



Cat. No. 49-2025A

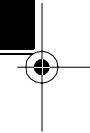


OWNER'S MANUAL

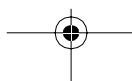
Please read before using this equipment.

Wireless Infrared Motion Sensor

For Use with the Radio Shack
Wireless Alarm System (49-2011)



Radio Shack



FEATURES

Your Radio Shack Wireless Infrared Motion Sensor is for use with the Radio Shack Wireless Alarm System (Cat. No. 49-2011). The sensor works by detecting changes in infrared energy that result from a rapid change in temperature. When anything moves within the sensor's protected area, the sensor signals the alarm system's control base. If the base is armed in the Away mode, an alarm sounds. The sensor also periodically sends a status message to the base so it can monitor the sensor's battery and other information.

The sensor includes the following features.

Large Protection Area — uses six upper and three lower sectors to protect an area up to 43 feet long by 54 feet wide.

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Long Range — lets you place the sensor up to 120 feet away from the base (see “Testing the Range” on Page 22).

Built-in Tamper Switch — signals the alarm system if someone tampers with the sensor.

TEST Button — lets you test the sensor's range or send a panic signal to the base.

PULSE Switch — lets you set the number of movements the sensor detects before signaling the base.

ARM/DISARM Switch — lets you easily arm or disarm the sensor.

Power-On Inactivity — prevents frequent alarms and saves battery power.

Adjustable Head — lets you adjust the sensor's angle.

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INSTALLING A BATTERY

To prepare your motion sensor, you must install a battery and set the **ARM/DISARM** switch. Your system's motion sensor requires a 9V alkaline rectangular battery (Cat. No. 23-553).

1. Remove the cover on top of the sensor by removing the screw and then sliding the cover in the direction of the arrow.

*illus - removing
screw and
cover*

2. Set **ARM/DISARM** to **DISARM**.

*illus - setting ARM/
DISARM*

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-
3. Connect the battery terminals to the connector inside the compartment, and place the battery in the compartment on top of the ribbon (for easier battery removal).

*illus - connecting
to the battery
terminals*

Note: Leave the cover off the motion sensor so you can adjust its controls — see “Adjusting the Sensor’s Sensitivity” on Page 24.”

4. Wait about 2¹/₂ minutes for the indicator on the front of the motion sensor to flash; then proceed with the installation.

POWER-ON ACTIVITY

For about 2¹/₂ minutes after you install or replace the battery, the sensor does not detect motion, send signals to the control base, or respond to the **TEST** button or internal tamper switch, regardless of the base's mode. This delay allows the sensor's movement-detection circuitry to stabilize before operation.

After the 2¹/₂ minutes, the sensor's indicator lights briefly if the sensor is disarmed (**ARM/DISARM** is set to **DISARM**). If the sensor is armed (**ARM/DISARM** is set to **ARM**), the sensor sends a status message to the control base and the sensor's indicator flashes, to show that the sensor is ready to operate.

Note: When the sensor is disarmed, the status message is sent after about an hour.

LOW BATTERY INDICATION

When the motion sensor's battery becomes low, the base's BATT LOW indicator and the zone indicator for the sensor flash.

BATT LOW flashing

Replace the sensor's battery.

If the sensor is armed, the sensor sends a status message to the base after about 2¹/₂ minutes. The sensor's zone indicator lights steadily. If the sensor is disarmed, it sends the status message after about 1 hour. The BATT LOW indicator turns off, and the zone indicator for the sensor lights steadily.

ASSIGNING A ZONE

Follow these steps to add the infrared motion sensor to your wireless alarm system, and assign it to a zone.

1. Press **LEARN** on the base. The **LEARN** indicator flashes.

LEARN indicator

2. Enter your access code on the base's keypad. The base sounds an ascending tone, the **LEARN** indicator lights steadily, and the indicator for the next unassigned zone flashes.
3. Enter the zone number you want to assign the device to. For example, press **01** to assign the device to Zone 1.

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Note: If you do not enter the code within 14 seconds, a tone sounds, and the base exits the learn mode.

4. Press **TEST** on the motion sensor. The system stores the sensor's settings in the selected zone. The indicator for the selected zone lights steadily and a brief tone sounds to confirm the addition of the sensor (when the tone sounds your device has been learned by the base). The indicator for the next unassigned zone flashes.
5. Press **CANCEL** on the base to exit the learn mode.

REMOVING A SENSOR

Follow these steps to remove a motion sensor from the system. When a sensor is removed, it no longer triggers the alarm.

1. Press **LEARN** on the base to enter the learn mode. Then enter the access code. The base sounds an ascending tone.
2. Enter the zone number for the device you want to remove. The corresponding zone indicator flashes.

Note: If you decide not to remove the device for the zone selected, wait approximately 20 seconds for the base to clear the cancel function.

3. Press **CANCEL** while the zone indicator flashes. The indicator turns off and the device is removed from the system.
4. Press **CANCEL** again to exit the learn mode.

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INSTALLATION

Follow these steps to properly install the motion sensor.

1. Choose a mounting location.
2. Temporarily place the motion sensor at the mounting location.
3. Test the coverage area and range.
4. Permanently mount the motion sensor.

CHOOSING A MOUNTING LOCATION

There are some things you should consider when you choose a mounting location for the motion sensor.

- The sensor should be mounted on a wall.

- The sensor should be mounted 6¹/₂ feet high and parallel to the floor for a maximum coverage area of about 43 feet long by 54 feet wide when **SENSITIVITY** is set to **MAX**. (When **SENSITIVITY** is set to **MIN**, the coverage area for these mounting specifications is about 23 feet long by 31 feet wide.)
- The maximum transmission range from the sensor to the base is about 120 feet (in open space with no obstacles). Walls, windows, furniture, and other similar objects between the sensor and the control base can decrease the range. Concrete and metal objects decrease the range the most. Mount the sensor where there are as few obstacles as possible between the sensor and the control base.

- Mount the sensor where an intruder would move within the sensor's coverage area.

In addition, to avoid false alarms, mount the sensor:

- Out of direct sunlight.
- Away from heaters or any other device that quickly changes temperature within the coverage area.
- Away from air conditioners or other devices that blow air directly on the sensor or create strong drafts within the coverage area.
- So the coverage area is above where small pets and children will trigger the sensor.

SENSOR COVERAGE

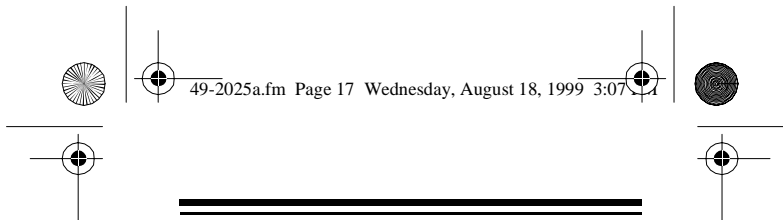
The sensor divides its coverage into six upper sectors and three lower sectors. The upper sectors cover a horizontal area 78° wide. The lower sectors cover a horizontal area 60° wide.

Notes:

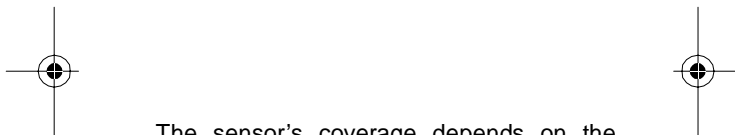
- There is a non-coverage area of 2 feet directly in front of the sensor (16 feet with the lower-sector filter installed).
- The lower sectors can be disabled. See "Using the Lower-Sector Filter" on Page 28.

Both upper and lower sectors cover a vertical area about 20° wide.

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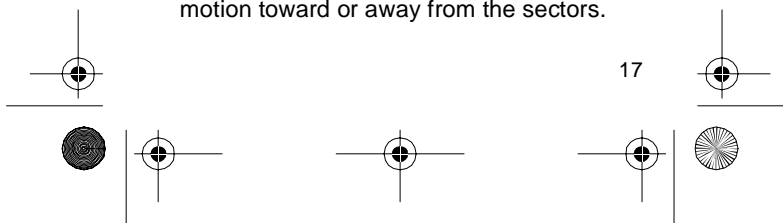


(illustration: side view of sectors)



The sensor's coverage depends on the height and angle of the sensor, the **SENSITIVITY** setting, the shape of the protected area, and the texture of the walls and other surfaces in the area.

The sensor is most sensitive to motion across the sectors and least sensitive to motion toward or away from the sectors.



Note: The following measurements are based on the sensor being mounted 6¹/₂ feet off the floor and **SENSITIVITY** set to **MAX**.

Sensor Angle		0°	5°	15°	30°
Upper Sectors	Long (ft.)	43	28	13	7
	Wide (ft.)	54	35	16	8
Lower Sectors	Long (ft.)	13	10	7	4
	Wide (ft.)	12	9	6	3

TEMPORARILY PLACING THE INFRARED MOTION SENSOR

Before you permanently mount the motion sensor, temporarily place it at the selected location so you can check the coverage area. You might want to check several locations to determine the best permanent mounting location.

One simple way to check the coverage is to place the system on a stepladder at the desired height.

Before permanently mounting the system, you must test the coverage and range of the sensor.

TESTING THE COVERAGE

You must test the sensor's coverage to be certain it covers the area you want it to monitor.

Follow these steps to test the sensor's coverage.

1. Set the sensor's **ARM/DISARM** switch to **DISARM**.

(Illustration: Setting ARM/DISARM to DISARM.)

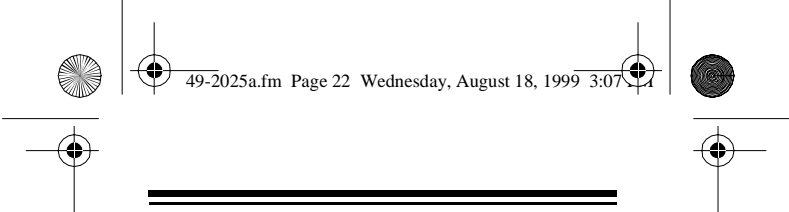
2. Confirm that the protected area is clear of people, pets, and other potential causes of false alarms.

3. Walk around the protected area and look at the sensor's indicator. When the sensor detects motion, the indicator lights.

4. If the sensor does not detect your motion, do any or all of the following.

- Adjust the sensor angle. See "Adjusting the Sensor's Angle" on Page 25.
- Change the setting of the **SENSITIVITY** control or **PULSE** switch. See "Adjusting the Sensor's Sensitivity" on Page 24 and "Setting the Pulse Switch" on Page 27.
- Change the location of the sensor.

After you make the adjustments, walk around the protected area again.



5. Walk outside of the protected area. The sensor's indicator should not light. If it does, find whatever is causing the false alarm and remove it from the area. Repeat Steps 3 and 4.

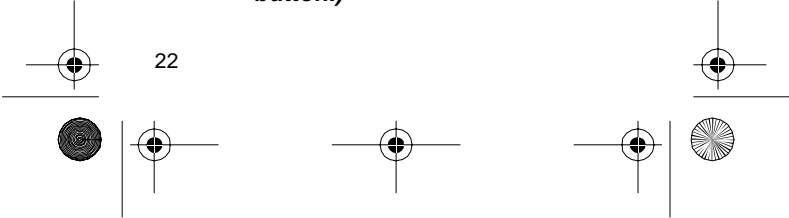
TESTING THE RANGE

The range is the distance from which the sensor can transmit a signal to the base. Before you permanently mount your motion sensor, you must test the range.

Follow these steps to test the sensor's range.

1. Press **TEST** on the base. The **TEST** indicator lights.

(Illustration: The TEST button.)



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2. Press **TEST** on the sensor. The sensor sends a test signal to the base and the sensor's indicator flashes.

(Illustration: TEST on the sensor.)

If the base receives the signal, it sounds a short tone.

Note: You may need someone to stand next to the base to hear the tone.

If the tone does not sound:

- The sensor's battery is low or improperly installed. Check the battery and replace it, if necessary. Then test the range again.

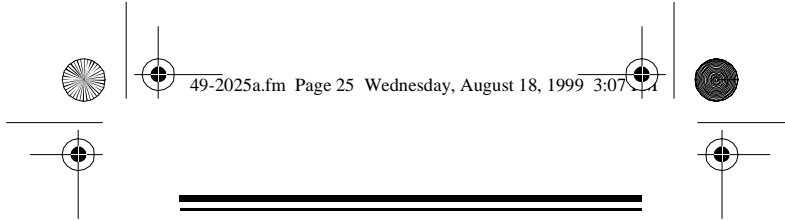


- The sensor might be out of the base's range, or something might be blocking the transmission. Move the sensor or base to another location, then retest the range.

3. Press **TEST** on the base to exit the test mode. The TEST indicator turns off and the base enters the disarm mode.

ADJUSTING THE SENSOR'S SENSITIVITY

Using a small, flat-blade screwdriver, rotate **SENSITIVITY** clockwise (toward **MAX**) to increase the sensor's sensitivity or counter-clockwise (toward **MIN**) to decrease it. If you have frequent false alarms, rotate **SENSITIVITY** all the way to the left (**MIN**).

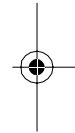


Illus - Adjusting Sensitivity

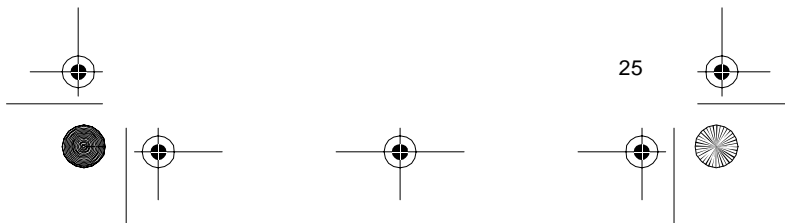
ADJUSTING THE SENSOR'S ANGLE

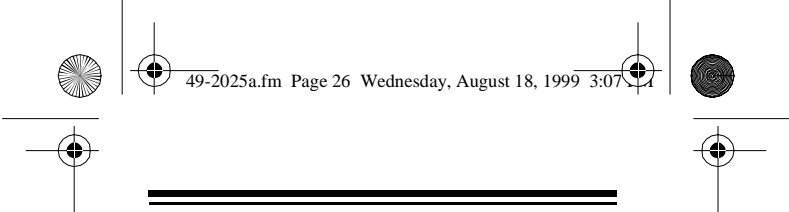


The sensor is attached to a ball and socket joint so you can adjust it to a variety of angles.

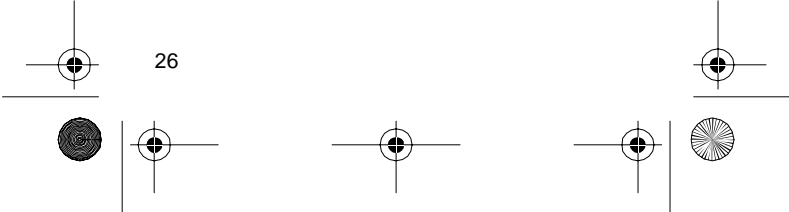
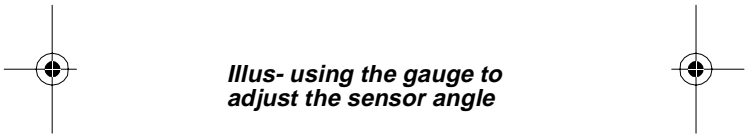


To adjust the sensor's angle, loosen the collar screw at the neck of the sensor. Then carefully move the sensor's head for the desired angle, and tighten the collar screw.





To determine the sensor angle, use the supplied angle gauge template (printed on the insert). Place the gauge against the sensor and wall, as shown and rotate the sensor to the desired angle



SETTING THE PULSE SWITCH

When the sensor detects a temperature change in its coverage area, it registers the change as a *pulse*. The setting of **PULSE** (1, 2, or 3) determines how many pulses the sensor must detect before it signals the base.

illus - setting the pulse switch

Set **PULSE** to 1 when you need the sensor to respond immediately; however, this setting is so sensitive that frequent alarms might occur. Set **PULSE** to 2 to slightly reduce the possibility of false alarms. Set **PULSE** to 3 for the maximum protection against false alarms.

USING THE LOWER-SECTOR FILTER

If you experience frequent false alarms caused by pets or small children, you can disable the lower sectors by using the supplied lower-sector filter. See "Sensor Coverage" on Page 16.

To install the filter, insert its side tabs into the slots on the sensor window.

(Illustration: Installing the lower-sector filter.)

TESTING THE INSTALLATION

Notes:

- To verify proper operation, test the sensor once a week.
- This test sounds the alarm.

After you mount the sensor, follow these steps to test the installation.

1. Set the motion sensor's **ARM/DISARM** switch to **ARM**.

arm/disarm switch

2. Press **AWAY** on the base.

-
3. Enter the access code. The 30-second exit delay begins.
 4. After 30 seconds, walk around the protected area and watch the sensor's indicator. It flashes when the sensor signals the control base.

Note: If you arm the sensor immediately after you install the battery, the sensor does not detect motion for 2¹/₂ minutes.

5. About 45 seconds after the sensor signals the base, the base sounds an alarm.
6. Enter the access code at the base to stop the alarm.
7. After you test the sensor's installation, make sure **ARM/DISARM** is set to **ARM** for proper operation.

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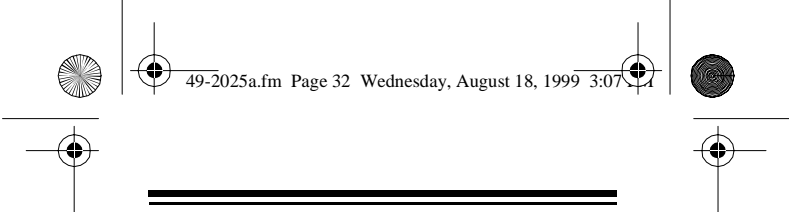
MOUNTING THE SENSOR

After you test the sensor's coverage and range, follow these steps to mount the sensor.

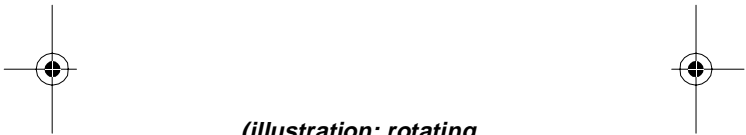
1. Using the sensor's bracket as a template, mark the positions for the four wood screws on the mounting surface.

(Illustration: Using bracket for template, marking.)

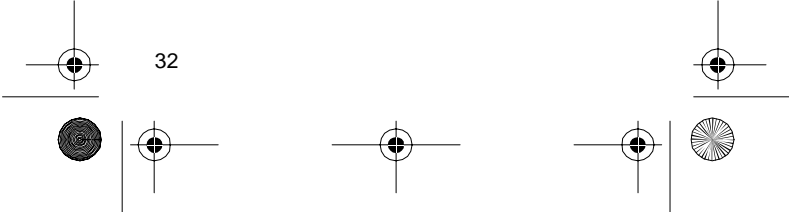
2. Mount the sensor using the supplied wood screws.



Note: To allow better access to the screws, loosen the sensor's collar screw to rotate the sensor's head and tilt it away from the screw hole.



(illustration: rotating sensor head)



OPERATION

ARMING/DISARMING THE MOTION SENSOR

The motion sensor has a separate **ARM/DISARM** switch so you can have more options for arming the system. If you install several motion sensors, you can set a particular sensor to **DISARM**, and then arm the system in the Away mode. The system responds to all types of sensors, but it does not receive signals from the disarmed sensor. The disarmed sensor continues to detect motion and its indicator still lights; however, it does not cause the base to sound the alarm.

To arm the motion sensor, set **ARM/DISARM** to **ARM**. To disarm the sensor, set **ARM/DISARM** to **DISARM**.

(illustration: setting switch to Arm & Disarm.)

Notes:

- In order for the motion sensor to operate as part of your security system, you must set its switch to **ARM**.
- Motion sensors do not arm when you arm the system in the Home mode.

USING THE BUILT-IN TAMPER SWITCH

Caution: Do not disassemble the sensor.

If someone separates the infrared motion sensor bottom panel from the top panel when the sensor is armed, a built-in tamper switch causes the sensor to signal the base.

The sensor continues to send the signal as long as the top and bottom panels are separated. To stop the signal transmission, reassemble the panels or set **ARM/DISARM** to **DISARM**. To stop the alarm at the base, enter the access code.

USING THE PANIC ALARM

You can send an immediate panic signal to the control base by pressing **TEST** on the bottom of the sensor. The panic feature operates when the control base is in any mode other than the test mode. The sensor can be armed or disarmed.

Before you use this feature, test it as follows.

1. Disarm the base.

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-
2. Press **TEST** on the bottom of the sensor. The sensor's indicator flashes and the control base immediately sounds an alarm.

***TEST on
sensor***

3. Enter the access code at the base to stop the alarm.
4. Arm the base and press **TEST** on the sensor. The base immediately sounds an alarm. Enter the access code at the base to stop the alarm.

STATUS MESSAGE

The sensor reports a status message to the control base about once every hour, whether the sensor is armed or disarmed. The message includes the sensor ID code, a zone-violation message, and information about the battery condition. If the sensor fails to send a message within 12 hours, the MISSING indicator and the sensor's corresponding zone indicator flash on the control base.

TROUBLESHOOTING

If you have problems with the sensor, check the following to correct the problem. If you continue to have problems with the sensor, contact your local Radio Shack store for assistance.

If the alarm does not sound after the sensor detects motion, be sure:

- The sensor's battery is installed correctly and has power.
- The **ARM/DISARM** switch is set to **ARM**.
- The control base is armed in the Away mode.
- The control base has power.
- The sensor is assigned to a zone.

-
- The sensor covers the entire area you want to protect. Move the sensor and/or change its angle, if necessary.
 - The **SENSITIVITY** control and/or **PULSE** switch are set correctly.
 - The 2¹/₂-minute period of inactivity has passed.
 - The sensor is within range of the control base. Test the range.
 - The control base's exit or entry delay period has passed.

If there is no panic operation, be sure:

- The sensor's battery is good, and the control base has power.
- The control base is in a mode other than the Test mode.

- The sensor is assigned to a zone.
- The sensor is within range of the base.

If you experience frequent false alarms:

Find the cause of the false alarms and remove it from the area.

You can also adjust the location and angle of the sensor and change the settings of the sensor's **SENSITIVITY** and **PULSE** controls. To prevent false alarms, set **SENSITIVITY** to **MIN** and set **PULSE** to **3**.

Or, attach the supplied lower-sector filter to disable the lower sectors. See "Using the Lower-Sector Filter" on Page 28.

SPECIFICATIONS

Power Requirements 9-Volt Alkaline Battery
Operating Temperature 32°F to 110°F
(0°C to 43.3°C)
Sensitivity 5°F Difference
Pulses Selectable (1, 2, or 3 Pulses)
Warm-Up Time 155 Seconds
Current Consumption (@ +9V DC):
Standby (in arm mode) 45 mA
Alarm (in arm mode with transmission) ... 11 mA
Coverage Sensitivity (when angled level at
a height of 6.6 feet):
Upper Six Sectors (maximum) 43 Feet
Upper Six Sectors (minimum) 19 Feet
Lower Three Sectors (maximum) 10 Feet
Battery Low Voltage 6.6 Volts DC
Accessories Wood Screws (4)
Lower Sector Filter (1)

Specifications are typical; individual units might vary. Specifications are subject to change and improvement without notice.

Limited Ninety-Day Warranty

This product is warranted by Radio Shack against manufacturing defects in material and workmanship under normal use for ninety (90) days from the date of purchase from Radio Shack company-owned stores and authorized Radio Shack franchisees and dealers. EXCEPT AS PROVIDED HEREIN, RADIO SHACK MAKES NO EXPRESS WARRANTIES AND ANY IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THE WRITTEN LIMITED WARRANTIES CONTAINED HEREIN. EXCEPT AS PROVIDED HEREIN, RADIO SHACK SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY USE OR PERFORMANCE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, INCLUDING, BUT NOT LIMITED TO, ANY DAMAGES RESULTING FROM INCONVENIENCE, LOSS OF TIME, DATA, PROPERTY, REVENUE, OR PROFIT OR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, EVEN IF Radio Shack HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you. (continued)

In the event of a product defect during the warranty period, take the product and the Radio Shack sales receipt as proof of purchase date to any Radio Shack store. Radio Shack will, at its option, unless otherwise provided by law:

- (a) correct the defect by product repair without (continued)

(continued) charge for parts and labor; (b) replace the product with one of the same or similar design; or (c) refund the purchase price. All replaced parts and products, and products on which a refund is made, become the property of Radio Shack. New or reconditioned parts and products may be used in the performance of warranty service. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

This warranty does not cover: (a) damage or failure caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, lightning or other incidence of excess voltage or current; (b) any repairs other than those provided by a Radio Shack Authorized Service Facility; (c) consumables such as fuses or batteries; (d) cosmetic damage; (e) transportation, shipping or insurance costs; or (f) costs of product removal, installation, set-up service adjustment or reinstallation.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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