Simon XT Installation Guide

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This is the Installation Guide for the Simon XT control panel (models 600-1054-95R-11 and 600-1054-95R-11-CN).

The system can monitor up to 40 sensors including:

- Door/Window sensor (60-670)
- Indoor motion sensor (60-639)
- Outdoor motion sensor (60-639)
- Remote handheld touchpad (60-671)
- Two-Way Talking Touchpad/Touch Screen (60-924)

Contact your UTC Fire & Security representative for a more complete list.

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7 Ufh]cb. Do not use outdoor motion sensors for intrusion protection

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Table 1 below describes the recommended sensor groups.

HUV`Y %. FYWca a YbXYX gYbgcf [fci dg

8 Yj]WY	FYWca a YbXYX gYbgcf [fci d
Indoor motion sensor	17 [a]
Outdoor motion sensor	25 (chime only group) [b]
Entry/exit door	10
Interior door	14
Window sensor	13
Smoke sensor	26 [c]
Key fob	01
ELM key fob	01
Remote handheld touchpad	01
Two-Way Talking Touchpad/Touch Screen	01 [b]
CO alarm	34 [b]
Freeze sensor	29 [b]
Water sensor	38 [b]
Personal help button	01
Property/asset management	43 [b] [d]

    a.   Not certified as a primary protection circuit for UL-listed systems and is for supplementary use only.
    b.   Has not been investigated by UL.
    c.   Required for UL-listed residential fire alarm applications.
    d.   We recommend you use this group type in combination with a Two-Way Talking Touch Screen.

BchY. Additional devices employing UTCFS 80 Bit Enhanced Protocol have not been investigated for use in a UL Listed installation.

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Tabs at the top of the panel secure and release the front cover and the chassis. The plastic hinges on the panel bottom allow the cover and chassis to swing down and out of the way.

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1. Choose a panel location.

2. Run all necessary power, phone, siren, and hardwired contact wires to the desired panel location.

   When choosing the AC outlet location for the AC power transformer, make sure the outlet is not controlled by a switch or that it is not part of a ground fault circuit interrupt (GFCI).

3. Hold the panel against the wall and mark the mounting hole locations with a pencil.

4. Mount the back piece to the wall through the two horizontally centered mounting holes near the top and bottom using the supplied mounting hardware. Use wall anchors if no studs are present.

7cbbYWh]b[\UfXk]fYX XYj]WYg

The panel has five screw terminals, two battery terminals, and two telephone connections. The screw terminals connect the AC power, sirens, and or hardwired detectors.

:][i fY % K]f]b[hYfa]bU g
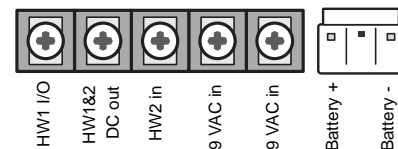
Program sensors and devices before you install them. Follow the instructions in "Sensors" on page 4 to add the sensors to panel memory.

The HW1 I/O terminal is dual purpose and can be used for either siren or hardwired contact connections. The HW2 in terminal is an input only.

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From the factory, the HW1 I/O input (terminal 1) is set up for interior siren operation (status and alarm sounds). The HW1&2 DC out (terminal 2) provides the positive (+) voltage.

BchY. The total current available from the HW1&2 DC out terminal is 250 mA at up to 120°F (49°C). A 24-hour battery standby for UL requirements will be met with a maximum load of 250 mA.

With Hardwired Siren Supervision turned on, sirens connected to HW1 I/O are supervised and require a 4.7-kohm resistor in the circuit. If this terminal is not used, turn Hardwired Siren Supervision off.

9l hYf]cf g]fYbg

For an exterior siren, reprogram HW1 to Option 6. See wiring diagram.

BchY. Not investigated for and may not be used in a UL Listed installation.
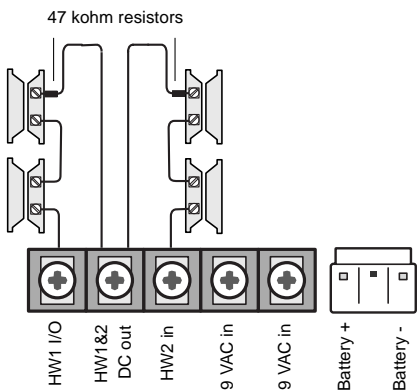
<UfXk]fYX WcbhUWts

You can connect hardwired reed switches (normally closed loop only) to HW1 I/O (if not being used for a hardwired siren) an/or HW2 in (terminal 3).

Connect only normally closed (NC) reed switches to HW1 I/O and/or HW2 in. Other types of hardwired detectors should not be used.

The total resistance of the wired loop must not exceed 3 ohms. This allows you to use up to 200 ft. (61 m) of two-conductor, 22-gauge stranded wire.

Connect hardwired reed switches to the panel using a 47-kohm resistor (not a 4.7-kohm resistor) as shown in Figure 2 below. The resistor must be connected at the last switch in the circuit.

:][ifY &. Bcfa U`mWcgYX \UfXk]fYX fYYX gk]hWYg

47 kohm resistors

HW1 I/O | HW1&2 DC out | HW2 in | 9 VAC in | 9 VAC in | Battery + | Battery -

BchY. Do not install the resistor at the panel terminals. This does not provide supervision of the wire.

K]f]b[d\cbY `]bYg

You can connect a phone line to the panel for systems monitored by a central monitoring station or systems that notify users by a voice event notification.

DSL (digital subscriber line) allows the use of multiple devices on a single phone line simultaneously. For DSL environments, connect the panel line-in jack to an available phone jack on the premises. You might also need an inline filter to ensure panel reporting is successful.

BchY. Avoid connecting the panel to a standard phone (voice) line in this manner. Other devices in use at the same time the panel is using the line can prevent reports from going through.

: i``]bYgY]nifY

Full line seizure allows the panel to take over (seize) the phone line, even if another device on the line is in use. This method requires that the panel be wired before all other phones, answering machines, computers, or other devices on the phone line. You may need to verify the line seizure for UL installations.

Use the RJ31X (CA-38A) jack when wiring for full line seizure. You can then quickly and easily disconnect the panel from the phone line in case the panel disables the phone line due to a malfunction.

Hc k]fYZ i``]bYgY]nifY k]h\ UbF>' %L

1. Run a four-conductor cable from the premises Telco block to the RJ31X.

2. Connect the four-conductor cable wire to the RJ31X.

3. Disconnect the green and red premises phone jack wires from the Telco block and splice them to the four-conductor cable black and white (or yellow) wires. Use weatherproof wire connectors for these splices.

4. Connect the four-conductor cable green and red wires to the Telco block TIP (+) and red to RING (-) posts.

5. Connect the phone cord included with the panel to the RJ31X and the panel LINE jack.

: i``]bYgY]nifY k]f]b[k]h\ cbY dfTa]gYg d\cbY

If a single phone is all that exists on the premises, full line seizure can be accomplished without an RJ31X.

1. Disconnect the phone from the premises phone jack and plug it into the panel PHONE jack. This jack is disconnected automatically whenever the panel reports.

2. Connect the included phone cord to the panel LINE jack and the premises phone jack.

If a customer adds phones or other phone devices to another phone jack, full line seizure no longer exists. Inform them to contact you if they want to add a phone or other device so that you can rewire for full line seizure by adding an RJ31X.

Connect the power transformer to the two 9 VAC in terminals (4 and 5) on the panel. Do not plug in the transformer at this time. When applying power to the panel, connect the battery first, and then plug in the AC power transformer. This sequence prevents a battery fault condition.

Hc]bgHU ``h Y VU`Wi d VUhhYfmff ˙J8 7 ž%& 5\ Ł˙

1. Connect the lug end of the red battery lead to the red battery tab.

2. Connect the lug end of the black battery lead to the black battery tab.

3. Align the red (+) battery terminal with the right end of the terminal strip. The logo and specification information should be readable.

4. Insert the front end of the battery under the forward battery compartment latch.

5. Push forward and rotate the battery downward until it seats beneath the rear battery compartment latch.

7 Ui h]cb. Do not connect the battery until you are ready to power up the panel.

5 dd`m]b[˙5 7 ˙dck Yf˙

Make sure the outlet is not controlled by a switch or that it is not part of a ground fault circuit interrupt (GFCI).

1. Remove the center screw from the outlet cover plate and hold the cover plate in place.

    K 5 FB±B; . Use extreme caution when securing the transformer to a metal outlet cover. You could receive a serious shock if a metal outlet cover drops down onto the prongs of the plug.

2. Plug the transformer into the lower receptacle of the outlet so that the hole in the transformer tab lines up with the outlet cover screw hole.

3. Insert the cover plate screw through the transformer tab and the outlet cover plate. Tighten the screw.

Dfc[fUa a]b[

The control panel provides the main processing unit for all system functions. The programming of system options and features is menu-driven.

Table 2 below describes the panels programming keys and features.

HUV`Y & ˙G]a cb˙L H˙dUbY ˙_Ymg˙UbX ˙ZYUhifg

7 cbhfc`	8 YgWf]dh]cb
Piezo siren	Provides alarm beeps and status beeps. Fire and intrusion alarm beeps are always played at high volume, while the volume of status beeps is programmable.
LCD display	Provides a 2 x 16-character array that displays a variety of phrases and icons.

7 cbhfc`	8 YgWf]dh]cb
Scroll up/down arrows	Press to scroll through lists of similar items.
OK	Press to select a particular menu item or commit to panel memory a menu item that has just been programmed.
Doors+Windows	Press to arm perimeter sensors.
Motions	Press to arm interior sensors.
Disarm	Press to turn off intrusion/burglary protection for your system. Only intrusion/burglary sensors such as doors, windows, and motion sensors are disarmed. Environmental sensors, such as smoke and carbon monoxide, stay active at all times.
Status	Press to determine system status.
Silent	Press to silence exit beeps when arming. (This doubles the exit delay.)
Bypass	Press to bypass a sensor.
Emergency (cross) Fire (flame) Police (shield)	Press and hold the button for 2 seconds (or press twice quickly) to call the central monitoring station and notify them of a **bcba YX]WU** call for help.
Microphone	Used to communicate with the central monitoring station after an alarm.
Numeric keypad	Press the keys (0 through 9, *, #) to enter access codes or other numerical data.
ł	Lights on.
#	Lights off.
Speaker	Provides voice output and sounds key beeps. The panel speaks arming level change, system status, and voice chime sensor trips. The panel voice is also used for voice reporting and remote phone control.
Door	Covers the lower panel.

9 bhYf]b[˙UbX Yl]h]b[˙h Y˙gmghYa ˙a Ybi ˙

To enter the system menu, either press the scroll or OK buttons in the upper right of the panel.

Press Status to exit a menu or option edit mode and navigate up one level. Pressing Status while in the top menu level exits the system menu level. The panel automatically exits the system menu after a few seconds of inactivity if no access code has been entered yet. After an access code has been entered to access a code-protected area of the system menu, the timeout is four minutes.

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Each menu contains a list of options and/or submenus. Press the scroll buttons to navigate up and down the list of options and submenus in that menu. Pressing OK after navigating to an option selects that option for editing and flashes the current value. Pressing OK after navigating to a submenu enters that submenu, making a new list of options accessible. Pressing Status exits a menu and goes to the next higher level.

When accessing the System Programming or System Tests menu, the panel prompts you to enter an access code. To continue, enter the dealer code or installer code, and then press OK.

Table 3 below shows the top menu structure. To see all of the possible options, refer to the Simon XT Installation Manual.

HUV`Y'' ."Hcd`a Ybi "g`fi Wi fY

Set clock (system time)
Enable chime
Enable special chime
System tests

	Sensor test
	Communication test
	Initiate download call

System programming

	Access codes
	Security
	Phone #s
	Phone options
	Sensors
	Reporting
	Timers
	Touchpad options
	System options
	Siren options
	Audio verification

Revision
Contrast

Hc`YbhYf`gmghYa `dfc[ fUa `]b[."

1. Scroll until the display shows System Programming, and then press OK. The display prompts for an access code.

2. Enter the access code from the codes listed in Table 5 below. The display shows each entered access code digit as an asterisk.

3. Press OK. The panel is now in program mode.

BchY. Do not remove the panel power while in program mode.

HUV`Y ( ."G]a cb`LH`dfc[ fUa `]b[`Wc XYg`

7cXY	8YgW]dh]cb
Dealer code	You can use the dealer code to program all system functions, including high-security options that are not accessible with the installer code if it is different from the dealer code. Depending on how the access code is set, the default dealer access code is 654321, 54321, 4321 (factory default), or 321. This code can be used for all programming.
Installer code	Depending on how the access code is set, the default installer code is 654321, 54321, 4321 (factory default), or 321. This code is limited to changing all but the following: Dealer code, code length, downloader code, phone lock, phone #1, phone #2, phone 1 report mode, phone 2 report mode, HW1 function.

5 WWYgg `Wc XYg`

Table 5 below describes the Access code menu programming options.

HUV`Y ) ."5 WWYgg `Wc XYg`

: i bWh]cb	8YfUi `h	8YgW]dh]cb
Dealer code	4321	You can use the dealer code to program all system options, including high-security options that are not accessible with the installer code if it is different from the dealer code. Changing the dealer code to differ from the installer code will prevent the installer from viewing certain fields. If you change the dealer code and enter program mode with the installer code, the installer should no longer be able to see the following: code length, downloader code, phone lock, phone #1, phone #2, phone 1 report mode, phone 2 report mode, HW1 function.
Installer code	4321	You can use the installer code to program most installer options, except for high-security dealer options.
Master code	1234	You can use the master code to arm/disarm the system and to enter user programming and bypass sensors.
User codes 1 to 8	Blank	You can use the user codes to arm/disarm the system.
Duress code	Blank	You can use the duress code in place of the master or user code to cause a silent alarm.
Code length	Four digits	Codes can be three to six digits long.

GYbgcfg`

These instructions describe how to add (learn) sensors, touchpads, and other system devices into panel memory. The panel recognizes a sensor when you press a sensor program button, press and release a tamper switch, press a sensor test button, or put a sensor into alarm. Table 6 below describes the programming method for each device.

BchY. If you are installing a sensor on a gun case, jewelry box, or a similar case, and the sensor is active in level one, you must subdisarm to avoid putting the panel into alarm when the sensor and the magnet are separated.

HUV`Y * ."8Yj]WY`dfc[fUa ["

8Yj]WY	Hc dfc[fUa
Door/window sensor	Press the button on the top of the sensor (cover removed) or trip the tamper.
Motion sensor	Press the button on the back of the sensor (mounting plate removed) or trip the tamper.
Smoke detector	Trip the tamper, press the test button, remove the detector from its base, or put the smoke detector into alarm.
Hardwired sensor	Separate the sensor from its magnet.
CO alarm	Trip the wall tamper by removing the sensor body from the mounting plate.

Device	To program
Freeze and water sensor	Trip the tamper or press and hold the button on the top of the sensor (cover removed) until the control panel confirms programming. If you do not hold the button down long enough, the system will report the sensor as open.
Personal help button	Press the help button until the light blinks.
Remote touchpad	Press the emergency buttons.
Key fob	Press the lock and unlock buttons at the same time.
ELM key fob	Do the following: 1. Press the unlock button twice and hold it the third time. The light button flashes three times. 2. Press the unlock button once and hold it the second time. The light button flashes twice. 3. Press and hold the unlock button. The light button flashes once. Hold the button until the flashing stops.

When learning (programming) sensors, the panel uses an ascending sequence starting with 1. You can override this by entering the desired sensor number using the number keys.

To learn (program) a sensor

1. Scroll until the display shows System Programming, and then press OK. The display prompts for an access code.

2. Enter the dealer or installer code and press OK. The display shows Access Codes.

3. Scroll until the display shows Sensors, and then press OK. The display shows Learn Sensor.

4. Press OK. The display shows Trip Sensor ##, with the number signs flashing.

    If you wish to use a sensor number other than the next one available, use the number keys to enter a two-digit sensor number immediately.

5. Press the sensor program button or release the sensor tamper switch. The display shows SN ## Grp10 <Front Door>, with Grp 10 flashing.

6. Use the number or scroll buttons if you want to enter a new group number; press OK to accept the group number displayed. The sensor text flashes.

7. Scroll through the text list. Press OK to accept the first text segment.

8. You may enter more text or press OK again to finish adding the sensor. The display shows Trip Sensor ## (with the next available sensor number).

9. Press Status repeatedly to exit.

Sensor testing

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.

Notify the central station you will be performing a test prior to starting the test.

To test the sensors.

1. Place all sensors in their secured (non alarm) state.

2. Scroll to Sensor Test options under the System Tests menu, and then press OK.

    The panel will prompt you to trip each sensor one at a time. You may follow the panel prompting or test the sensors in any order. See Table 7 below for specific instructions on how to trip each sensor type.

    Interior sirens sound transmission beeps, and the display identifies the tripped sensor and the number of RF packets received. The system will continue to prompt for sensors that have not yet been tested. When all sensors have been tested, the display shows SN Test Complete Press Status.

3. Press Status. The display shows Sensor Test OK.

    If you press Status and the panel has not heard from all sensors, the display shows SN Test Fail or Aborted.

Table 7. Sensor tripping instructions

Sensor	Do this
Door/window	Open the secured door or window.
Freeze	Remove the sensor cover. Apply ice in a plastic bag to the sensor (for 10 to 15 minutes). Do not allow the sensor to get wet.
Water	Press a wet rag or wet finger over both of the round, gold-plated terminals on the underside of the sensor.
Carbon monoxide alarm	Press and hold the Test/Hush button (approximately 5 seconds) until the unit beeps two times, and then release the button.
Glassbreak	Test with an appropriate glass break sensor tester.
Motion sensor	Avoid the motion sensor field of view for 5 minutes, and then enter its view.
Rate-of-rise heat detector	Rub your hand together until warm, and then place one hand on the detector for 30 seconds.
Shock	Tap the glass twice, away from the sensor. Wait at least 10 seconds before testing again.
Smoke	Press and hold the test button until the system sounds transmission beeps.
Personal help button	Press and hold the appropriate help button until the light blinks and the panel sounds for at least seven beeps.
Key fob	Press and hold the Lock and Unlock buttons simultaneously for 3 seconds.
Remote touchpad	Press and hold the two Emergency buttons simultaneously for 3 seconds.

Note. Refer to specific sensor installation instructions for complete operation and testing details.

Central station communication

After performing sensor tests, check that the system is reporting alarms successfully to the central station.

To test communication with the central station.

1. Call the central station and tell the operator that you will be testing the system.

2. Arm the system.

3. Test each of the wireless panic buttons and trip at least one sensor of each type (fire, intrusion, etc.) to verify that the appropriate alarms are working correctly.

   There is a 30 second delay.

4. When you finish testing the system, call the central station to verify that the alarms were received.

Specifications

Power	9 VAC, 60 Hz, 25 VA transformer minimum
	Rechargeable battery: 6.0 VDC, 1.2 Ah lead-acid. The battery will last 24 hours with no AC and specified standby load of 250 mA. Maximum battery charging current is 45 mA. With loss of AC, panel will continue to operate normally to a minimum of 5.1 VDC.
Radio frequency	319.5 MHz
Storage temperature	-29 to 140ºF (-34 to 60ºC)
Operating temperature	32 to 120ºF (0 to 49ºC)
Maximum humidity	85% relative humidity, noncondensing
Auxiliary power	Unregulated 5.3 to 12.3 VDC, with a maximum of 250 mA

Regulatory information

UL listed installations

Some installation may require configurations dictated by city/state codes, insurance, or Underwriter's Laboratories (UL). This section describes the various component and configuration listings.

Basic system:

- Control panel: Backup battery 6 V 1.2 Ah (34-025) (Portalac model # PE6V1.2)
- Standard class 2, 9 VAC, 3.34 A power transformer (part 22-153). Alternate transformer for US installations: MG Electronics model MGT925, 9 VAC, 25 VA, (part 22-155)
- Hardwired siren (13-374)

Household burglary alarm system unit (UL 1023), basic system plus the following:

- Hardwired magnetic contact (13-068 or 13-071) or wireless learn mode door/window sensor (60-670)
- Panel piezo beeps set to on
- Entry delay set to 45 seconds or less
- Exit delay set to 60 seconds or less
- RF time-out set to 24 hours
- Control panel alarms turned on
- Auto arm set to on
- Siren timeout set to 5 minutes or more
- Trouble beeps set to on
- RF jam detect set to on
- Hardwired siren supervision set to on
- Exit extension set to off
- Quick exit set to off

Household fire warning system (UL 985), basic system plus the following:

- Wireless smoke sensor 60-848-02-95, TX-6010-01-1 learned into sensor group 26.
- Panel piezo beeps turned on
- Control panel alarms set to on
- Siren timeout set to 4 minutes or more
- Trouble beeps set to on
- RF jam detect set to on
- Hardwired siren supervision set to on
- Smoke supervision set to on

UL 1023 and 985 24-hour backup:

- For 24-hour backup, the total current draw for all connected devices is limited to 240 mA (during normal standby conditions) using a 1.2 AH battery.

UL 1635 digital alarm communicator system (same as UL 1023 and 985) plus the following settings are in addition to UL 1023 and 985 and are required only if the system is set up for central station reporting:

- Phone mod 1 set to 0 or 1
- Automatic phone test set to 001
- RF timeout set to 4 hours
- AC power failure report set to on
- CPU low battery report set to on
- Fail to communicate set to on
- Entry delay plus the dialer delay must not exceed 60 seconds

SIA system requirements

SIA system requirements are the same as those described for a UL-listed basic system, plus if multiple annunciations are required, use hardwired siren 13-046.

Note. For UL 1635 installations, entry delay plus dialer abort delay must not exceed 60 seconds.

Table 8 below describes programming requirements to meet ANSI-SIA CP-01.

Table 8. SIA setting requirements

Function	Default setting	Required setting
Entry delay	30 seconds	30 to 240 seconds
Exit delay	60 seconds	45 to 240 seconds
Dialer delay	30 seconds	15 to 45 seconds
Auto arm	On	On
Unvacated premises	On	On
Call waiting	Off	On if reporting to central station and customer has call waiting service
Exit extension	On	On
Swinger shutdown	On (one trip)	On (one trip)
Fire alarm verify	Off	On
Duress/panic code	Disabled	Disabled
Cross zone	Disabled	Disabled for zones with high probability of false alarms

Table 9 below describes nonprogrammable (hard-coded) system operation, as required to meet ANSI-SIA CP-01.

Table 9. Nonprogrammable system operation

Function	Operation
Silent exit	All annunciators enabled
Remote arming exit time and progress annunciation	All annunciators enabled
Abort annunciation	Enabled
Cancel report annunciation	Enabled
Recent closing	Enabled (2-minute window)
Exit error	Enabled
Restoration of power	Panel resumes operation in same arming state and disregards alarm signals from sensors for the first 60 seconds after power restoration
Cancel alarm	Enter code only

Central station reporting

The panel has been tested with the following central station receivers using SIA and Contact ID reporting formats:

Note. Before beginning installation, installers must verify compatibility with the following central station receivers.

• Radionics D6600 central station receiver

• Sur-Gard central station receiver with models SG-DRL2A and SG-CPM2
• CS5000 digital alarm communicator receiver

UL Canada listed installations

This section describes the requirements for CUL (UL Canada) listed installations.

Canadian standards CSA certified accessories:

• Standard Class 2, 9 VAC, 3.34 A power transformer (model 22-153-CN).

Residential burglary alarm system unit (ORD-C1023-1974): basic system as described for UL 1023 listed installations plus:

• Hardwired magnetic contact (13-068 or 13-071) or wireless learn mode door/window sensor (60-670)
• Siren timeout set to six minutes or more

Residential fire warning system control unit (ULC-S545-M89): basic system as described for UL 985 listed installations plus:

• Wireless smoke sensor 60-848-02-95, TX-6010-01-1 learned into sensor group 26
• Siren timeout set to six minutes or more
• For 24-hour backup, the total current draw for all connected devices is limited to 250 mA (during normal standby conditions) using a 1.2 AH battery.

FCC compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Part 15 registration number: B4Z-910C-SIMON
IC: 1175C-910CSIMO

Part 68. This equipment complies with Part 68 of the FCC rules and the requirements adopted by ACTA.

FCC registration number: US: B4ZAK02B55910

Canada: 1175C-910CSIXT
Ranger Equivalence 0.2B
Load Number 0.2

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