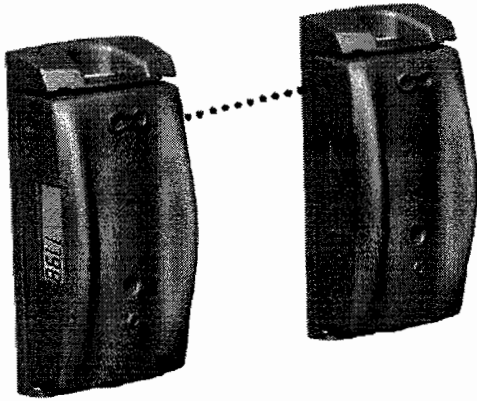


Installation & Instruction Manual STC - W200 & DBRF 15-01 Wireless Sensors



Wireless Sensors (DBRF 15-01)



STC-W200 - Traffic Counter

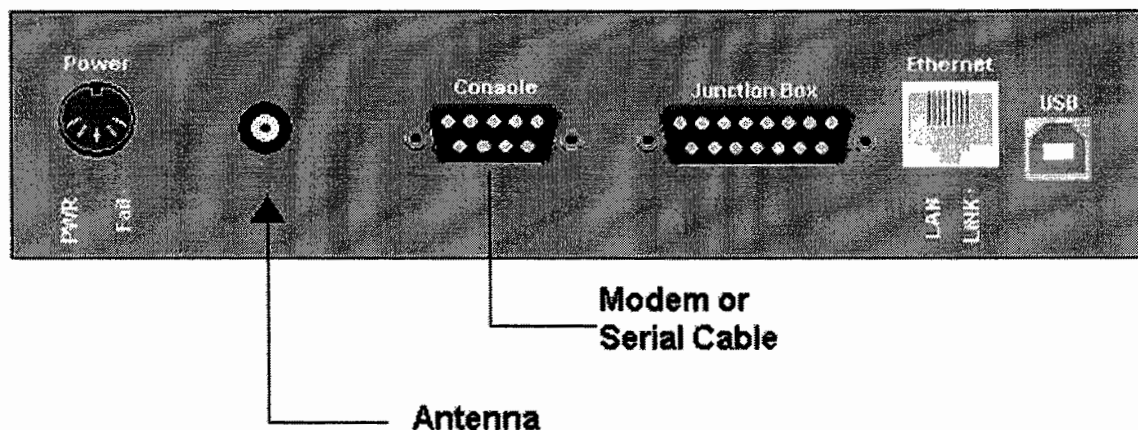
Note: Sensors must be installed so that the beam is at 54 inches from the ground.



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Step 1 Connecting the STC-W200

- There are three options to choose when connecting the STC-W200; 1) a computer, cash register system, point of sales system (POS); 2) a network; or 3) a modem.
- *If you are an installer, check the Scope of Work to determine the connectivity to use. The method chosen by the customer will determine the method of connectivity. If you are uncertain contact SMS for more information. You will collect the traffic data either at the store level into the router, HUB, POS or a computer.*



Connecting:

- a) A computer or POS using the provided serial cable. Connect it to the console port on the STC.
 - b) A network, using a Ethernet cable from the STC's Ethernet port to a hub/switch/router. Verify that the LAN light is ON.
 - c) A modem using a 9 to 25 pin cable provided. Connect the 9 pin side to the console port of the STC.
- Connect the power adapter from the STC's power to an outlet in the wall.
 - Connect the antenna to the antenna port. Make sure it is screwed correctly and standing at a 90 degree angle as shown on the W200 picture on page 1.

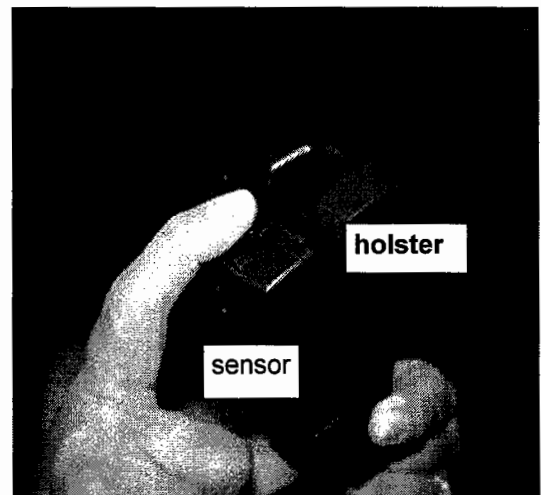
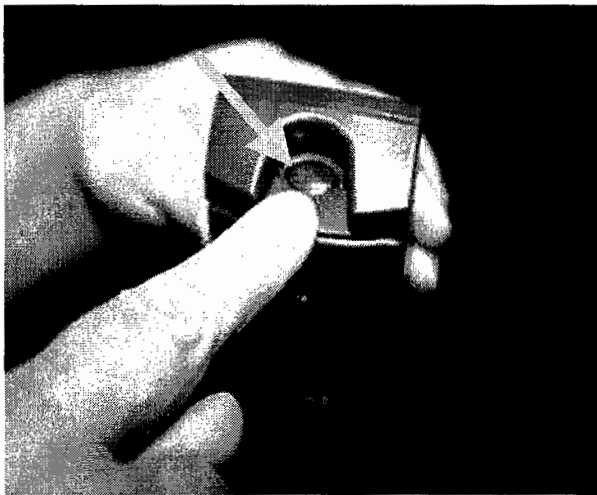


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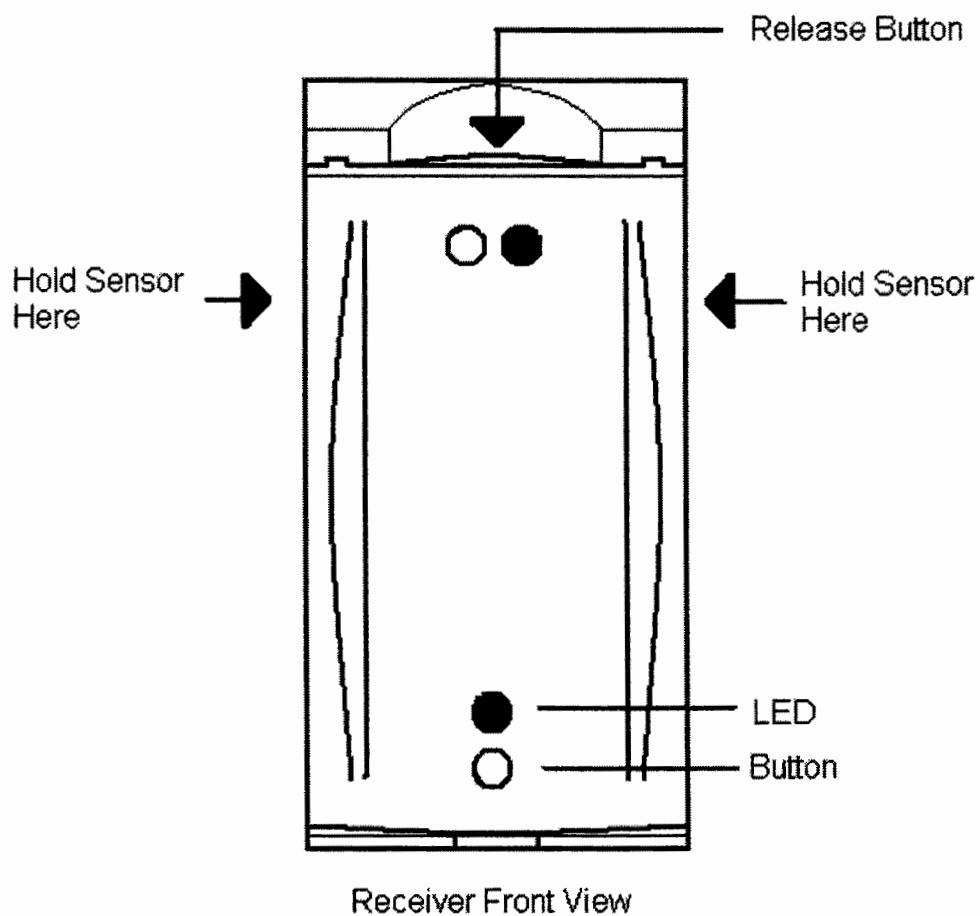
Step 2: Turning the sensors ON

- Both the receiver and the transmitter come with a holder or holster. To remove the actual unit from the holster you need to remove the set screw with a screw driver. The set screw prevents the sensor from being removed from the holster. Remember to replace the set screw to lock the sensor into the holster. To remove the sensor from the holster, remove the set screw, then hold the unit in one hand and press on the top release pad to release the unit, and then remove the sensor from the holster.





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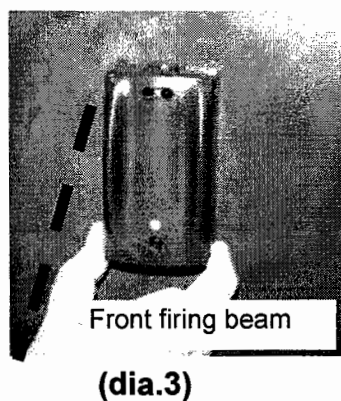
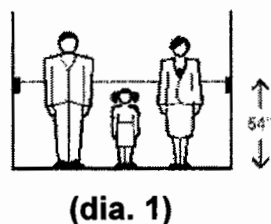
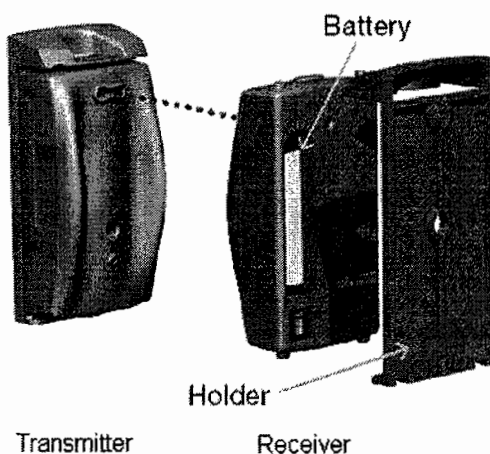




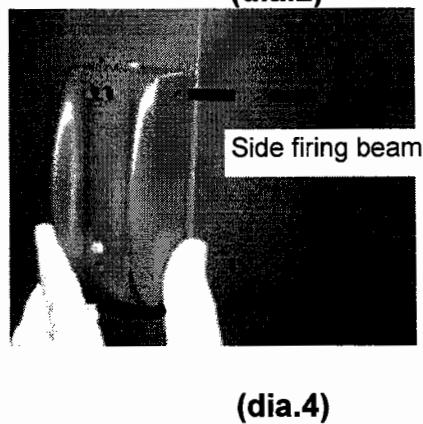
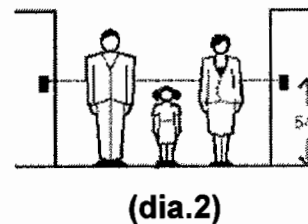
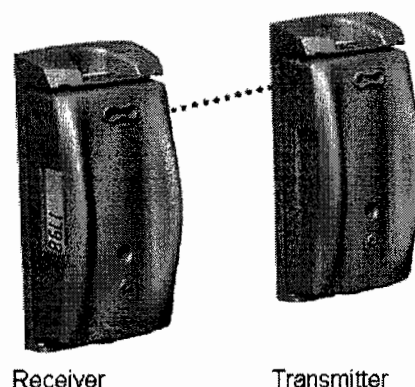
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Step 3: Setting the Sensors to Front or Side Firing

Front Firing



Side Firing



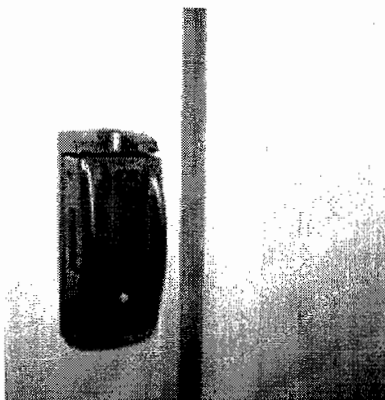
Identify front or side firing configuration

- Sensors can be configured to be either front or side firing. This is important and allows you the flexibility to install the sensors. If you need to align the sensors so they face each other, this is front firing, and front firing is usual if installed on the inside of a door frame (dia.1) (dia.3) (dia.5) (dia.6) or side firing if placed on outside of the door frame (dia.2) (dia.4) (dia.7) (dia.8).



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- Each set of sensors consists of a receiver and a transmitter. The receiver is the one with the LCD screen, which register the counts and communicates with the STC. The transmitter is the one projecting the Infra-red beam.



dia.5



dia.6



dia. 7

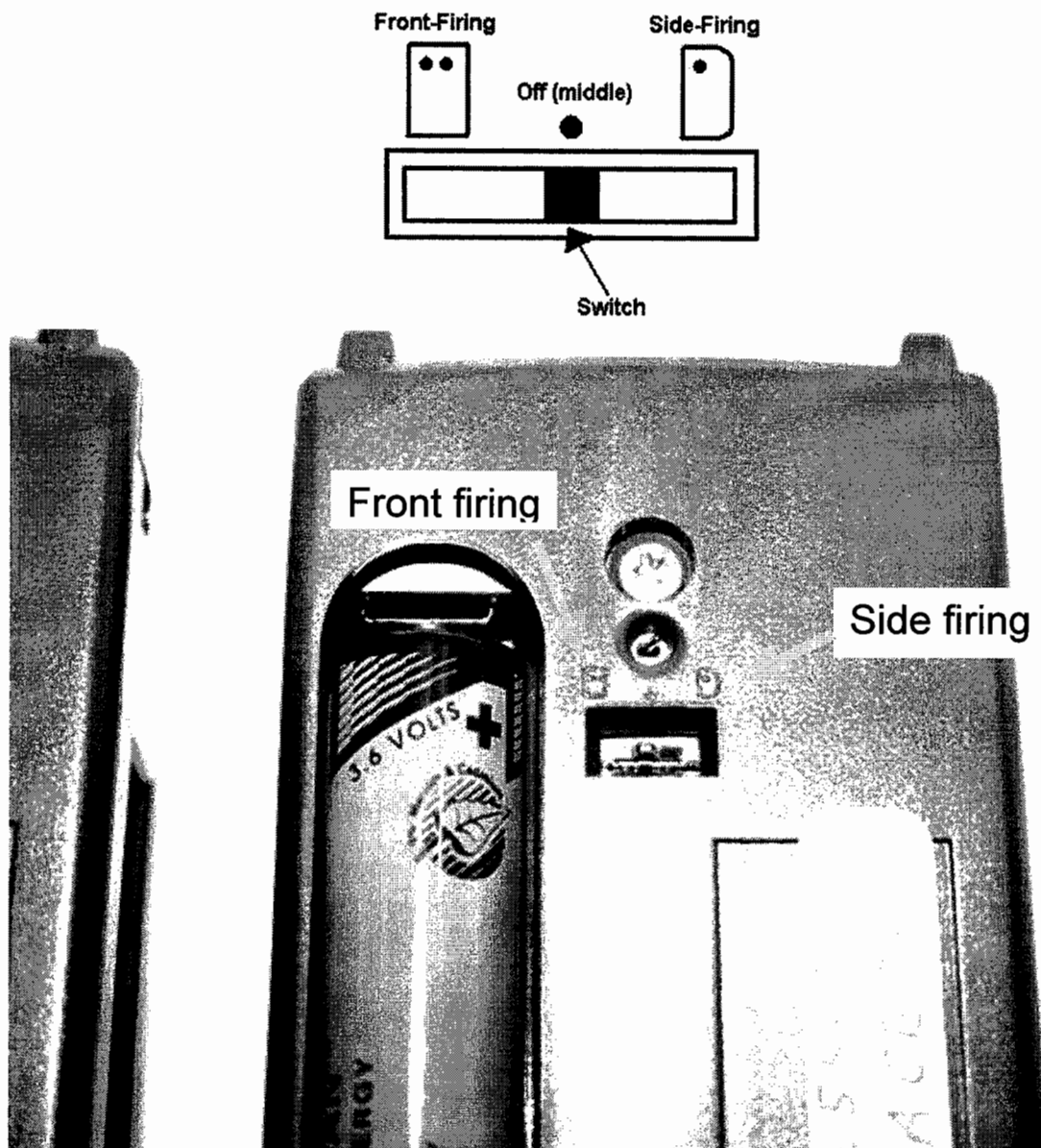


dia. 8

- As seen in the pictures above, the sensors can be installed in front firing or side firing configuration. A switch in the back of each sensor (allows it to be configured accordingly. When changing the firing configuration please move the switch gently to the middle, and then move it in the desired direction. Both switches must be set to either front or side firing position to be on. If the switch is left in the middle, the sensors are off and are not operating.



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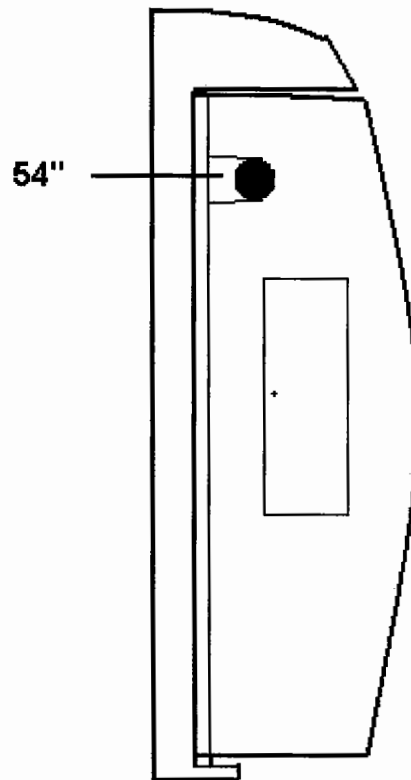
(dia. 9)

- In a side firing configuration, the receiver's LCD screen must not be pointing in the direction of the other sensor. The transmitter has a rectangle cutout in the transmitter. This side needs to be pointing in the direction of the receiver. Please refer to the following drawing.



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Transmitter Side-View

In side-firing configuration, this side points towards the receiver. This is the side you should see when looking at the transmitter from the receiver

- Wireless equipment is sensible to strong interference sources such as a breaker box, transformers, computer screen. Please install the STC as far away from these sources as possible.

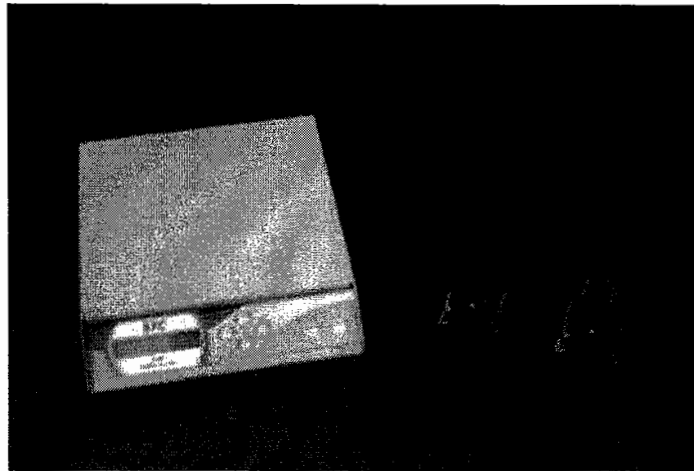


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Step 4: Configuring the Wireless sensors.

- Before Installing the sensors to the door frame, bring them near to the STC. Having the sensors and the STC together allows you to configure the sensors and the STC so that they communicate with each other. The sensors need to identify themselves with a signature to the STC. The STC will recognize and register the serial number of the sensors automatically.



1. On the STC there are 4 arrows: up, down, left arrow, right arrow. Press the down arrow until you find "Setup". Press "Enter".

Main Menu :
- Setup...

2. The STC will ask you for a password. The default password is 1,2,3,4. You can use the up or down arrow to toggle through the numbers, then press "Enter" to switch to the next. Press "Enter" when the 4th number is entered.

Enter Password :
1234

3. In the setup menu, use the down/up arrow until you get to "Wireless..." then press "Enter".

Setup Menu :
- Wireless...



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4. You should now see "Wi. Ser.No.", press "Enter".

Wireless :
- Wi. Ser.No.

5. You should see "01 – Not Prog" on the screen. Press "Enter". The screen will switch to "01 – Scanning".

<Wireless>
01IrR : Scanning

6. On the receiver (sensor), press on the button below the LED once for less than 1 second. The STC should emit a beep.



7. The screen should now show "01IrR –" followed by letters/numbers. This means that the receiver is now configured in the STC.

<Wireless>
01IrR : 014A6E41

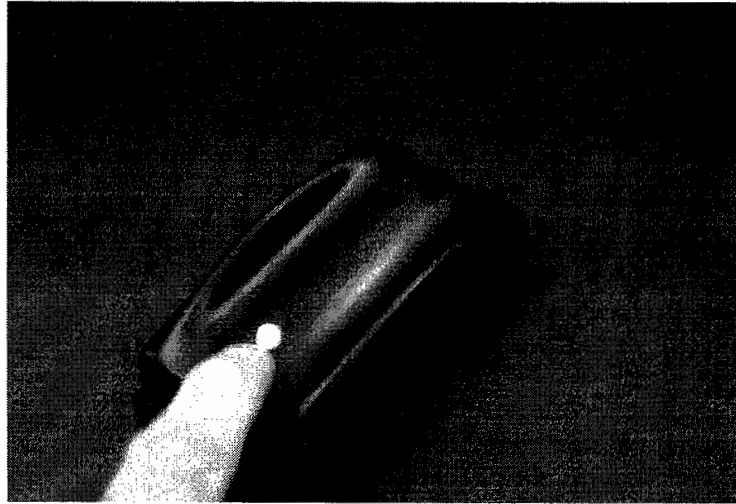
8. You now need to configure the transmitter. Press the up arrow to get to "01 -" then press "Enter" (even if there are already numbers on the screen you need to reconfigure the transmitter). The STC will now say 01IrT: Scanning.

<Wireless>
01 - : Scanning

9. Press on the button of the transmitter (sensor without the LCD screen).



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10. The STC should emit a beep and you should now see a bunch of characters instead of Scanning. This indicates the STC has configured the sensor correctly.

<Wireless>
01IrT : 014A6E73

11. If you have more than one set of sensors, you can configure them the same way in the "Wireless Det." option. Just press the arrow up to access the different doors (02, 03, etc). Then repeat 5 to 10.

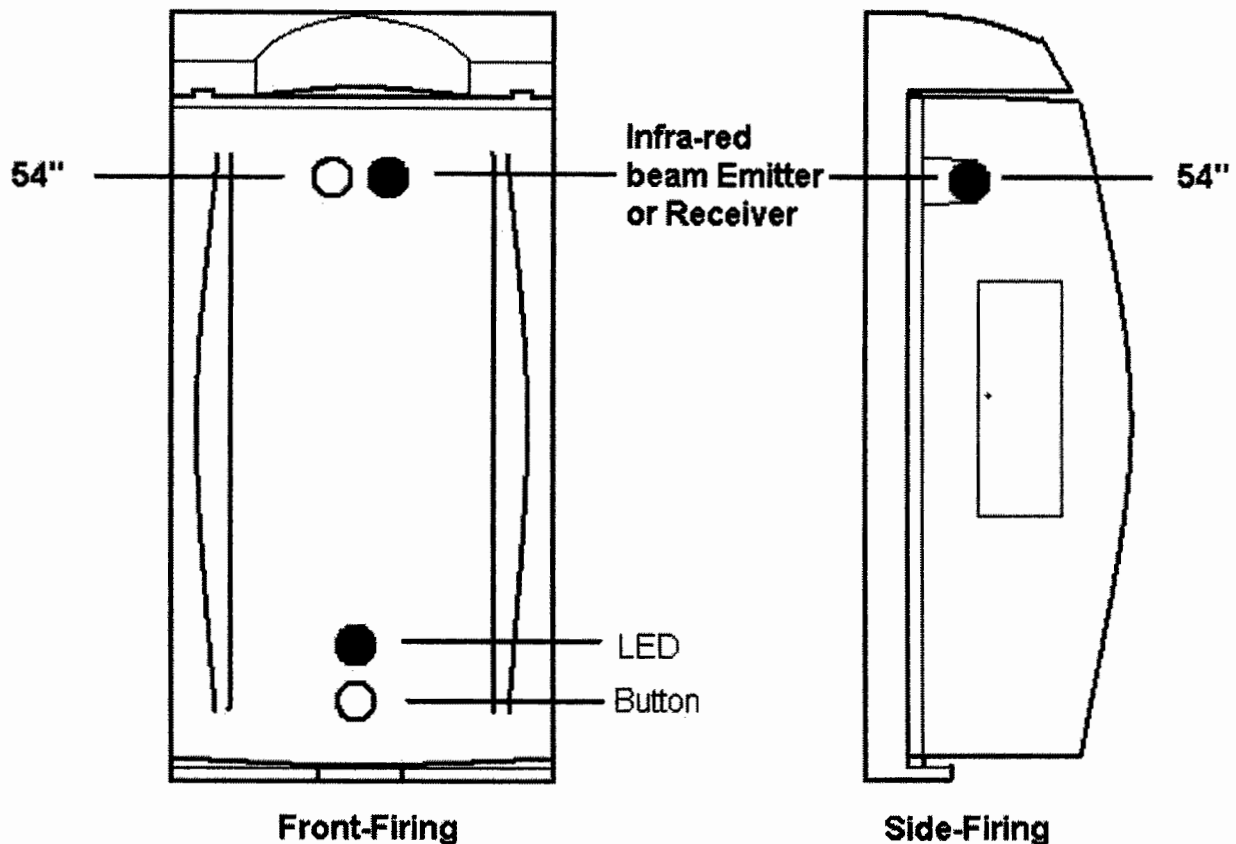
<Wireless>
02 : Not Prog.

12. Note: that 01 refers to the door you will be placing the Ir or Infra red, receiver (R) at. Both the receiver and the transmitter for each set of sensors are to be configured at the corresponding door. This is important if you are configuring more than 1 set of sensors. The next set of sensors will be configured as door 2 and so on.



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Step 5: Pre-installation instructions



- The sensors should be installed in a way to allow the IR beam to be at 54 inches from the ground, as shown in the picture above. This is to avoid counting strollers, carts and children under 54 inches.
- The sensors can either be screwed to the wall or mounted using double-sided tape. Please contact SMS for information on double-sided tape. Double sided tape is provided with the sensors. If not, it is available from your local hardware store.
- In side firing configuration, the receiver LCD screen must not be pointing in the direction of the other sensor. The transmitter has rectangle cutout in the transmitter. This side needs to be pointing in the direction of the receiver. Please refer to the picture at the top-right of the page.
- The sensor should not be more than 15 feet apart.
- Ensure that the doors open out only and do not cross the infrared beam when they open.



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- Ensure that the door handle is not blocking the RF sensor's infrared beam.
- Ensure the back part of the door, where the hinges are generally mounted, are not blocking the RF sensor's infrared beam.
- Make sure that there is no merchandiser, posters, stands, greeter or security person standing blocking the beam.



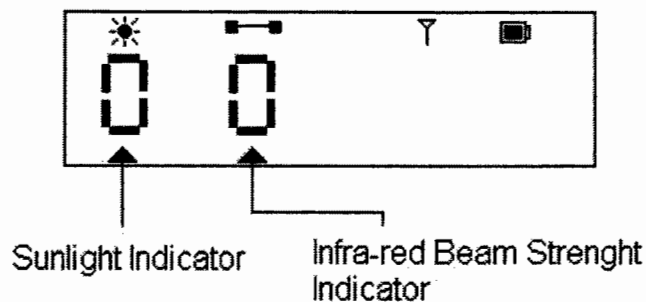
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Step 6 : Installation:

- Install the holster for the transmitter so that the infra-red beam is at 54 inches from the ground.
- Put the sensor back in its holster.
- Press the button once and the LED will glow green. This means the sensors are on.
- The receiver has an installation mode, which helps you align the beams correctly. To access this mode you need to press twice on the button. The LED will glow yellow. This means you are in set up mode.



- You will get the following display from the display screen:



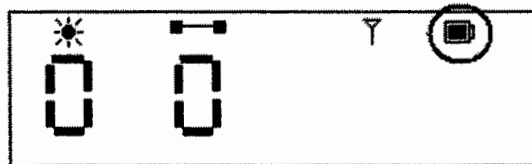
Ideally, when the sensors are correctly aligned, the strength indicator should be at . 7 is the highest signal strength measured. Depending on the distance between the receiver and transmitter, this will vary. Obtain the high possible number; ensure the indicator does not go below 2. While in installation mode, the sensor LED indicator should stay solid yellow when the sensor is correctly aligned. It will blink when it is not.



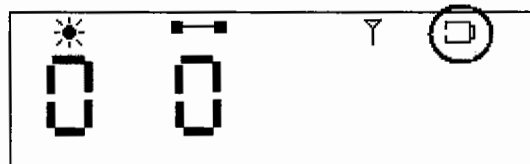
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- Make sure the Sunlight indicator is at 0. If you get any indicator of Sun light interference, invert the transmitter and receiver. Simply, remove the transmitter from the holster and place it in the holster of the receiver and place the receiver in the holster of the transmitter. What you have done, is changed the sensors so the sunlight does not shine onto the transmitter. There is no effect if sun light shines on the receiver.
- Make sure the battery indicator is full, if not; please report this to your installation company so that they can provide new batteries.



Strong battery



Weak battery

- Position the sensor on the door frame and try to obtain the best signal strength. When you do, make a **temporary** mark on the door frame at the bottom and at the top of the sensor.
- Remove the receiver from the holster and install the holster (using screws or double sided tape) between the 2 marks you've made.
- Put the sensor back in the holster.
- Remove any trace of the mark on the door frame.
- Press and hold the button on the receiver for 10 seconds. This will reset the counter to 0.



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Step 7: Verification and checkout

Sensor Verification

- On the receiver press once on the button to turn on and read the display. The counter should be at 0. Make sure the count goes up every time you break the beam.
- Stand by the sensors for 3 minutes. Make sure the counts are only going up when someone breaks the beam. If you see the count go up when no one is breaking the beam, there might be a small misalignment. Try to adjust the receiver to correct it.

STC Distance verification

- On the STC, press the down arrow until you get to "Information", then press Enter.
- Press the down arrow until you get to "Wireless Pkts.". Then press Enter.
- Select the sensor # you want to monitor (press Arrow Up/Down to toggle through the different sensor). Starts with the IrR. If you have one door you should see "01IrR : " with the number to the right.
- Make sure the number to the right is going up every minute or less. This number does not represent the counts, it is only an indicator, it goes from 00 to 99. If the number does not go up every minute, move the STC closer to the sensor.
- Once you have confirmed that the receiver is working correctly, press UP to get to the transmitter (IrT01 for door 1). Remove the transmitter from the holster and put it back. The IrT01 packet number should have gone up (if the status was no packet, now it should be 00).
- Repeat the steps above for every set of wireless sensors installed

STC counts verification:

- On the STC screen, make sure the time and date is accurate. The time and date is one of the 2 screens that appear when the STC is in normal operating mode. If the time and date is not accurate, please refer to the STC configuration part of this document.

10 :00 :00 30/Aug/2006

- On the STC, press the arrow down once to go to Hourly, and then press enter twice. You should see a screen similar to this:



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<Hourly Traffic>	
01 :	0

- Walk past the sensors 4 times to make some traffic counts. This should create 2 counts on the STC, since the STC usually has a 50% factor. The counts are divided by 2 or 50%, to account for persons walking in the store and then out of the store. If they walk in and then out, they will be counted as 1.
- Press ESC on the STC, and go back to "Hourly", the counts should have risen by 2 if you made 4 passes in front of the sensors.
- If these last tests are successful, contact the person in charge of the installation at the head office level (Head Office of the store, Installation company or SMS), to validate the functionality and communication.
- If you have any problem, refer to the troubleshooting section.



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Troubleshooting

Problem	Solution
The STC refuses to pick-up the wireless serial number.	<ul style="list-style-type: none">• Make sure the antenna in the back of the STC is installed, screwed in correctly and at a 90 degree angle, pointing to the ceiling.• Make sure that the switches on the back of both sensors are not at the off position.• Make sure this sensor has not been configured on another door (scroll up in the Wireless Serial Number menu to verify).• Power off then power on the STC, and then try again.
The screen or LED is not responding when I press on the button.	<ul style="list-style-type: none">• The sensor's battery may be dead, switch the batteries between the 2 sensors and verify if the problem move. If so call your installation company and have them send a new battery. If the problem does not move, you have a dead sensor; request a replacement part to your installation company.
Sensors are installed but I get no counts on the receiver LCD screen or on the STC.	<ul style="list-style-type: none">• Make sure the switch (side or front firing) is set correctly. Refer to page 7 for how to do so.• Make sure the batteries are correctly inserted in the sensors.• Make sure the sensors are correctly aligned.• If you can't get them to work, remove the sensor from their holder and put them flat on a table 2 feet apart, and create counts with your hand by blocking the beam. If you still can't get them to work in this situation, call your installation company for more support.
Counts seems too low	<ul style="list-style-type: none">• Make sure the sensors are correctly aligned.• Make sure no object is blocking the sensor either partially or completely. This includes any items that could move and create blockage from time to time.• Make sure that the factor is set at 50%. (See STC Configuration section).
Counts seems too high	<ul style="list-style-type: none">• Make sure the sensors are correctly aligned.• Look at the LCD screen on the receiver for 5 minutes and make sure the counts only go up when someone goes through. If it does not, the sensor is not correctly aligned.• Make sure no displays or mannequin is making people break the beam more often then when they go in or out. If so please ask the manager to move the display at a safe distance from



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	<p>the sensor's infra-red beam line.</p> <ul style="list-style-type: none">• Make sure that the factor is set at 50%. (See STC Configuration section).
<p>There is nothing on the STC's screen. No power on STC.</p>	<ul style="list-style-type: none">• Make sure the power connector of the STC is correctly connected.• Try another power outlet.
<p>The LAN light on the STC is not on. (Network installation only)</p>	<ul style="list-style-type: none">• Verify that the Ethernet cable is correctly connected at both ends• Verify that the STC has power going to it.• Verify that the hub/switch/router where the STC is connected has power.• Try another Ethernet cable.



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Optional parts:

Please refer to your scope of work to determine if you need to enter these settings. If it is not specified, you do not need to.

Buzzer setting

This mode allows the sensor to beep when blocked for more than 60 seconds or to emit a beep every time someone enters the store. This option is normally set to "OFF". If your scope of work specify that it needs to be set to Buzzer or Chime, please follow these steps:

- Using the arrows on the STC, go to Setup. Press "Enter".
- Enter the password, the default password is 1234. Use the up arrow to go up in number then press enter to switch to the next digit. When "4" is entered, press "Enter".
- Use the arrows to navigate to the Wireless option. Press "Enter".
- Use the arrows to navigate to Wi. Buzzer. Press "Enter".
- The cursor will now be underneath the door number. Use the arrow up or down to get to the door # you want to set. Press "Enter" when done.
- The cursor will now be underneath "Off". Press the up arrow to get to either "Buzzer" or "Chime" as specified in the scope of work. Press "Enter" when the correct option has been selected.

Important: The "Chime" option will only work if the sensors are wired. If they are in wireless mode and using a battery, this mode will not work. This is to limit the battery usage.

- Repeat the last steps for any other pair of sensors.
- Press ESC 5 times to go back to the default screen.



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STC Configuration*

***This section is not required if your installation is working well. Refer to this only if the problem points to a bad configuration of the STC.**

- To access any configuration option on the STC you need to follow these steps
 - From the default screen, press the down arrow until you find "Setup".
 - Press Enter.
 - The STC is going ask you for a password. The password is 1234.

Enter Password :
1234

- Press Enter

You are now in the configuration menu; please refer to the next section to learn how to access specific items.

Set Time

The menu to change the STC's time can be accessed directly when you enter the setup menu since it is the 1st option. Here is what you need to do to modify the time:

- Press "Enter".
- Use the arrow up/down to select the hour. Press enter.
- Use the arrow up/down to select the minutes. Press enter.
- Use the arrow up/down to select the seconds. Press enter.

When this is done, the time of the unit will have been changed to the time you entered.

Set Date

From the setup menu, press the arrow up until you find the Date option. Then follow these steps:

- Press "Enter".
- Use the arrow up/down to select the date. Press enter.
- Use the arrow up/down to select the month. Press enter.
- Use the arrow up/down to select the year. Press enter.

When this is done, the time of the unit will have been changed to the date you entered.



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Set Factor

From the setup menu, press the up arrow until you find Factor, and then follow these steps:

- Press enter.
- Using the up and down arrows, select the door you want to change the factor on. If you want to change the factor on all the doors select ALL.
- Using the up/down arrow, select the factor you want. 50% is the normal setting.
- Press enter

The factor will be set at the value you entered.



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Disclaimer & Revisions

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

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

Changes or modifications to this device not explicitly approved by SMS will void the user's authority to operate this device.

Operation of this equipment in a residential area may cause interference with other electronic equipment.

The information in this guide may change without notice. The manufacturer assumes no responsibility for any errors that may appear in this guide.



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Product Specifications:

Protocols Supported	Red Deer Wireless Protocol
Devices Supported	Stand-alone or STC-W200
Frequency of operation (wireless)	2.431 Ghz
Traffic Indicator Range	6 Digits
Status Indicators	Dual Color LCD indicates: <ul style="list-style-type: none">• Battery Life• Signal Strenght
Physical Dimensions	11.43cm (H) x 5.08cm (W) x 3.81cm (D)
Power Requirements	3.6V Lithium Battery
Expected Battery Life	1 year
Operating Temperature	0 to 40°C
Storage Temperature	-20 to 85°C
Warranty	90-day limited warranty