

**Guardener**

We Protect Your Garden

**The Guardener**

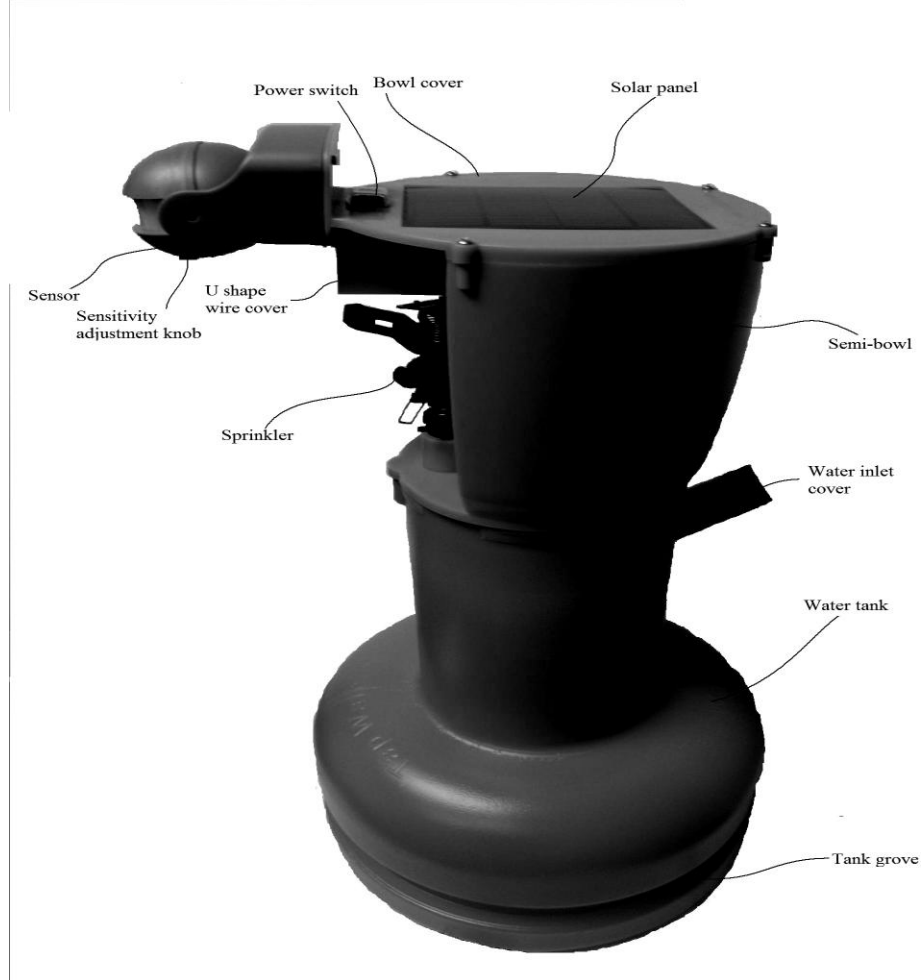
**Owner's Manual**

# **Owner's Manual**

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## Major Components in the Guardener

The Guardener has 7 major components as shown in the figure.



- Sensor: for sensing approaching deer and other animals
- Solar Panel: collecting solar energy and charging to 12V battery
- Battery (inside semi-bowl, not shown): providing system power
- Sprinkler: swinging and blasting water to deter approaching animals
- Water Pump (inside tank, not shown): pressurizing water to drive sprinkler
- Water Tank: water storage
- Semi-Bowl: housing battery, sprinkler and ultrasound speaker

## The Guardener Installation Guide

Every Guardener unit is fully installed and is ready to be tested.

### Dry Test after Installation

After you push down the switch on the ON side (“T” side on switch button), the sensor initiates, which is indicated by a blinking signal inside the white glass of the sensor. Important: Please note that **it takes about 3 minute** to finish initiation process. At this time you can either walk

around or wave your hand in front of the sensor. Immediately you will hear a small buzzing sound which signals the ultrasound sequences start to work. The ultrasound sequences cover the frequencies of 24k, 28k and 32k Hz and when the 4<sup>th</sup> buzz ends, it will have a quiet 3 second period for sensor to sense the motion still exist or not. If the motion is not sensed again, which means the animals have left, the triggering cycle will stop here without the activation of the water pump. If, on the other hand, ultrasound did not scare animals away, their motions will be picked up by the sensor again and the pump will then be activated to blast water through the sprinkler. The water pump will run (dry run in test) for 4 seconds, which is long enough for the sprinkler to oscillate back and forth for two times. If all steps above happen correctly, you are ready to install your machine at a location with adequate sunshine to power the device. You are also ready to fill the water tank for daily use.

### **Chain Your Guardener on the Ground or Bury Part of It into Ground**

To secure your Guardener, it is good to chain (not supplied with shipping) your Guardener to the ground as shown or bury part of the tank into the ground.



### **Sensor Sensitivity Adjustment**



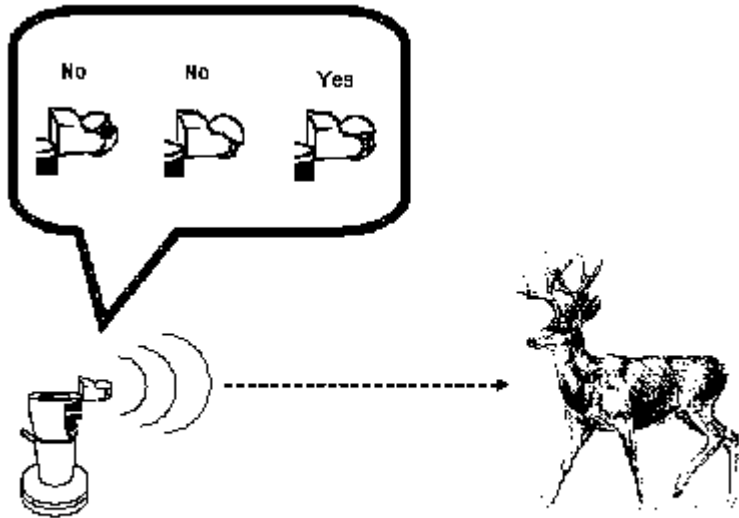
The sensitivity adjust knob is installed under the white Fresnel lens of the sensor. The sensor covers a sector area close to a semicircle with radius determined by the sensitivity adjustment.

Please note that the detecting distance of the sensor is highly sensitive to the outdoor temperature. Typically the radius of detecting semicircle will be adjustable from a close distance of around 12 feet at Min position (knob being counter clockwise rotated to the limit) to a far distance of about 25 feet at Max position (knob being clockwise rotated to limit) in the summer time. The distances will be increased to 20 feet and 40 feet respectively in the winter time when the outdoor temperature decreases to 32 deg F.

Such sensitivity variation with respect to outdoor temperature will unfortunately cause some impact to the possible interference from the sudden changes of sunshine (by cloud or tall trees) directly received at the sensor. This means that, to avoid sensor activation being interfered by sudden exposure changes, one needs to set relatively lower sensitivity (knob selection closer to Min position) in the winter time and relatively higher (selection closer to Max position) in summer time.

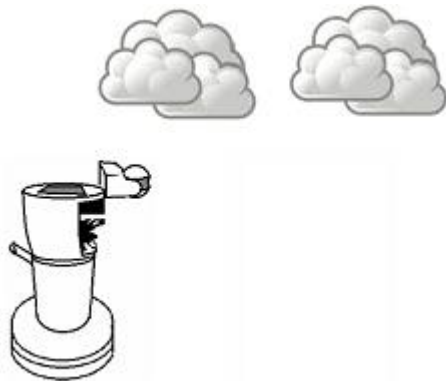
### **Sensor Alignment**

Please adjust the sensor alignment facing the center of animal body.



### **Interference by Passing Cloud**

When the sensor is adjusted to relatively high sensitivity, it is very possible that it will also sense the background infra lights, particularly from the passing clouds which intermittently block the lights from sunshine and thus trigger the unwanted activations of the sensor. If such interference to your machine is encountered, please re-adjust sensitivity to lower level to avoid such triggering of sensor to empty your water.

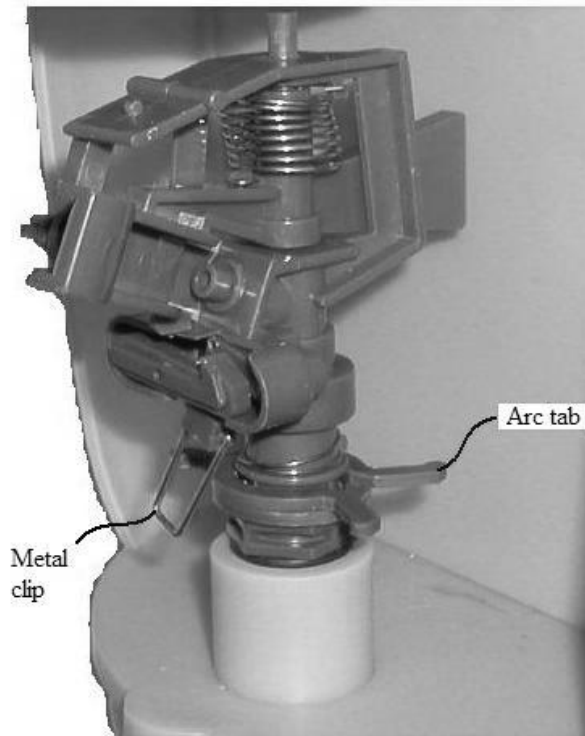


### **Adjusting Water Range**

#### **1. Set the arc of rotation of the sprinkler in appropriate range**

The metal wire clip on the sprinkler works as a control to switch direction when it touches the arc tabs which define the range of sprinkler rotation. The range of these arc tabs of your

sprinkler have been appropriately set to a range of 160 degree so that the sprinkler will only rotate in the sector area facing to the direction of sensing area. We recommend you leave it untouched to avoid misadjustment which may cause failure in rotation for the sprinkler.



## 2. Fill up water for normal use

The water tank has a capacity of 3.5 gallons. Fill up the water tank and cover the inlet with the cover to prevent leaves and other impurities from falling into the tank. The Guardener should be fully activated by now. You can now test the function from behind to avoid being sprayed by water from the sprinkler. To obtain optimal solar power, you should peer off the plastic thin film on the solar panel.

## Winter Usage



When you open the new box, the Guardener is packed with a plastic bubble wrap which is also useful for keeping the water warm in the winter time. The bubble wrap traps solar energy and keeps water from freezing during winter time. With this bubble wrap, Guardener is useful during the winter time for most of the United States except those states in the north where winter is really cold. Even in such states, the water in the tank will not be frozen for the whole winter season if abundant sunshine is available.

Guardener is equipped with submerged water pump which will endure icy condition in the water tank, although it can not pump ice out. We recommend that, during the winter time, leave the Guardener at an outdoor location where sunshine is most available for constantly charging the battery and we know that at least ultrasound is still functional.

If you need to move the Guardener to an indoor place, please make sure the water is empty and the switch is at the “OFF” position and it is by the window to accept some solar energy for maintaining the life of the battery.

## **Frequently Asked Questions and Answers about the Guardener**

Q01: What is the Guardener?

A: The Guardener is an intelligent device aimed to stop deer and other animals from invading garden crops or precious flowers. It is a solar powered, maintenance free device--- aside from filling the tank with water as needed. It provides an independent water pressure system so your garden is clear of additional water pipes.

Q02: How does the Guardener deter animals?

A: The device is equipped with 2 effective yet non-harming weapons to deter animals. First, it issues a sequence of ultrasonic alarm which can only be heard by the animals when they approach to a specific area set by the sensitivity. If the animals are not deterred by the alarm, the second weapon—a pressurized water jet will physically scare them away. Please note that if the animals scare away before the end of ultrasound waves, the sprinkler will not be activated.

Q03: How does the device know animals are approaching?

A: The device uses a motion sensor to detect the presence of nearby animals. You can set the detecting area by adjusting the sensitivity knob.

Q04: What is the effective range of the motion sensor?

A: The range can be adjusted from a minimum of 15 feet to a maximum of 25 feet. Different weather conditions may slightly alter the range, especially in the hot summer when outdoor temperature reaches 90 deg F or above.

Q05: How much area can the the Guardener cover?

A: The sprinkler can rotate up to 170 degrees and shooting pressurized water as far as 17 to 22 feet.

Q06: Can I adjust the distance range for the sprinkler?

A: No. The sprinkler is customized for simplicity and cannot be adjusted.

Q07: How do I avoid accidentally setting off the device?

A: As long as you approach the device from behind, you will not set it off. Should you accidentally activate the sensor from the front; you still have time to walk away during the buzzing period which signals activation of the ultrasound alarm. If you intend to work around the detecting area for a time period, you can simply press the off button to deactivate the system. Just remember to switch it back on when done.

Q08: How I install my Guardener to avoid aiming to other people?

A: In general, the sensor should only face the garden. People working behind the sensor will not activate the sensor.

Q09: My garden is near a street. Will the vehicles driving by activate my Guardener?

A: As long as your sensor is not facing the street, it will be fine. In addition, there is a delay time sensor activation such that a fast moving object will not cause the sensor to respond.

Q10: What is the advantage of the Guardener compared to other animal repelling system?

A: A unique feature of the Guardener is that it uses both ultrasound and water blast to repel animals. Consequently, it is more effective and reliable than products which use only one feature to deter animals.

Q11: Is the water system by the Guardener better than other water blast repelling systems?

A: Another unique and important feature of the Guardener water system is that it does not connect to a water resource through water pipe ensuring the cleanliness and beauty of your yard. The Guardener only needs water refilled into its tank on average of once every 10-14 days.

Q12: Then how the water is pressurized?

A: A high pressure, self-operating submersible water pump delivers water pressure of 2 bars to the sprinkler. The sprinkler then rotates to spray the water toward unwanted animals.

Q13: How much water is stored in the tank and how many times does a full tank last?

A: The tank itself can hold about 3.5 gallons of water which is enough for 30 to 40 times of pumping.

Q14: How long does the sprinkler work in a cycle?

A: Each blast lasts about 4 seconds back and forth when the angle is set to 120 degrees.

Q15: Under normal use, how often you need to fill up the water tank?

A: On average, if a deer visits 2 times a day, it would take about 10 days to 2 weeks to empty a full tank. We anticipate you will need to water your garden much more frequently than refilling your Guardener. On the same note, we found that when deer come close enough to be sprayed by the water after hearing the ultrasound, they learn to stay away from the area just from ultrasound alone. This results in less water use over time.

Q16: What could be the reason for the water tank to empty unusually fast?

A: Unless you have animals visiting more than 30 times a day, the most probable cause is false triggering from pointing the Guardener at moving water or vehicles or severe wind. You may need to adjust your location if you have false triggering issues.

Q17: Except occasionally filling the water tank, is the Guardener a maintenance free system?

A: Yes. The system uses a solar energy panel to recharge the battery power.

Q18: What sunshine exposure is sufficient for normal use?

A: For an average use of 3-4 times of triggering the water pump each day, around 2 hours of exposure will be plenty.

Q19: What if my location does not provide enough sunlight to power the Guardener?

A: You may need to try alternative locations. If you cannot find an ideal location.

Q20: Will the Guardener be damaged if the water runs out?

A: The pump is capable of running dry for longer than 5 minutes. Since every pump only last 4 seconds, there will be no immediate damage.

Q21: Can the Guardener be used the whole year long?

A: The Guardener is designed to operate whole year long at most locations in the United States except some northern states such as North and South Dakota which have long period of sub freeze winter day time outdoor temperature. Even at these areas the ultrasound still works. The plastic bubble wrap can effectively keep solar energy in water in the tank and effectively free it from cooling down too fast in the night time. For battery charging purpose, please make sure you have at least some sunshine to recharge the battery.

Q22: How do I store the Guardener?

A: The water tank should be emptied. You are not required to move it into indoor environment but remember to make sure the shelf location has some sunshine available if you try to do so.

## **What you need to operate the Guardener**

Tap water source

## **Cautionary Reminders**

- Ultrasound may cause adverse effect to your pets. Allow pets close to installed location at your own risk. Malfunctioning sprinklers carry an inherent risk of causing water damage to your property. Use caution when moving the Guardener. Reduce the risk of hurting yourself by lowering water level to decrease the weight of the unit.
- Install the unit at a location with as much sunshine as possible.
- Seat the water tank on a flat ground, tie it with a chain to secure it from blowing away by strong wind.
- Immediately cover on the water inlet right after finishing adding water to keep clean water in the tank.
- Dust, dirt or hard water buildup on the white Fresnel lens will limit the sensitivity. Keep the lens clean by wiping gently with a damp cloth.

- While 2-3 hours of sunlight (depends on average number of triggers, may be higher if daily average is higher than 10) will in general enough for the unit to satisfy daily operation, it is still good to place the unit under good sunshine for at least one whole day before move to desired location.

To prevent the unwanted separation of semi-bowl part from the water tank, please hold the tank, not the semi-bowl portion to move the whole unit.

## **Troubleshooting**

If you encounter a problem which is not covered here, or if the suggestions do not solve your problem, please refer to detailed troubleshooting section of our website at [www.Guardeners.com](http://www.Guardeners.com) or email us at [support@Guardeners.com](mailto:support@Guardeners.com) or call us at 1.800.282.3073.

## **Questions?**

Visit our Web site online at [www.Guardeners.com](http://www.Guardeners.com) or call us at 1-800-282-3073 between 8:00AM and 4:30PM EDT.

### **The Guardener 2.0 Guarantee**

All GUARDENER INC. products are backed by a 30-day money back guarantee. If the Guardener 2.0 does not meet your expectations, return it to where it was purchased, in new condition within 30 days of receipt for a full refund of the purchase price.

### **The Guardener 1 year Warranty**

GUARDENER INC. warrants to the original purchase of its products that the product will be free from defects in material and workmanship for a period of one (1) years. This warranty does not cover damage caused by God, abuse, misuse, improper maintenance or damage caused in transportation.

GUARDENER INC. is not responsible or liable for indirect, special, or consequential damages arising out of or in connection with, the use of this product, or damages with respect to any economic loss, loss of property, or loss of revenue or profit.

Except as provided herein, GUARDENER INC. makes no express warranties, and denies any implied warranty or merchantability or fitness for a particular purpose. Charges will be rendered for repairs to the product after expiration of the aforesaid warranty period. This warranty may not be transferred.

To activate your warranty, please return the warranty registration portion of these instructions by fax or mail. We welcome your comments and experiences with the Guardener products on our website at <http://www.GUARDENERS.com>

### **Return Policy**

We want you to be happy about having our product. If you have any problem, please call us toll free at 1-800-282-3073. If we can help you over the phone, we will, and if not, we will give you a return authorization number and shipping instruction. When we receive your package we will repair, replace or promptly issue a refund at your option if purchased directly from GUARDENER INC. Unauthorized returns will not be accepted. Refunds can only be made by the retailer transacting your purchase. Please call before sending any package.