

Robotic Vacuum Cleaner User Manual



This manual is made with 100 % recycled paper.

- \star Before operating this unit, please read the instructions carefully.
- * For indoor use only.

English

imagine the possibilities

Thank you for purchasing a Samsung product. To receive a more complete service, please register your product at www.samsung.com/register



SAFETY INFORMATION



• Before operating the appliance, please read this manual thoroughly and retain WARNING it for your reference.



 Because these following operating instructions cover various models, the WARNING characteristics of your vacuum cleaner may differ slightly from those described in this manual.

CAUTION/WARNING SYMBOLS USED

WARNING	Indicates that a danger of death or serious injury exists.
CAUTION	Indicates that a risk of personal injury or material damage exists.

OTI

CAUTION				
THER SYMBOLS USED				
NOTE	Explains terms to help users understand how use the product properly.			

IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic precautions should be observed, including the following:

READ ALL INSTRUCTIONS BEFORE USING YOUR ROBOTIC VACUUM CLEANER.

Unplug from outlet when not in use and before conducting maintenance.

WARNING: to reduce the risk of fire, electric shock, or injury:

GENERAL

- Use only as described in this manual.
- Do not operate the robotic vacuum cleaner or charger if it has been damaged in any way.
- If the cleaner is not working as it should, has been dropped, damaged, left outdoors, or dropped in water, return it to a customer care center.
- Do not handle the charger or robotic vacuum cleaner with wet hands.
- Use only on dry, indoor surfaces.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

BATTERY CHARGER

- Do not modify the polarized plug to fit a non-polarized outlet or extension cord.
- Do not use outdoors or on wet surfaces.
- Unplug the charger from the outlet when not in use and before servicing.
- Use only the charger supplied by the manufacturer to recharge.
- Do not use with a damaged cord or plug.
- Do not pull or carry by the cord, use the cord as a handle, close the door on the cord, or pull the cord around sharp edges or corners. Keep the cord away from heated surfaces.

- Do not use extension cords or outlets with inadequate current carrying capacity.
- Do not unplug by pulling on the cord. To unplug, grasp the plug, not the cord.
- Do not mutilate or incinerate batteries as they will explode at high temperatures.
- Do not attempt to open the charger. Repairs should only be carried out by a qualified customer care centre.
- Do not expose the charger to high temperatures or allow moisture or humidity of any kind to come into contact with the charger.

ROBOTIC VACUUM CLEANER

- Do not pick up hard or sharp objects such as glass, nails, screws, coins, and etc.
- Do not use without a filter in place. When servicing the unit, never put fingers or other objects into the fan chamber in case the unit accidentally turns on.
- Do not put any objects into openings. Do not use with any openings blocked; keep openings free of dust, lint, hair, and anything that may reduce air flow.
- Do not pick up toxic materials (chlorine bleach, ammonia, drain cleaner, etc.).
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
- Do not use to pick up flammable or combustible liquids such as gasoline, nor use on areas where they may be present.
- Do not use robotic vacuum cleaner in an enclosed space filled with vapours given off by oil based paint, paint thinner, moth proofing substances, flammable dust, or other explosive or toxic vapours.
- Leaks from battery cells can occur under extreme usage or temperature conditions. If the liquid gets on skin, wash quickly with water. If the liquid gets into the eyes, flush them immediately with clean water for a minimum of 10 minutes. Seek medical attention.

Contents

06 Power related SAFETY INFORMATION 07 Before use 10 In use Cleaning and maintenance PRODUCT FEATURES 13 Product Features 15 Components ASSEMBLING THE CLEANER 16 Name of each part Installing robotic vacuum cleaner **OPERATING THE CLEANER** 20 20 Installation order 20 Turning the power switch on or off 21 Installing the charger 22 Charging 23 About the battery 24 Installing the VIRTUAL GUARD 25 Installing the air freshener 26 Using robotic vacuum cleaner 26 Starting/stopping cleaning 27 Recharging 28 Auto cleaning 29 Spot cleaning 30 Max cleaning 31 Manual cleaning 32 Edge Cleaning 33 Scheduled Cleaning **MAINTAIN TOOLS AND FILTER** Cleaning robotic vacuum cleaner 34 Please keep the cleaning and maintenance methods in mind 34 Cleaning the sensor window and the camera 35 Cleaning the Dust bin and the Filter 36 Cleaning the power brush 38 Cleaning the edge-cleaning side rotating brush 39 Cleaning the driving wheel Checklist before svc calls **TROUBLESHOOTING** 40 Troubleshooting for Error Codes 42 Product specification PRODUCT SPECIFICATION

POWER RELATED



Do not bend the power cord forcefully or place a WARNING heavy object on it that could break it.

- This may result in fire or electric shock.





Make sure to remove any dust or water from the WARNING power plug.

> - Failing to do so may result in a malfunction or electric shock.





Do not pull the power plug by the cord or touch the WARNING plug with wet hands.

- This may result in fire or electric shock.





Do not use multiple plugs in a single socket. (Do not leave the cord lying exposed on the floor.)

- This may result in fire or electric shock.





Do not use a damaged power cord, plug, or a loose WARNING power outlet.

- This may result in fire or electric shock.



BEFORE USE



Before activating the robotic vacuum cleaner, make sure that the Dust bin is assembled.

- If the Dust bin is not inserted, robotic vacuum cleaner will not operate.





Never use robotic vacuum cleaner in locations with combustible material such as:

- Locations with candles or desk lamps on the floor.
- Locations with unattended fires (fire or embers).
- Locations with gasoline, distilled alcohol, thinner, ashtrays with burning cigarettes, etc.





Robotic vacuum cleaner is for domestic use only. Do not use it in the following locations.

- Attics, basements, warehouses, industrial buildings, separate rooms distant from the main building, locations exposed to wet or damp conditions such as bathrooms or wash rooms, and narrow and highly situated locations such as tables or shelves. Critical damage (abnormal operation and breakage) may occur when used in these locations.



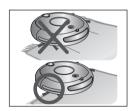
Open all doors to clean all rooms.

- When a door is closed, the robotic vacuum cleaner will not be able to enter that room.
- However, make sure to close the doors to the main entrance, the veranda and the bathroom, and any other rooms where the robotic vacuum cleaner may fall to a lower floor.



For carpets with long tassels, fold the tassels under the CAUTION carpet.

- Unfolded tassels may result in critical damage to the carpet and the machine itself, as they get caught in the driving wheel or the power brush.



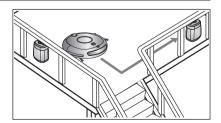


<OPTION>

CAUTION When the cliff sensor is polluted, the robotic vacuum cleaner may be in danger of falling down the stairs.

> This may cause personal injury and critical damage to the product.

To prevent risk, install the VIRTUAL GUARDs (Fence Mode setting) in front of dagerous areas. Clean the sensor window and camera.



BEFORE USE



Remove small objects or brittle items from the area to be cleaned in advance.

- Make sure to clear any objects before cleaning.
- Make sure to remove fragile items such as china, glass objects, flowerpots, etc.
- Robotic vacuum cleaner does not recognize coins, rings or other valuable items such as jewelry.





Remove objects scattered on the floor before cleaning.

- Robotic vacuum cleaner is designed to detect obstacles 5cm away from it.
- Bath towels, pads in front of bathrooms and sinks, entrances, utility rooms, power cords, table cloths or belts can become entangled in the driving wheel or power brush. This can cause objects to fall from the table.





Inform all family members (or relevant parties) to be cautious before cleaning or when using the Scheduled Cleaning Mode.

- Robotic vacuum cleaner may run into children, causing them to fall.





Ensure that children do not step or sit on the robotic vacuum.

- Children may fall and injure themselves or critical damage may occur to the product.





When a child or pet is left alone, make sure to turn off the Power Switch of the robotic vacuum cleaner.

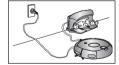
- Robotic vacuum cleaner may attract their attention.
- When the rotating wheel or brush catches fingers, feet, clothing or hair, this may result in injury.
- If a child or pet is in the way of the robotic vacuum cleaner, it may be identified as an obstacle and the area may not cleaned.
- When the Power Switch is turned off, it will cut off the power supply and deactivate all functions.





When installing the charger station, do not leave the power cord exposed on the floor.

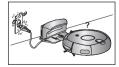
- When the robotic vacuum cleaner automatically recharges or passes by the charger station, it may drag the power cord around with it.





Always keep the power cord of the charger plugged into the outlet.

 Although the robotic vacuum cleaner has a self-charging function, if the power cord of the charger station is unplugged, it cannot charge its battery automatically.



BEFORE USE



Install the charger in a location that can be easily accessed by the robotic vacuum cleaner.

- If the charger is installed in a corner, this may cause extra movements and may disturb the automatic recharging process.





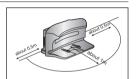
Objects in front of the charger will prevent the robotic vacuum cleaner from auto-charging itself.

- Clear the area.





There should be no obstacles 0.5 m to the left and right and within 1 m of the front.





Do not short-circuit the charge pins with metal objects such as chopsticks, screwdrivers, and etc.

- This will result in critical damage to the charger.





Make sure that there is no trace of liquids on the charger station.

- Failing to do so may result in fire or electric shock.





Make sure the robotic vacuum cleaner does not vacuum or move over liquids such as water, oil or pet litter.

- This may result in critical damage to the product.

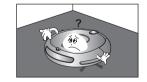
- Liquids may spread through the wheels resulting in contamination.





Do not use the cleaner on a black floor.

- The vacuum cleaning robot may not run normally in this case.





Do not use the charger for other purposes.

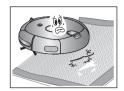
- This may result in critical damage to the charger or cause a fire.

IN USE



You cannot use the robotic vacuum cleaner on thick carpets.

- This may result in problems with the robotic vacuum cleaner.
- This may result in damage to carpets.





Do not use the robotic vacuum cleaner on a table or other high CAUTION locations.

- This may result in damage when the unit accidentally drops.





Robotic vacuum cleaner may bump into furniture such as chair legs, table legs, thin and long furniture, etc. while operating.

- For a quicker and cleaner performance, place the chairs on top of the table.





Do not place any objects on top of the robotic vacuum cleaner.

- This may result in malfunction.





Immediately remove any large pieces of CAUTION paper or plastic bags from the machine while cleaning.

- Using the machine for an extended period of time with its inlet port obstructed may result in critical damage to the product.





If an unusual sound, smell or smoke is emitted from the robotic vacuum cleaner, immediately turn off the Power Switch and call the customer care center.





Robotic vacuum cleaner may not be able to continue its NOTE operation if it is stuck at the entrance or veranda doorsill.

- Robotic vacuum cleaner stops operating for safety reasons if it cannot move for more than 5 minutes.
- To resume operating, turn the Power Switch off and then on again after moving it to a location where it can continue cleaning.



IN USE



Robotic vacuum cleaner cannot completely clean locations that it cannot reach, such as corners, and spaces between sofas and walls.

- Please clean these locations occasionally.





Dust clusters may remain after cleaning, when the robotic vacuum cleaner fails to pick up dust clusters that were formed while cleaning.

- In this case, sweep up the dust with another cleaning tool.

CLEANING AND MAINTENANCE



When cleaning the product, do not spray water directly onto the exterior or wipe it with a volatile material such as benzene, thinner or alcohol.

- This may result in critical damage to the product.





Do not forcefully press the bumper on the robotic vacuum cleaner.

- If the bumper sensor gets damaged, the robotic vacuum cleaner may bump into walls or furniture.





The unit must not be disassembled or reconstructed by anyone other than a qualified service engineer.

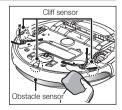
- This may result in damage to the product.





Remove any foreign substances accumulated on the Obstacle and Cliff sensors on a regular basis.

- Dirt accumulated on the sensors will result in inaccurate functioning of the sensors.

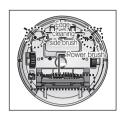


CLEANING AND MAINTENANCE



When removing foreign substances, always use the cleaning brush after turning the Power Switch off.

- Failing to do so may result in sudden operation of the unit and cause an injury or critical damage to the product.





If the power cord is damaged, have it replaced by a qualified WARNING service engineer from the customer care center.

- Failing to do so may result in fire or electric shock.

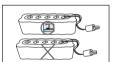


Before cleaning the charger, make sure to disconnect the WARNING power cord for safety.



Contact the Samsung Electronics customer care center to WARNING replace the battery.

- Failing to use original batteries will result in product failure.



Product Features

CONVENIENT VIRTUAL GUARD FUNCTION

You can confine the robotic vacuum cleaner to a particular section by using Fence (virtual wall) mode.





What is ceiling shape recognition (Visionary mapping™)?

This function recognizes the shape of the ceiling using the camera on top to identify the area to be cleaned and determines the best way to pass over and clean every section of the floor.

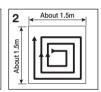
DELICATE CLEANING OF EVERY CORNER

Since the robotic vacuum cleaner cleans the floor in a sequential way (###) along the map determined by the ceiling shape recognition function, it cleans every corner of the floor.

VARIOUS CLEANING MODES

Various cleaning modes are provided to meet all your needs.













1. Auto Mode

Cleans all rooms automatically.

2. Spot Mode

Cleans a localized area intensely. It can be used to clean bread or cookie crumbs.

3. Max Mode

Runs until the battery is nearly depleted.

4. Manual Mode

You can clean the floor manually by moving the robotic vacuum cleaner with a remote control.

5. Edge Mode

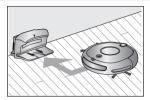
When the Obstacle Sensor detects an obstacle during the cleaning, the Robot Cleaner reduces its speed to minimize the bumping impact and the Bumper Sensor also helps it lower the bumping impact. And, it cleans the corners by reaching to them as close as possible.

6. Scheduled Cleaning Mode

At the specified time, the robotic vacuum cleaner cleans the floor.

Product Features

AUTO CHARGING



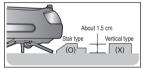
When the battery is low, the robotic vacuum cleaner is automatically guided to the charger to enable it to perform a quick auto charge.

EDGE-CLEANING SIDE ROTATING BRUSH



The edge-cleaning side rotating brush cleans dust from the edges.

DOORSILL CROSSING



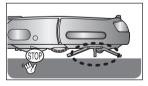
The robotic vacuum cleaner's innovative driving system makes it possible for it to cross over doorsills with a height of about 1.5cm and clean all rooms. The robotic vacuum cleaner may not be able to pass a 1.5 cm doorsill depending on the shape of the doorsill.

ANTI-CRASH



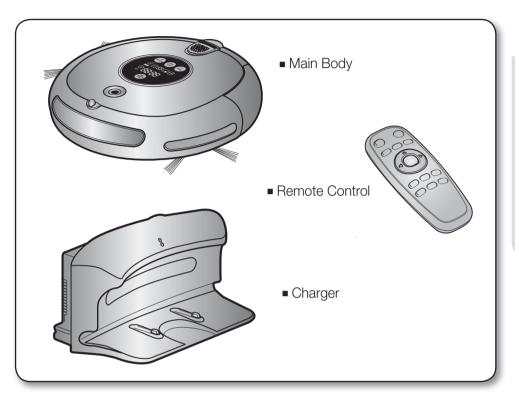
The robotic vacuum cleaner detects and avoids obstacles in 2 stages. First, the 7 obstacle sensors detect obstacles in stage 1 and if the robotic vacuum cleaner does crash into an obstacle, the 2 bumper sensors absorb the impact.

SAFETY DEVICE



When robotic vacuum cleaner is lifted up while cleaning, automatically driving wheels, power brush, suction motor, side rotating brush are stopped by sensor's detecting.

COMPONENTS

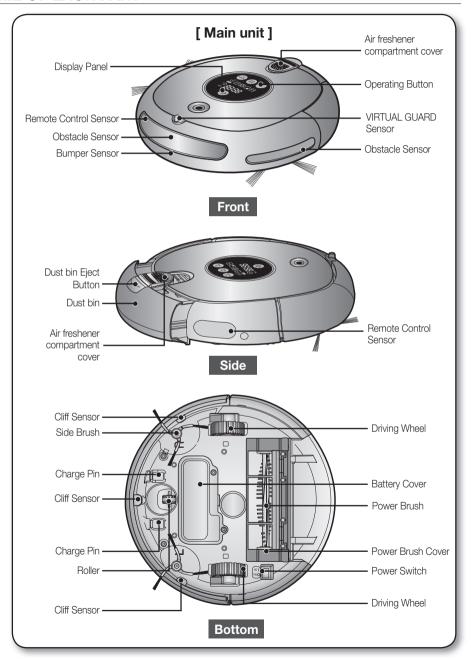


Others Components

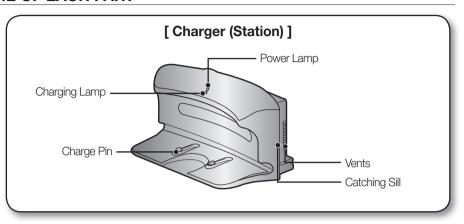


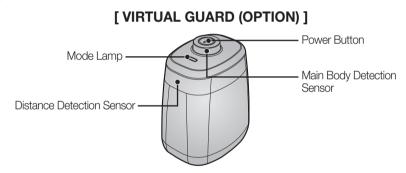


NAME OF EACH PART



NAME OF EACH PART





■ Installing the batteries

Batteries are not supplied with the product. You have to purchase the batteries separately. Install the alkaline batteries (type D) before use.



Lift the cover of the VIRTUAL GUARD while pressing the locking tab.



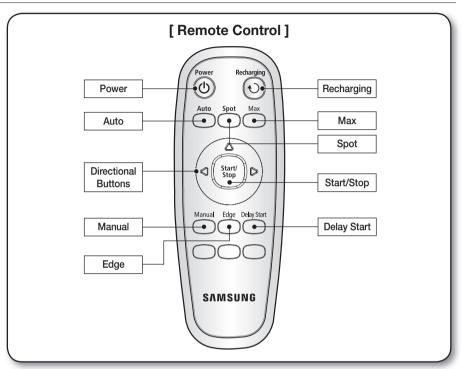
Install the batteries into the VIRTUAL GUARD as shown by the figure below. (If the batteries are installed with the incorrect polarity, the VIRTUAL GUARD will not work.)



After inserting the tip of the cover into the slot. push the other end to close it until it clicks into place.

* Specification: Alkaline Type D (LR20) batteries

NAME OF EACH PART



■ Installing the Remote Control Batteries

Batteries are not installed in the remote control when purchasing the product. Install the alkaline batteries (type AAA) before use.



Lift the battery compartment cover at the back of the remote control, while pressing the locking tab.



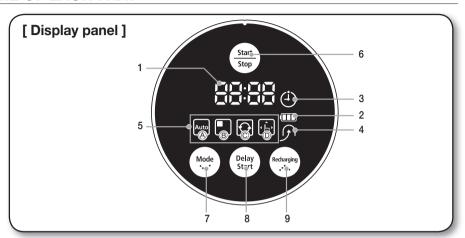
Install the batteries into the remote control as shown by the figure below. (If the batteries are installed with the wrong polarity, the remote control will not work.)



After inserting the tip of the cover into the slot, push the other end to close it until it clicks into place.

* Specification: Alkaline type AAA batteries

NAME OF EACH PART



DISPLAY PART

1. Number Display

- Shows the timer display, progress status, and error codes using numbers, letters and graphics.

2. Battery Level Indicator

- Charging: Shows the charging progress in 3 steps.
- In Use: Shows the battery charge level. The battery charge level is reduced by each level from FULL while
 operating. (When the battery is fully discharged, one level will flash to display "LO".)

3. Scheduled Cleaning

- When cleaning is scheduled, the Scheduled Cleaning icon is lit.

4. Recharging

- This icon turns on when the robotic vacuum cleaner returns to the charger station to charge its battery.

5. Cleaning Mode Display

- Each time the cleaning mode button is pressed, the corresponding cleaning mode is displayed.
 - (a) Auto Mode: This icon turns on when Auto cleaning mode is selected.
- (b) Spot Mode: This icon turns on when Spot cleaning mode is selected.
- (c) Max Mode: This icon turns on when Max cleaning mode is selected.
- (d) Manual Mode: This icon turns on when Manual cleaning mode is selected.
- (e) Edge Mode: " F = P " is on when Edge cleaning mode is selected.

BUTTON PART

6. Start/Stop

- Press to start/stop cleaning.

7. Cleaning Mode

- Press to select a cleaning mode. After selecting a cleaning mode, press the ((ser)) button to start cleaning.

8. Delay Start

- Press to schedule a cleaning. You can delay a cleaning up to 23 hours.

9. Recharging

- When this button is pressed, the Recharging icon is turned on and robotic vacuum cleaner will return to the charger to charge its battery.

INSTALLING THE ROBOTIC VACUUM CLEANER

INSTALL ATION ORDER

1. Turning the Power Switch on or off

To use the robotic vacuum cleaner, you must turn on the Power Switch at the bottom of the main unit

2. Installing the Charger

To charge the robotic vacuum cleaner, you must first install the charger.

Since the battery is discharged when the product is purchased, you must fully charge the battery before use.

3. Charging the Battery

You should charge the battery completely before using the robotic vacuum cleaner.

4. Installing the VIRTUAL GUARD

You can confine the robotic vacuum cleaner to a particular section by using Fence (virtual wall) mode.

5. Installing the air freshener

Please install the air freshener before using the robotic vacuum cleaner. If the air freshener is installed, the robotic vacuum cleaner will give off a pleasant fragrance.

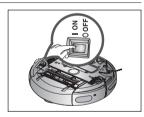
TURNING THE POWER SWITCH ON OR OFF

To use the robotic vacuum cleaner, you must turn the Power Switch on.

If you turn the Power Switch off, all settings will be reset.

1. Turn over the main unit and turn the Power Switch

- If the icons are not turned on, it indicates that the battery charge is depleted. In this case, dock the robotic vacuum cleaner to the charger station after turning the Power Switch on.
- Note that turning the Power Switch off will reset all settings.
- * When no key is pressed for approximately 10 minutes when the power is on, the power is automatically turned off to save battery power. In this case, to use this robotic vacuum cleaner again, please push the "Power" button or "Start/Stop" button.







If the Power Switch is turned off, the robotic vacuum cleaner will not be charged **CAUTION** even if it is docked with the charger station.

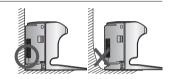


INSTALLING THE ROBOTIC VACUUM CLEANER

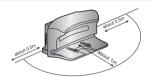
INSTALLING THE CHARGER



1. Install the charger on a flat surface.



2. There should be no obstacles 0.5 m to the left and right and within 1 m of the front.



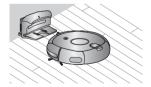
3. Install the charger in a location where it can be easily accessed by the robotic vacuum cleaner.



4. Arrange the power cord along the wall.



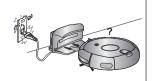
5. When the floor is made of wood, install the charger in the same direction as the grain of the wood.





Always keep the power cord of the charger NOTE plugged into the power outlet.

- If no power is supplied to the charger, the robotic vacuum will not be able to find the charger and will not be able to charge automatically.
- If the robotic vacuum cleaner is separated from the charger, the battery is automatically discharged.



INSTALLING THE ROBOTIC VACUUM CLEANER

CHARGING

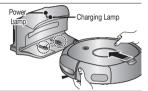
When the product is initially purchased, the battery is fully discharged, and you must charge the robotic vacuum cleaner manually.





Turn on the Power Switch at the bottom of the product.

- After aligning the charge pins of the main unit with the charge pin of the charger, press the main unit until you hear a "Recharging power" sound from the charger.
 - The Charging Lamp turns green.



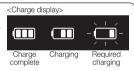
2. Check the charge status of the robotic vacuum cleaner.

- When charging starts, the battery level indicator and "8" will be displayed in sequence in the display panel.
- When charging is complete, the battery level indicator and "FULL" will be displayed in the display panel.





When the battery level display flashes while cleaning, the robotic vacuum cleaner stops vacuuming and automatically charges itself at the charger.





■ When the battery level flashes and "LO" is displayed while cleaning, robotic vacuum cleaner cannot be operated by the remote control or the buttons on the main unit. In this case, directly carry the robotic vacuum cleaner to the charger to charge the battery. (This is when the battery is completely discharged.)

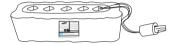


- When the product is initially purchased, it will take about 120 minutes to fully charge the battery and will run for about 90 minutes.
- When charging the battery while the battery is over-heated, the charging time can increase.
- Measures to take when charging is not smooth.
 - When the robotic vacuum cleaner cannot be automatically charged, check the following:
 - Turn the Power Switch at the bottom of the robotic vacuum cleaner off and on (Reset).
 - Re-plug the power of the charger (Reset).
 - Check whether there are any foreign substances on the charge connector and wipe the charge connector on the main unit and the charger with a dry cloth.
 - Check whether there are objects near the charger that are strong reflectors.
- When separating the robotic vacuum cleaner from the charger, it will discharge naturally.
- Charge the robotic vacuum cleaner through the charger, if possible. (When leaving your home unattended for a long period of time due to a business trip, travelling etc., turn off the Power Switch of the robotic vacuum cleaner and unplug the power of the charger to store them.)

INSTALLING THE ROBOTIC VACUUM CLEANER

ABOUT THE BATTERY

- The robotic vacuum cleaner is powered by an environment-friendly Nickel Metal Hydride (NiMH) rechargeable battery, and an over-charge prevention function guarantees an extended life time.
- When purchasing a battery, ask the customer care center for the genuine part symbol (and model number before purchasing it.



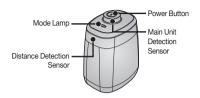
- This battery is only for Samsung robotic vacuums. It is strictly prohibited to use it for other appliances or for other purposes.
- Do not disassemble or modify the battery.
- Charge it in a location with good ventilation.
- Do not expose the battery to fire and do not heat it.
- Do not connect any metallic objects to the (+) or (-) terminals of the battery.
- Keep it indoors (0°C~40°C).
- Before you discard this product, dispose of batteries in an environmentally safe manner.
- Do not discard batteries with your regular household trash.
- Follow all local regulations when disposing of old batteries.
- If the battery is out of order, do not disassemble it. Contact your nearest customer care center.
- * An increased charging time and a shorter battery life indicates the near end of the battery life. Please contact an authorized customer care center to replace your battery.

The rechargeable battery incorporated in this product is not user replaceable. For information on its replacement, please contact your service provider.

INSTALLING THE ROBOTIC VACUUM CLEANER

INSTALLING THE VIRTUAL GUARD (OPTION)

You can confine the robotic vacuum cleaner to a particular section by using Fence (virtual wall) mode.



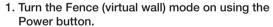
Button operations

- 1. Lamp operations
 - Fence (virtual wall) Mode: The red lamp flashes.
 - Off: The lamp is turned off.
- 2. Turn the Power Button on
 - Whenever you press the Power button, Fence (virtual wall) mode → Power off is selected in this sequence.
- * The distance of virtual wall is 2.5M at minimum and may differ depending on surroundings and movement status of the robot.

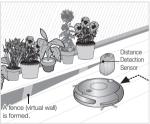
Forming a Fence (virtual wall)

VIRTUAL GUARD creates an invisible barrier that the robotic vacuum cleaner cannot cross.

E.g. in front of pots, furniture, the front door, and so on.



- The mode lamp flashes red.
- Install the VIRTUAL GUARD in front of the area you want to block access from the vacuum cleaning robot.
 - Install the VIRTUAL GUARD so that the distance detection sensor can form an invisible barrier that the vacuum cleaning robot cannot cross.





About the IrDA sensor.

- The infrared signal transmission may not be smooth in locations exposed to halogen lamps or in outdoor locations.
- Robotic vacuum cleaner uses 3 types of infrared devices and a device may not work in front of another device with a higher priority.



- When controlling the robotic vacuum cleaner with the remote control, the robotic vacuum cleaner may cross the virtual fence of the VIRTUAL GUARD or run against an obstacle, because the remote control signal has a higher priority than the VIRTUAL GUARD signal.
- When using the robotic vacuum cleaner in a small location or at a close distance. it may malfunction due to interference of the infrared signals.
- Install the VIRTUAL GUARD away from the charger as auto charging may be interrupted if the VIRTUAL GUARD is near the charger.
- If more than one robotic vacuum is used simultaneously, they may malfunction due to interference of the infrared signals.

INSTALLING THE AIR FRESHENER

Please install the air freshener before using the robotic vacuum cleaner.

If the air freshener is installed, the robotic vacuum cleaner will give off a pleasant fragrance.

- 1. Remove the plastic bag containing the air freshener.
- 2. Open the air freshener compartment cover at the top of the Dust bin and put the air freshener in the compartment.
- 3. Close the air freshener compartment cover.
- * To purchase the air freshener additionally, please contact the Samsung Electronics service center.



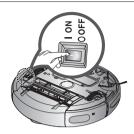


USING THE ROBOTIC VACUUM CLEANER

STARTING/STOPPING CLEANING

You can run or stop all robotic vacuum functions.

- Each robotic vacuum function only runs when the Power Switch is turned on.
- When the robotic vacuum is operating, press the (ﷺ) button to cancel the operation and select a function.



Turning the power on or off

Turning the power on

- Remote control: Press the [Power] button.
- Main unit: Press the ((Start)) button.
- The main unit buttons, battery level indicator and cleaning mode icons are turned on.

Turning the power off

- Remote control: Press the [Power] button.
- Main unit: Press and hold the ((see)) button down for 3 seconds.
- All icons except for the battery level indicator are turned off.



Using the remote

Starting or stopping cleaning

Starting

- Remote control: Press the Auto, Spot, Max, Manual or Edge button.
- Main unit: Select Auto / Spot / Max / Manual / Edge mode by using the ((**)) button and then pressing the ((**)) button.
- When cleaning begins, the robotic vacuum cleaner starts to move.
- * Pressing the (button without selecting cleaning mode starts to perform the Auto mode cleaning.

Stopping

- To stop, press the ((mg/mg)) remote control or main unit button
- When cleaning is stopped, the robotic vacuum cleaner stops.



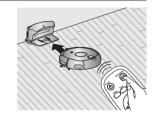
Using the main unit

USING THE ROBOTIC VACUUM CLEANER

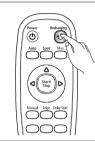
RECHARGING

You can have the robotic vacuum cleaner return to the charger to charge the battery by using the Recharging button.

■ When the robotic vacuum cleaner is operating, press the ((and button to cancel the operation and press the Recharging button.



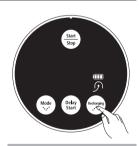
- 1. Press the Recharging button.
 - The main unit icon (f) is turned on and the robotic vacuum cleaner will return to the charger.
- 2. To stop the robotic vacuum cleaner while it is returning to the charger, press the ((\square\text{\frac{(\square\text{min}}{\text{ord}})}) button.
- To test the auto charge function, press the Recharging button when the robotic vacuum cleaner is less than 1.5 m from the charger.



Using the remote

Troubleshooting when the robotic vacuum cleaner does not return to the charger

- Check the installation of the charger
 - When the charger is in a location where the charger cannot guide the robotic vacuum cleaner to the charger.
 - When the charger is more than 5m away from robotic vacuum cleaner.
 - : It may require a longer time for the robotic vacuum cleaner to return to the charger.
- Manually charge the robotic vacuum cleaner in the following cases.
 - When the charger is installed in a corner.
 - When the battery is fully discharged.
 - When the robotic vacuum cleaner is trapped by an obstacle (furniture etc.)
 - When the robotic vacuum cleaner cannot pass over the doorsill to the location where the charger is installed.



Using the main unit buttons

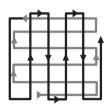


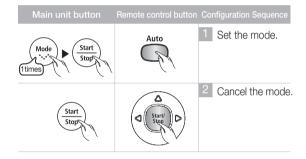
USING THE ROBOTIC VACUUM CLEANER

AUTO CLEANING

The robotic vacuum cleaner will move by itself and automatically clean the house until cleaning is completed once.

- If cleaning begins when the robotic vacuum cleaner is docked with the charger station, the time to return to the charger is decreased since the robotic vacuum cleaner remembers its original position while moving.
- If the battery level becomes too low while cleaning, the robotic vacuum cleaner will automatically return to the charger station and resume cleaning after charging its battery. (Number of cleaning operations resumed: Once)





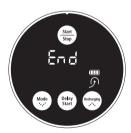






About the Resume Cleaning function

- If the robotic vacuum cleaner has evaluated that cleaning is complete, the resume cleaning function is not performed.
- If you move the robotic vacuum cleaner when it is being charged or press a button, the robotic vacuum cleaner judges cleaning to be complete and does not resume cleaning.



When cleaning is complete



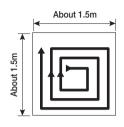
Do not move the robotic vacuum cleaner when it is cleaning or press a button while it is cleaning. Otherwise, the robotic vacuum cleaner judges cleaning to be complete and starts cleaning again from the beginning.

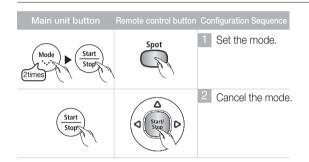
USING THE ROBOTIC VACUUM CLEANER

SPOT CLEANING

You can conveniently clean a specific area that has a lot of cookie crumbs, dust, and etc.

■ Move the robotic vacuum cleaner to the location where you want to perform a spot clean.

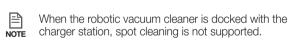






While cleaning

- In Spot cleaning mode, the robotic vacuum cleaner cleans an area with a length of 1.5m and a width of 1.5m.
- When cleaning is completed, the robotic vacuum cleaner will display End, Stop, and Stand by.





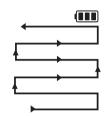
When cleaning is complete

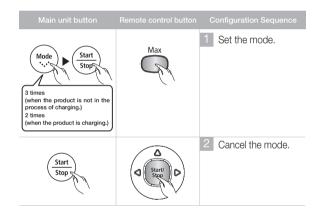
USING THE ROBOTIC VACUUM CLEANER

MAX CLEANING

The robotic vacuum cleaner automatically moves and cleans until the battery runs out and the battery level flashes only one level.

- If cleaning begins when the robotic vacuum cleaner is docked with the charger station, the time to return to the charger is decreased since the robotic vacuum cleaner remembers its original position while moving.
- If the battery level becomes low while cleaning, the robotic vacuum cleaner automatically returns to the charger station and resumes cleaning after charging the battery. (Number of resumed cleaning operations: Once)







While cleaning



When cleaning is complete



About the Resume Cleaning function

- If the robotic vacuum cleaner judges cleaning to be complete, resume cleaning is not performed.
- If you move the robotic vacuum cleaner while it is being charged or press a button, robotic vacuum cleaner judges cleaning to be complete (cleaning is not resumed).



Do not move the robotic vacuum cleaner while it is cleaning or press a button while cleaning. Otherwise, the robotic vacuum cleaner judges cleaning to be complete and starts cleaning again from the beginning.

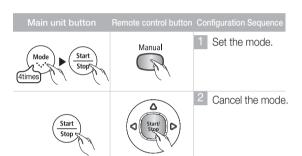
USING THE ROBOTIC VACUUM CLEANER

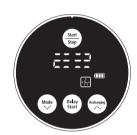
MANUAL CLEANING

You can move the robotic vacuum cleaner to clean a particular location directly by using the remote control.

- Move the robotic vacuum cleaner to the location where you want to perform manual cleaning.
- You can manually clean using the remote control only.



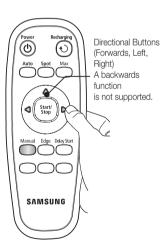




While cleaning



 When the robotic vacuum cleaner is docked with the charger station, manual cleaning is not supported.



USING THE ROBOTIC VACUUM CLEANER

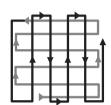
FDGF CLEANING

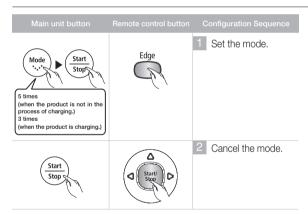
When the Obstacle Sensor detects an obstacle during the cleaning, the Robotic vacuum Cleaner reduces its speed to minimize the bumping impact and the Bumper Sensor also helps it lower the bumping impact. It cleans the corners by reaching to them as close as possible. (This Robotic vacuum Cleaner is a touching type cleaner.)



The robotic vacuum cleaner will move by itself and automatically clean the house until cleaning is completed once.

- If cleaning begins when the robotic vacuum cleaner is docked with the charger station, the time to return to the charger is decreased since the robotic vacuum cleaner remembers its original position while moving.
- If the battery level becomes too low while cleaning, the robotic vacuum cleaner will automatically return to the charger station and resume cleaning after charging its battery. (Number of cleaning operations resumed: Once)







About the Resume Cleaning function

- If the robotic vacuum cleaner has evaluated that cleaning is complete, the resume cleaning function is not performed.
- If you move the robotic vacuum cleaner when it is being charged or press a button, the robotic vacuum cleaner judges cleaning to be complete and does not resume cleaning.



While cleaning



When cleaning is complete



Do not move the robotic vacuum cleaner when it is cleaning or press a button while it is cleaning. Otherwise, the robotic vacuum cleaner judges cleaning to be complete and starts cleaning again from the beginning.

ng the cleaner

USING THE ROBOTIC VACUUM CLEANER

SCHEDULED CLEANING

You can schedule robotic vacuum cleaner to start cleaning from a particular time. (Time delay: Up to 23 hours)

■ Scheduled cleaning is only performed when robotic vacuum cleaner is docked with the charger station.



Main unit button	Remote control button	Configuration Sequence	(Example) To clean 5 hours Later from now
Delay Start	Delay Start	1 Enter the Scheduled Cleaning mode.	The icon is turned on.
Mode Recharging	low up start/ Stop	Whenever the button is pressed, the time is increased or decreased.	Flash S :H- (4)
Delay Start	Delay Start	3 Finish the setting.	5:H- (±)
Start 5h	Steen D	4 Cancel the setting.	The icon is turned off.



When setting is complete, and you press the ((set)) button instead of the Delay Start NOTE button, the scheduled cleaning time is canceled.

After completing the setting, if you manually move the robotic vacuum cleaner from the charger station, the scheduled cleaning time is cancelled.

Maintain tools and filter

CLEANING THE ROBOTIC VACUUM CLEANER

PLEASE KEEP THE CLEANING AND MAINTENANCE METHODS IN MIND

- When the Power Switch is damaged, please contact the service agent so that it does not cause any accidents.
- Do not use any means or mechanical devices not installed by the manufacturer that could accelerate the deformation of the robotic vacuum cleaner.



Always turn off the power switch at the bottom of the main unit before cleaning the robotic vacuum. The robotic vacuum cleaner could operate suddenly and cause an injury.



CLEANING THE SENSOR WINDOW AND THE CAMERA

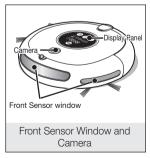
You must turn off the Power Switch at the bottom of the main unit before cleaning the robotic vacuum.

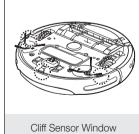
Never spray water, thinner, benzene etc. directly onto the main unit of robotic vacuum cleaner.

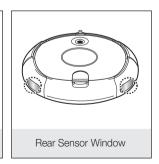


■ Lightly wipe the sensor window or camera using a soft cloth.









Maintain tools and filter

CLEANING THE ROBOTIC VACUUM CLEANER

CLEANING THE DUST BIN AND THE FILTER

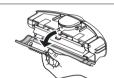
First, empty the Dust bin before cleaning it.

- When separating the Dust bin, take care not to spill the dust out of the Dust bin.
- Empty the Dust bin in the following cases.
 - 1. When dust has accumulated inside the Dust bin.
 - 2. When the suction power suddenly becomes weak.
 - 3. When the noise suddenly increases.
- 1. Press the Dust bin Eject (PUSH) button and pull the Dust bin to separate the Dust bin.

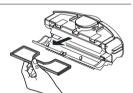




2. Separate the Dust bin cover by pulling it in the direction of the arrow in the figure.



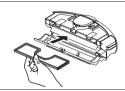
3. Separate the Filter from the Dust bin by pulling it in the direction of the arrow in the figure.



- 4. Wipe the dust from the Filter and the Dust bin.
 - * You can wash them with water.



- 5. Install the Filter into the Dust bin.
 - Make sure that the grid pattern of the Filter is facing downwards. It cannot be installed in the wrong direction.



6. Close the Dust bin cover and install it into the main unit.



Maintain tools and filter

CLEANING THE ROBOTIC VACUUM CLEANER

CLEANING THE POWER BRUSH

You must turn off the Power Switch at the bottom of the main unit before cleaning the robotic vacuum.



 Because the dust in the Dust bin may come out, separate the Dust bin first before cleaning the power brush



1. Separate the Dust bin by pressing the Dust bin Eject (PUSH) button.



2. After checking whether there are any foreign substances, press the hook that is fixing the brush cover to separate it.



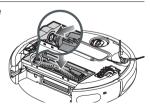
3. Lift the power brush up from the main unit.



4. Remove any foreign substances such as long hairs or strings wrapped around the power brush using a cleaning brush or a vacuum cleaner.



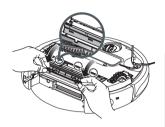
When cleaning is complete, fix the Power Switch side of the power brush first and then fix the other side of the brush in the same way.



Maintain tools and filter

CLEANING THE ROBOTIC VACUUM CLEANER

6. After inserting the 3 tips at the top of the cover, push the other end in until it "clicks" into place.





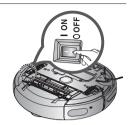
- To prevent the robotic vacuum cleaner from becoming clogged, be careful not to vacuum tooth picks or cotton swabs.
- When removing foreign substances becomes difficult, contact a customer care center.
- Because the power brush vacuums the dust on the floor, long strings or hair can become wrapped around the brush. Check and clean the power brush regularly.

Maintain tools and filter

CLEANING THE ROBOTIC VACUUM CLEANER

CLEANING THE EDGE-CLEANING SIDE ROTATING BRUSH

You must turn off the Power Switch at the bottom of the main unit before cleaning the robotic vacuum.



1. Check whether the side rotating brush is bent or whether there are any foreign substances stuck on the brush.



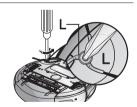
2. Wearing rubber gloves, wrap the side rotating brush with a cloth using hot water for about 10 seconds and wipe it on the cloth.



3. Turning the side rotating brush, repeat the procedures in Step 2.



4. If hair or string is wrapped between the main unit and the side rotating brush, undo the screw of the side rotating brush using a (+) driver to remove it. When reassembling the brush, check the "L" mark on the edge-cleaning side rotating brush and the "L" mark on the main unit and then reassemble the side rotating brush.



(Letter "R" is carved at the right side rotating brush.)



Because the side rotating brush easily attracts hair and other foreign substances. make sure to clean it frequently.

Excessive foreign substances on the side rotating brush can damage the brush.

Maintain tools and filter

CLEANING THE ROBOTIC VACUUM CLEANER

CLEANING THE DRIVING WHEEL

You must turn off the Power Switch at the bottom of the main unit before cleaning the robotic.

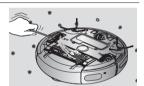
■ If the robotic vacuum cleaner suddenly starts to zigzag, there may be foreign substances stuck on the driving wheel.



1. When cleaning the driving wheel, place a soft cloth on the floor and flip the main unit, placing it down carefully.



2. Check for foreign substances and remove them using a stick or a pair of blunt nippers if necessary.



Troubleshooting

CHECKLIST BEFORE SVC CALLS

SYMPTOM	CHECKLIST	MEASURE TO TAKE
OTIVIE TOWN	Is the Dust bin assembled?	Install the Dust bin.
Robotic vacuum	 Is the Dust bin assembled? Is the Power Switch turned on? 	Turn on the Power Switch.
cleaner does not	 Is the Power Switch turned on? Is cleaning mode () in the 	
operate at all before cleaning.	display panel turned on?	Press the (button. (To turn it off, press and hold the (button down for 3 seconds or longer.)
	 Is the battery level flashing only one level and is 'LO' displayed in the display panel? 	Lift up the robotic vacuum cleaner, and manually dock the robotic vacuum onto the charger to charge it.
	 Robotic vacuum cleaner will not operate when the battery in the remote control is depleted. 	Replace the batteries in the remote control. (AAA type)
Robotic vacuum cleaner stopped operating while	 Is the battery level flashing only one level and is 'LO' displayed in the display panel? 	Lift up the robotic vacuum cleaner, manually dock the robotic onto the charger to charge it.
cleaning.	 Has the robotic vacuum cleaner become hooked on wires on the floor? 	Turn off the Power Switch and remove the wires.
	 Is the robotic vacuum cleaner stuck to the floor where there is a height difference? The driving wheel is lifted. 	Turn off the Power Switch and move the cleaning robotic vacuum to another place to clean.
	 Is there a thin towel (cloth) wrapped around the driving wheel? 	Turn off the Power Switch and remove the thin towel.
	 Is the robotic vacuum cleaner stuck on the doorsill? 	Turn off the Power Switch and move the robotic vacuum cleaner to another place to clean.
The suction	 Check whether the Dust bin is full of dust. 	Stop the robotic vacuum cleaner and empty the Dust bin.
power is weak while cleaning.	 Check whether the suction inlet is clogged by foreign substances. 	Turn off the Power Switch and remove the foreign substances on the suction inlet.
	 Check whether the Filter is clogged. 	Clean the Filter well.

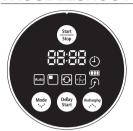
Troubleshooting

CHECKLIST BEFORE SVC CALLS

SYMPTOM	CHECKLIST	MEASURE TO TAKE
Robotic vacuum cleaner cannot find the charger.	Check whether the power plug of the charger is plugged correctly into the outlet.	
	If there are any obstacles within a range of about 1m in front of the charger and about 0.5m range to the left and right of the charger, you should remove the obstacles.	
	If there are any foreign substances on the change pin, wipe them off with a dry towel.	
	Is the VIRTUAL GUARD installed near the charger?	Move the VIRTUAL GUARD to another place so that the robotic vacuum cleaner can charge automatically.
Robotic vacuum cleaner passes through the VIRTUAL GUARD.	Are the batteries of the VIRTUAL GUARD worn out?	Replace the batteries. (2 type D (LR20) alkaline batteries)
(OPTION)	Is the VIRTUAL GUARD set to Guard (virtual door) mode?	Set the VIRTUAL GUARD to Fence (virtual wall) mode.
	Is the Mode lamp turned off?	Check if the VIRTUAL GUARD is turned off and then set the VIRTUAL GUARD to a desired mode.
The battery usage time of the VIRTUAL GUARD is too short. (OPTION)	Are you using manganese drycell batteries?	 Replace the batteries with new alkaline batteries. (2 type D (LR20) alkaline batteries)

Troubleshooting

TROUBLESHOOTING FOR ERROR CODES

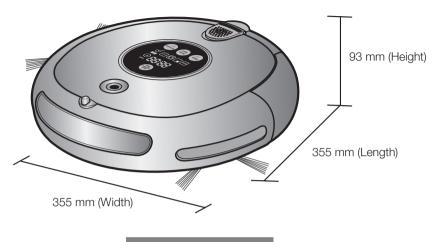




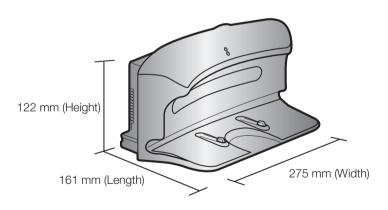
ERROR CODE		CAUSE	SOLUTION
	00	Robotic vacuum cleaner is caught, stuck or trapped while navigating.	Turn off the Power Switch at the bottom and move the robotic vacuum cleaner to a different location.
[01	A foreign substance (string, paper, toy etc.) is caught in the power brush.	Turn off the Power Switch at the bottom and remove the foreign substance from the power brush.
	02	A foreign substance (string, paper, toy etc.) is caught in the left driving wheel.	Turn off the Power Switch at the bottom and remove the foreign substance from the left driving wheel.
	03	A foreign substance (string, paper, toy etc.) is caught in the right driving wheel.	Turn off the Power Switch at the bottom and remove the foreign substance from the right driving wheel.
	85	Check bumper sensor.	Slightly pull the stuck bumper outward.
	06	A foreign substance (dust, stain etc.) is on the Obstacle sensor window.	Turn off the Power Switch at the bottom and wipe the foreign substance from the front and rear sensor windows using a soft cloth.
	07	A foreign substance (Dust, stain etc.) is on the Cliff sensor window.	 Turn off the Power Switch at the bottom and wipe the foreign substance on the cilff sensor window with a soft cloth.
	83	Dust bin not inserted.	Insert the Dust bin until you hear a "Click" sound.
[89	A foreign substance (String, cloth etc.) is caught on the edge-cleaning side rotating brush.	Turn off the Power Switch at the bottom and wipe the foreign substance from the edge- cleaning side rotating brush.

^{*} If you press the Start/Stop button or turn off the Power Switch, the error code is cleared.

Product specification



Main Body



Charger

Product specification

CLASSIFICATION	ITEM	DETAIL
	Diameter	355 mm
Mechanical Specifications	Height	93 mm
	Weight	3.5 kg
	Power voltage	AC 220-240 V~, 50-60 Hz
Electrical	Charge power consumption	50 W
Specifications	Main unit power consumption	40 W
	Battery specifications	14.4 V / 2,000 mA
	Dust bin capacity	About 0.6 ℓ
	Charging type	Auto Charging/Manual Charging
Cleaning Specifications	Cleaning mode	Auto, Spot, Max, Manual, Edge, Scheduled Cleaning
	Charging time	About 120 minutes
	Cleaning time (on the basis of hard floor)	About 90 minutes
Cleaning method		Ceiling shape recognition
Main unit button type		Button type

This Vacuum cleaner is approved the following.

Electromagnetic Compatibility Directive: 2004/108/EEC

Low Voltage Directive: 2006/95/EC

Open Source Announcement

The software included in this product contains copyrighted software that is licensed under the GPL/LGPL.

You may obtain the complete Corresponding Source code from us for a period of three years after our last shipment of this product by sending email to: oss.request@samsung.com

If you want to obtain the complete Corresponding Source code in the physical medium such as CD-ROM, the cost of physically performing source distribution may be charged.

This offer is valid to anyone in receipt of this information.

GPL Software:

Linux kernel, BusyBox

LGPL Software:

uClibc

- GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.

51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software-to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and

distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
- b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
- c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

- 3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
 - a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or.
 - **b)** Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

- 4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compilance.
- 5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
- 6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
- 7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the

original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

- 11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
- 12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found. one line to give the program's name and an idea of what it does.

Copyright (C) yyyy name of author

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author

Gnomovision comes with ABSOLUTELY NO WARRANTY; for details

type 'show w'. This is free software, and you are welcome

to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than 'show w' and 'show c'; they could even be mouse-clicks or menu items-whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright

interest in the program 'Gnomovision'

(which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989

Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

- GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999
Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole

GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee

- 2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
 - a) The modified work must itself be a software library.
 - **b)** You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
 - c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
 - d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that
 uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort
 to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs
 whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at
 run time a copy of the library already present on the user's computer system, rather than copying library functions into
 the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the
 modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy
 the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
- b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining
 where to find the accompanying uncombined form of the same work.
- 8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
- 9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
- 10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any

further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

- 12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
- 13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

- 15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
- 16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the library's name and an idea of what it does.

Copyright (C) year name of author

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample: alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker

signature of Ty Coon, 1 April 1990
Ty Coon, President of Vice
That's all there is to it!

- JPEG

This software is based in part on the work of the Independent JPEG Group.

- OpenCV:

IMPORTANT: READ BEFORE DOWNLOADING, COPYING, INSTALLING OR USING.

By downloading, copying, installing or using the software you agree to this license.

If you do not agree to this license, do not download, install, copy or use the software.

License Agreement

For Open Source Computer Vision Library

Copyright (C) 2000-2008, Intel Corporation, all rights reserved.

Copyright (C) 2008-2010, Willow Garage Inc., all rights reserved.

Third party copyrights are property of their respective owners.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistribution's of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistribution's in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

The name of the copyright holders may not be used to endorse or promote products derived from this software without specific prior written permission.

This software is provided by the copyright holders and contributors "as is" and any express or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall the Intel Corporation or contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liablity, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.

Memo

Memo

Memo



If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

Country	Customer Care Center 2	Web Site
U.K	0330 SAMSUNG (7267864)	www.samsung.com
SOUTH AFRICA	0860 7267864 (SAMSUNG)	www.samsung.com
AUSTRALIA	1300 362 603	www.samsung.com
HONG KONG	(852) 3698-4698	www.samsung.com/hk www.samsung.com/hk_en/
MALAYSIA	1800-88-9999	www.samsung.com
SINGAPORE	1800-SAMSUNG (7267864)	www.samsung.com



Code No. DJ68-00695A REV(0.0)