system operations:

- Arm the system (doors, windows, and motion sensors)
- Arm the system with no entry delay
- Disarm the system
- Panic alarm
- Access System Status
- Turn system controlled lights on or off (all or individual)
- Open the garage door or turn outside lights on

Note: The voice feedback is heard only at the touchpad that is in use. If the touchpad is talking, the panel is silent; when the panel is talking, the touchpad is silent. The touchpad is not a siren and will not make any alarm sounds or status beeps. This feature extends battery life to the touchpad and gives feedback only to the user who needs it.

Installation Guidelines

Use the following guidelines when adding this touchpad to the system:

- Touchtalk 2-Way RF Touchpads are learned into the Control Panel as sensors.
- They are programmed as non-supervised sensors using sensor type 01, 03, 06 or 07.
- Each learned Touchpad uses one of the available sensor numbers (24 total sensors/zones can be used with this security panel).
- The Touchtalk 2-Way RF Touchpad is mounted on the wall.
Programming

For complete programming instructions, refer to the SIMON® installation instructions. General guidelines for programming this sensor are:

1. Open the control panel cover.
2. Enter Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press Add from the Start Menu.
4. Press the Sensor/Remote button from the Main menu until you hear “touchpad remote.”
   The order of names the Control Panel uses are: keychain remote, touchpad remote, front door, back door, garage door, bedroom, guest room, child’s room, utility room, living room, dining room, bathroom, laundry room, kitchen, office, den, garage, special chime, basement, upstairs, downstairs, hallway, medicine cabinet, closet, attic. Each name may be used more than once.
5. Press DONE.
6. Enter the sensor type number (01, 03, 06, or 07) with the red-numbered buttons.
   Note: If you wish to use a sensor number other than the next available, enter a 2 digit sensor number with the red numbered keys immediately after entering the sensor type.
7. Press and hold the 2 emergency buttons to trip the sensor.

Testing Touchtalk 2-Way RF Touchpads

Perform Sensor Test

The touchpad is sensitive to its orientation to the Control Panel. For that reason, it is recommended that you test the touchpad prior to mounting it on a wall.

The following steps describe the guidelines for testing sensors.

1. Open the Control Panel cover.
2. Enter the Utility Access Code 1 or 2 using the red-numbered buttons.
3. Press the Test button once.
4. Press DONE.
5. Trip the touchpad by pressing and holding the 2 emergency buttons until the Control Panel indicates the number of RF packets received.
6. Note the number of siren beeps indicating how many RF packets the Control Panel received from the sensor. You should hear 7-8 beeps.

We recommend that you test the touchpad after all programming is completed and whenever a touchpad-related problem occurs.

If a Touchpad Fails the Sensor Test

If sirens do not beep when a touchpad is tripped, use an ITI RF Sniffer (60-401) test tool to verify that the touchpad is transmitting. Constant beeps from the RF Sniffer indicate a runaway (faulty) touchpad. Replace the touchpad.

To improve sensor communication, you can:
- reposition the touchpad
- relocate the touchpad
- if necessary, replace the touchpad

To reposition a touchpad:

1. Rotate the touchpad and test for improved communication at 90 and 180 degrees from the original position.
2. If poor communication persists, relocate the touchpad as described as follows.
To relocate a touchpad:
1. Test the touchpad a few inches from the original position.
2. Increase the distance from the original position and retest until an acceptable location is found.
3. Mount the touchpad in the new location.
4. If no location is acceptable, replace the touchpad.

To replace a touchpad:
1. Test a known good touchpad at the same location.
2. If the transmission beeps remain below the minimum level, avoid mounting a touchpad at that location.
3. If the replacement touchpad functions, contact ITI for repair or replacement of the problem touchpad.

Mounting the Touchtalk 2-Way RF Touchpad

To mount the touchpad on a wall, do the following:
1. Open the door of the touchpad.
2. Gently pull down on the tab at the bottom of the touchpad to separate the touchpad body from the touchpad mounting plate.
3. Use the two screws included with the touchpad to attach the touchpad to the wall.
4. Reattach the touchpad to the mounting plate.

Perform Sensor Test After Mounting the Touchpad

Repeat the steps listed in the perform sensor test paragraph on the previous page.

Note: While the sensor test is a valuable installation and service tool, it only tests sensor operation for the current conditions. You should perform a sensor test after any change in environment, equipment, or programming.

Test Touchpad operation by pressing the buttons as described below:
1. Numeric Buttons (0 - 9) - Used to enter an access code or turn individual lights on or off.
2. Disarm Button - The Control Panel is disarmed to level 1. Doors, Windows, and Motion Sensors are disarmed. Disarm also requires the access code to be entered.
3. ARM Doors & Windows Button - The Control Panel is armed to level 2.
4. ARM Motion Sensors Button - The Control Panel is armed to level 3. If the ARM Doors & Windows button was previously pressed, the Control Panel is armed to level 4 (Doors/Windows and Motion Sensors armed).
5. Lights On Button - Pressing this button twice quickly, activates all lights controlled by the system.
6. Lights Off Button - Pressing this button twice quickly, turns off all lights controlled by the system.
7. Emergency Buttons - If learned in as sensor type 01-Intrusion, 03-Silent, 06 or 07-Emergency, when pressed simultaneously, will activate alarm reports to the central station.

Specifications

Power source: 3 AAA Alkaline batteries
Typical battery life: 3 year
Operating temperature range: 0° to 120° F
Dimensions: H = 5.25” x W = 3.5” x Depth = 1”

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