

ver 3.0

# Fully Automatic Motorised Satellite TV System

***SatKing* PRO MAX**



**User's manual**

Customer Help Line: 1300 139 255  
Support Email: [support@satkingpromax.com.au](mailto:support@satkingpromax.com.au)  
Website: [www.satkingpromax.com.au](http://www.satkingpromax.com.au)

[www.satkingpromax.com.au](http://www.satkingpromax.com.au)

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# 1. General Information

## 1-1. Introduction

These instructions describe the functions and operation of the SatKing PRO MAX auto skew satellite system.

Correct and safe operation of the system can only be ensured by following these instructions. Your SatKing PRO MAX is an intelligent satellite TV reception antenna system which can align itself towards a preset satellite automatically as long as the system is located within the footprint of the selected satellite.

The SatKing PRO MAX only occupies requisite space while it performs the necessary adjustments with the slim and agile antenna body.

For general operation, please ensure that the system always has a clear view of the Northern Sky. If the satellite's signal beam is interrupted by obstacles such as buildings or trees, the unit will not function and no satellite TV signal will be received.

For more information on general use of this unit consult your local dealer for assistance.



## **1-2. Proper use and operation**

This product has been designed for fixed installation on vehicles with maximum speeds of 130 km/h. It is designed to automatically aim an antenna at geostationary television satellites. The power to the system is supplied by a standard vehicle electrical system with a rated voltage of 12 or 24 Volts DC.

Use of the equipment for any other purpose to the one specified is not permitted.

### **Please also note the following instructions from the manufacturer:**

- It is not possible to add or remove components on this product.
- The use of other components other than those originally supplied.
- When completing Installation you or your contractor must strictly follow all instructions in the supplied User Manual. Failure to follow the user manual may cause damage to the SatKing PRO MAX or your vehicle.
- The product does not require any regular maintenance; all service must be carried out at approved service centre's.
- All relevant guidelines of the automotive industry must be observed and complied with.
- The equipment must only be installed on solid vehicle roofs.
- Avoid cleaning your vehicle with the mounted satellite system in a drive-through car wash or a car wash with a high-pressure cleaner.
- The SatKing PRO MAX comes with a 3 year warranty, for full warranty details please visit our website [www.satkingpromax.com.au](http://www.satkingpromax.com.au)
- After Sales Support Line 1300 139 255 or [support@satking.com.au](mailto:support@satking.com.au)

## 1-3. Safety notes



Please carefully read and follow the operating instructions in this manual and use the PRO MAX's for it's intended purpose.

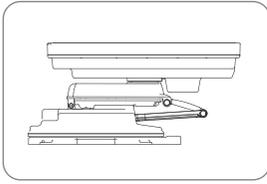
Upon installtion of the PRO MAX, please ensure the installtion is done with supplied cables and ensure the cables are not modified in any way.

As the user of this equipment, you are responsible for ensuring compliance with the relevant laws and regulations.

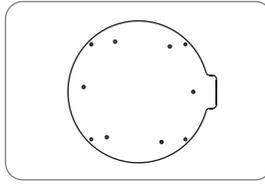
The manufacturer does not take liability for direct or indirect consequential damage of the system, motor vehicles or other equipments by reason of unsuitable battery usage or erroneous installation or wrong wiring connection.

## 2. Contents

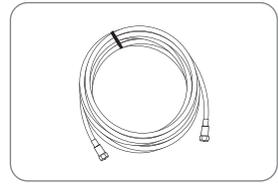
### 2-1. Components bundle



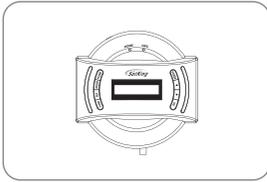
Main unit



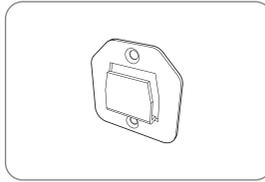
Mounting plate



Controller(labeled) cable - 7m



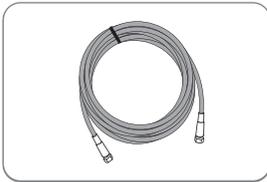
Controller



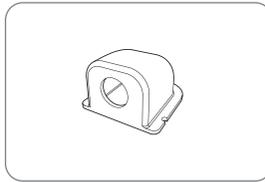
Controller bracket



Power input cable  
+ (Red), - (Black)



Receiver(labeled) cable - 7m  
(x2 for twin outputs)



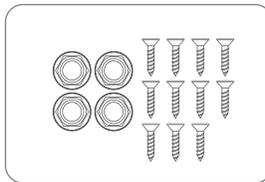
Cable holder



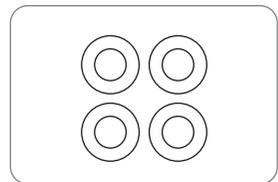
Cable gland



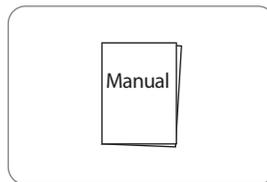
Spanner



M4x20 (11), M8 Flanged nut (4)



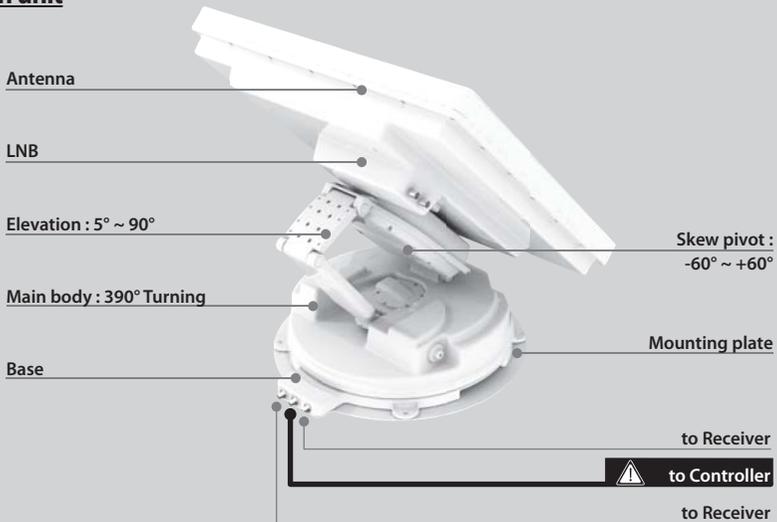
Washer (4)



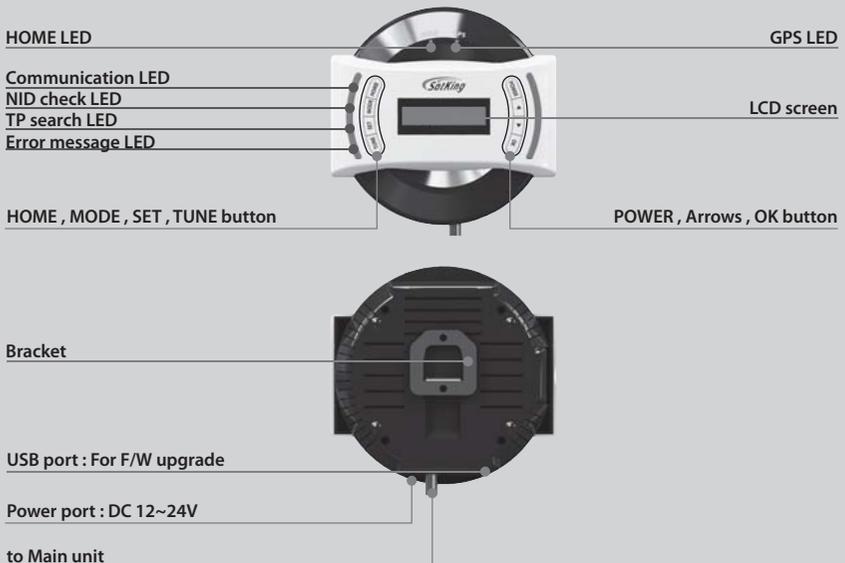
User manual

## 2-2. Name of parts

### Main unit

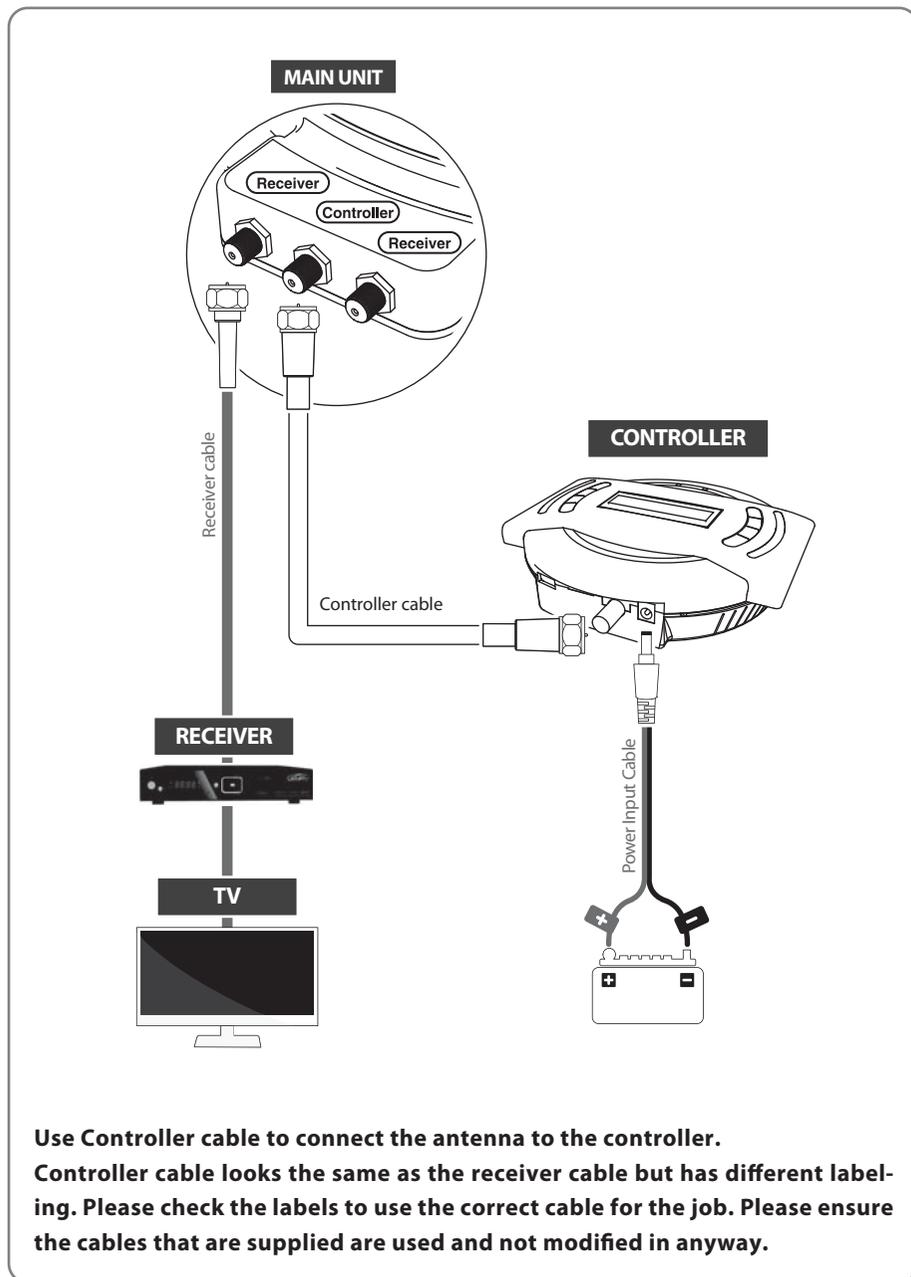


### Controller



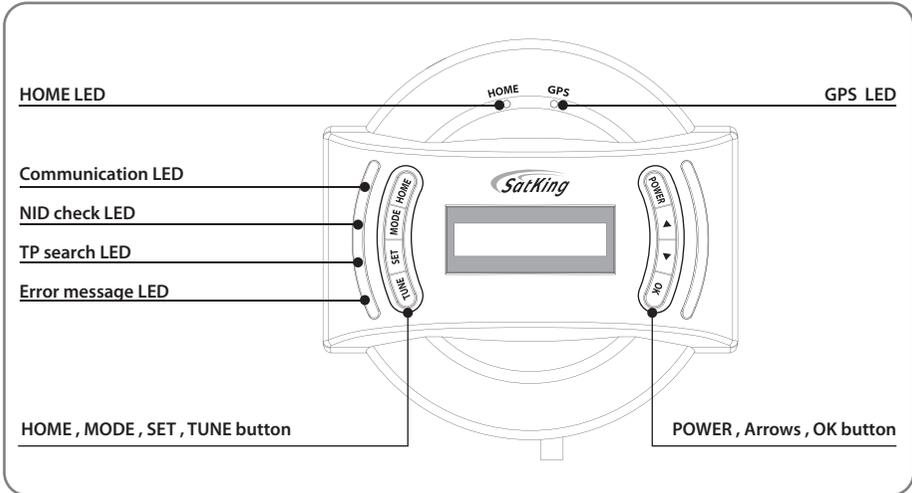
# 3. Operating Instruction

## 3-1. Connection diagram



**Use Controller cable to connect the antenna to the controller. Controller cable looks the same as the receiver cable but has different labeling. Please check the labels to use the correct cable for the job. Please ensure the cables that are supplied are used and not modified in anyway.**

## 3-2. Functional description



### 1. Get ready to use

- i. When the all cable connections are completed, press POWER to turn the unit on.
- ii. HOME LED will be solid this means the antenna is ready to go.
- iii. Communication LED will be solid when the unit is turned on.  
(This light means antenna unit is communicating with controller correctly.)
- iv. If the antenna did not go back to the HOME position, the HOME LED will continue to flash while antenna comes back to HOME. When the unit is ready, the default satellite "VAST" or the last selected satellite will show on LCD screen of the controller.

#### NOTE

HOME position is when the antenna completely folded down and facing forward.

- v. GPS LED flashes while searching for the current location. When GPS position is confirmed the LED will become solid.
- vi. Waiting until both HOME & GPS LED's are solid is recommended as this will allow the PRO MAX to find the selected satellite faster with more precise alignment accuracy.
- vii. If the searching operation starts before GPS becomes solid the GPS LED will continue to flash even when the satellite is already locked. In this case, the PRO MAX may readjust the skew once its current location is confirmed.

## 2. Selecting the satellite

- i. Select the satellite you wish to view using the arrow buttons on the controller and press OK.
- ii. Network Identification (NID) check LED will flash and the antenna status will display "SEARCHING" and then "CHECKING" will appear on LCD screen.
- iii. NID check LED will be solid once the satellite is found and then "SAT FOUND" will appear on the LCD.

### NOTE

If the antenna has found the satellite using TP data, the TP search LED will be illuminated along with NID LED. Locking to the satellite with TP data, simply means that the Network ID may not have been available.

- iv. If you have selected the wrong satellite, move to the correct satellite name using arrows and press OK to confirm new satellite.

## 3. Back to HOME position & Turning off

- i. After use and before travelling, press HOME to return the PRO MAX back to HOME position.
- ii. To fully turn off the unit, press HOME and then hold the POWER for 5 seconds.
- iii. If you will stay in your location for an extended period or wish to save power you can leave the unit up by simply turning holding the POWER button for 5 seconds, the signal will still come through to your satellite TV receiver.

## 4. Special function 1 : FINE TUNE mode

FINE TUNE mode can be initialised when a selected satellite is found and you want to increase the signal strength further.

- i. Press TUNE to start the FINE TUNE mode.
- ii. First TUNE is for AZ (Azimuth). Adjust antenna position using arrow buttons to find a new position providing better signal quality and press OK to set.  
The signal level will be displayed on the controller (Q \_\_\_ ) or your satellite receiver.
- iii. Repeat the same process of adjust the EL (Elevation) and SK (LNB skew).
- iv. To save new position of the satellite and exit, press the TUNE button.  
Saved new position will be placed in the memory for your next turn on. But once your vehicle moves or confirms new GPS location, the saved position will be reset.
- v. For Manual GPS RESET of the last position memory, press SET once and go to YES and press OK.  
Restart the PRO MAX to apply reset to your next operation.

## 5. Special function 2 : ERROR MESSAGE

Error message LED will be illuminated and the error message detail will be shown on LCD display, this will detail if there is a problem with main unit.

- i. **HOME POSITION error**  
If antenna does not come back to HOME position within the allowed time or the system does not recognise HOME position despite the antenna being back at HOME position (The Limit sensor is faulty).
- ii. **TUNNER error**  
If there is no response when searching the satellite due to a faulty tuner or its settings.
- iii. **MOVEMENT error**  
If the PRO MAX cannot move to correct position for some reason.
- iv. **COMMUNICATION error**  
If connection is lost between the PRO MAX and controller that lasts longer than 5 seconds.

## 6. Special function 3 : TEST mode

TEST mode can be initialised when either an error message is shown or the antenna is at HOME position.

- i. Press MODE once to enter TEST mode and press OK.
- ii. Go to "AZIMUTH - ELEVATION - SKEW - ALL MOTORS - GPS Information- FW Ver" using the arrow buttons and press OK to select.
- iii. To exit, press MODE and PRO MAX will return to previous status.

### 3-3. Quick reference

1. Press POWER to turn on the unit and select a satellite using arrow buttons and press OK
2. Wait until "SAT FOUND" is displayed on LCD and NID check (second LED on the left side) becomes solid.
3. Now, the selected satellite has been locked and the TV channels will be shown on TV.

#### NOTE

You may need to wait 30 seconds while the receiver smartcard updates.



#### WARNING

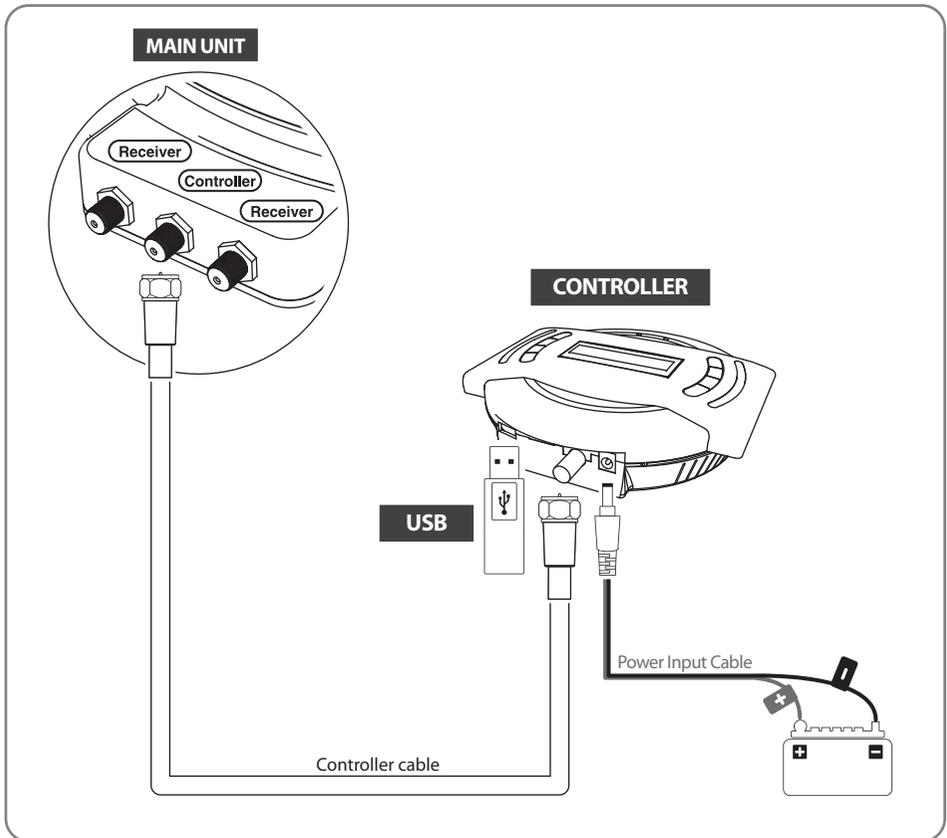
When you physically move SatKing PRO MAX, the unit must be returned to HOME position to prevent damage.



#### NOTE

SatKing PRO MAX will be automatically folded back to HOME position if vehicle moves faster than 10km/h when the unit is powered.

## 4. Software Update



1. Transfer software program to a USB root folder (not belonging to any other folder) in an empty USB.
  - i. Please go to SatKing PRO MAX website [www.satkingpromax.com.au](http://www.satkingpromax.com.au) to download update program(software).
  - ii. In case a controller does not recognise the USB drive, take the USB out and plug into a PC. Right click USB folder, go to "Properties" and check if the"File system" is FAT32. If not, right click USB folder again, go to "Format" and re-setup a file system to FAT32.
2. Ensure that the unit is turned off and plug the USB into USB port on the side of controller.
3. Press and hold TUNE button then also press the POWER button.
4. Unit will turn on and "USB connected, F/W Update mode" will be shown on LCD.
5. Once "SATKING PROMAX\_SET\_OK" is shown, update is completed, remove the USB device.

## 5. Advanced Settings

### Modify Transponder (TP) Mode

- i. Press MODE twice to enter Modify TP MODE and press OK.

#### NOTE

To select and set numbers, use arrow buttons to see available options. The numbers, adjust individually with the cursor and press OK to move to next option. You only need to use this function if the satellite operator changes all it's parameters.

- ii. Select the satellite you want to modify, as example "00 VAST ~ 05 OPTUS D3" and press OK.
- iii. Select TP number among "00~02" and press OK. (Three TP's are programmed for each satellite)
- iv. Repeat the same process by inputing data for FREQ (frequency) and SYMBOL (symbol rate).
- v. Select type of signal DVBS or DVBS2 and press OK.
- vi. Select polarisation VER (vertical) or HOR (horizontal) and press OK.
- vii. Select YES or NO to save and/or go back to first stage of TP Modify.
- viii. To exit, press MODE and PRO MAX will return to previous status.
- ix. For manual TP data RESET, press SET twice and then select YES and press OK. Restart PRO MAX to apply the reset to your next start up.

### Change VAST STB Home Transponder (TP)

In very low signal areas it may be an advantage to change the home TP in your VAST receiver, this will allow the VAST receiver to search for the strongest TP first

#### NOTE

Due to signal levels all channels may scan in but not be available.

### SatKing VAST Receivers

- i. Press Menu\_Select Installation and press "OK" \_Enter Password 1234.
- ii. Press yellow button (TP Edit)\_Change frequency to 11807.
- iii. Green bars should appear down the bottom of the TV screen, once this happens press the red button (start search).

### UEC DSD 4121

- i. Press Menu\_Select #6 Advanced Options and press "OK".
- ii. Select #2 Install Setup\_press "OK".
- iii. Enter password 1234\_Select #1 Sat Signal Setup\_press "OK".
- iv. Select #1 Freq MHz\_press "OK".
- v. Manually enter 11807 and press "OK". Select #5 Accept these settings and press "OK".
- vi. Select #4 satellite Rescan and press "OK".

## 6. Trouble Shooting

There are a number of common issues that can affect the signal reception quality or the operation of the SatKing PRO MAX. The following sections address these issues and potential solutions.

### A. No function when you power on the controller

- i. Check again that all the cable connections have been made correctly.
  - ✓ Connection between the battery and controller
  - ✓ Connection between the controller and the antenna. Make sure that the cable is plugged into the correct port on the antenna.
- ii. Check if the power input cable has been damaged.
- iii. Check the battery polarities(+/-).

### B. Failed to lock to the selected satellite

- i. Satellite signals can be blocked or degraded by buildings and trees.  
Make sure there are no obstructions in a northerly direction, maybe move van slightly.
- ii. You can reset the unit, press SET button and the reset will start with comment "RESET POSITION" on LCD. Reset takes about 2~3 seconds and finish with comment "RESET COMPLETED" then the unit will back to normal operation mode. (Reset only works when antenna is at HOME position.)
- iii. Select another satellite as example Optus D2, if this locks then select your desired satellite. ie VAST.
- iv. Turn the unit off and then back on again and select your desired satellite.

### C. Mechanical problems

- i. If the antenna does not move into desired position.
  - ✓ Try to power OFF/ON again.
- ii. If the antenna makes a noise whilst remaining static.
  - ✓ Try to power OFF/ON again. If problem persists, please contact your local distributor for assistance.
- iii. If the system has been improperly wired, the system may not operate. Contact your local dealer for assistance.

### D. Terrestrial antenna (Also known as local antenna)

- i. We recommend that you retain your local antenna as there will be some locations where there are trees blocking the satellite signal but there is no clear view of the sky but there is adequate terrestrial TV signal available.

# 7. Specifications

## 7-1. Dimensions



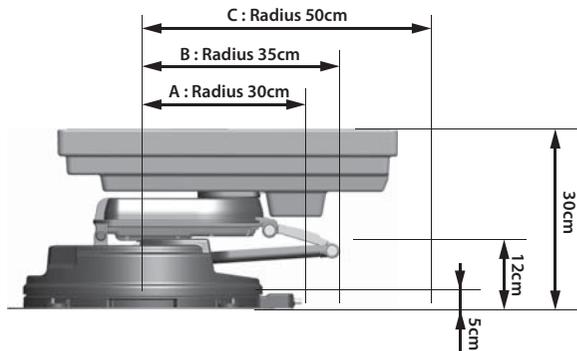
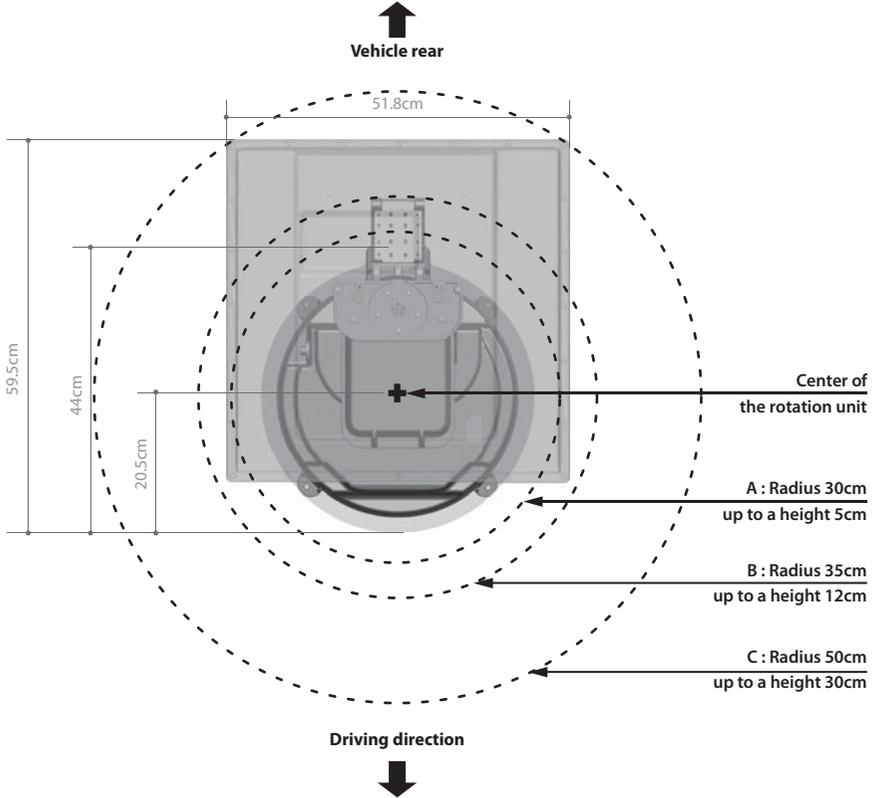
## 7-2. Specifications

<b>MODEL NAME</b>	<b>SatKing PRO MAX</b>
Weight	19.6 kg
Work Condition	Stationary
Polarization	Linear (Horizontal / Vertical)
LNB Output	Dual Output
LNB Input Frequency	11.7 ~ 12.75 GHz
LNB Output Frequency	1000 ~ 2050 MHz
Angle Range	(EL) 5° ~ 90° / (AZ) 390° / (SK) -60° ~ +60°
Satellite Searching Time	120 seconds (average)
Power Requirement	DC 12~24V
Power Consumption	84W (in searching)
Operating Temperature	-30°C ~ +60°C

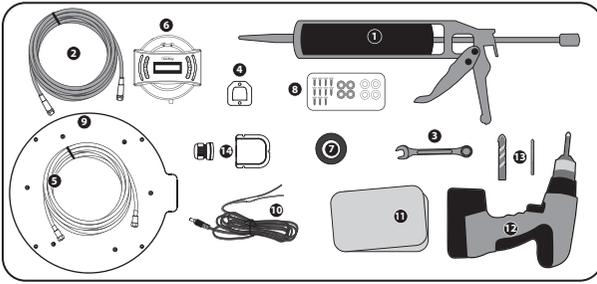
## 8. Caravan/Motorhome Installation

### 8-1 . Required space for the SatKing PRO MAX

Please allow that there is enough space around the SatKing PRO MAX for flat antenna section to complete a full 360° scan of the sky and return to the HOME position.

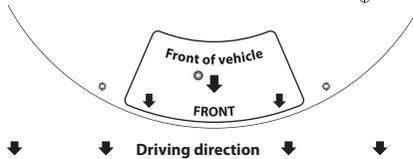


## 8-2. Equipment for installation



- 1 Silicone
- 2 Receiver cables
- 3 Spanner
- 4 Controller bracket
- 5 Controller cable
- 6 Controller
- 7 Friction tape
- 8 M4x20 (11), M8 Flanged nut (4), Washer (4)
- 9 Mounting plate
- 10 Power input cable
- 11 Cleaner
- 12 Power drill
- 13 2mm drill bit, over 20mm drill bit
- 14 Cable holder & gland

### ※ Mounting plate direction

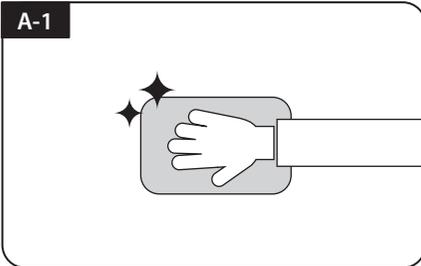


**Note:** Assemble of the PRO MAX and the mounting plate takes place separately. Once the antenna is mounted you can then use the supplied washers and nuts to secure the antenna to the base plate.

## 8-3. Installation

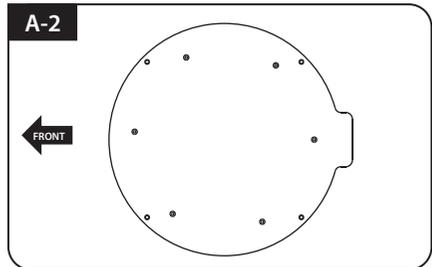
### A. Mounting plate installation on a vehicle roof

A-1



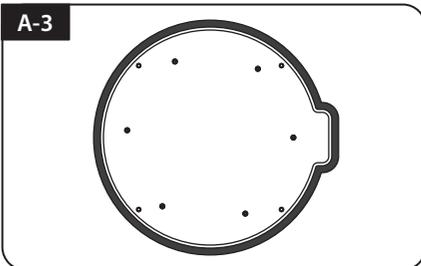
Clean the surface with cleaner

A-2



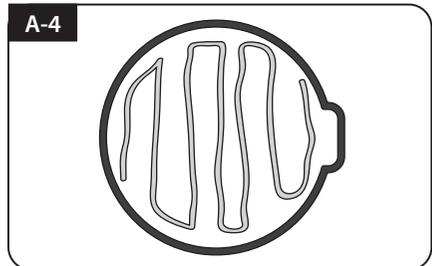
Locate mounting plate in the centre of the vehicle roof

A-3



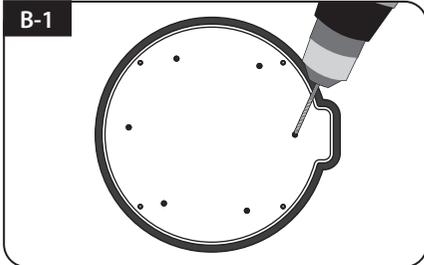
Attach friction tape outside of the mounting plate by 5mm away from the plate edges

A-4

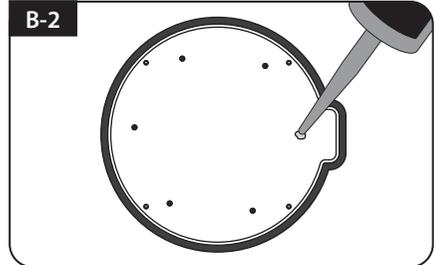


Put aside the mounting plate to apply silicone within the attached tape line but leave 2cm inward gap from the line

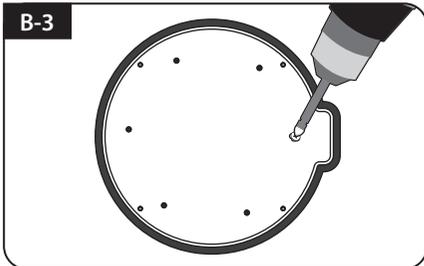
## B. Screw 6pcs of M4x20 bolt to fix the mounting plate



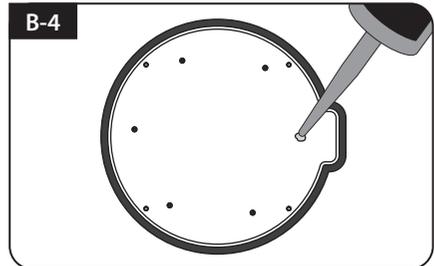
Place the mounting plate on the silicone and make 6 holes (2mm) with a power drill



Apply silicone on the holes

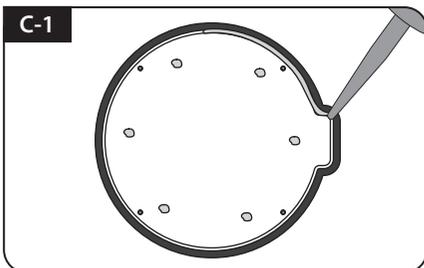


Insert screws

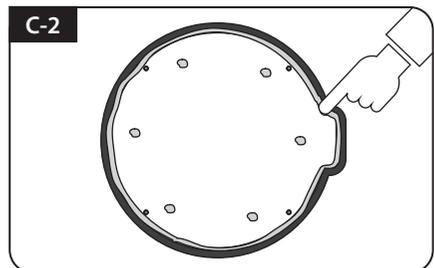


Re-apply silicone to cover bolts screwed

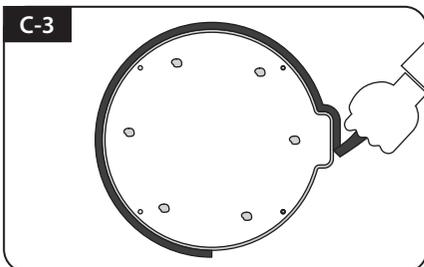
## C. Apply silicone between fix bracket and friction tape



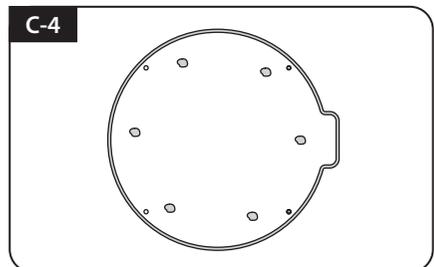
Apply silicone around mounting plate edge



Clean away the excess silicone

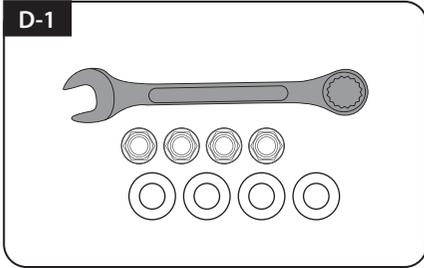


Remove friction tape and allow to dry

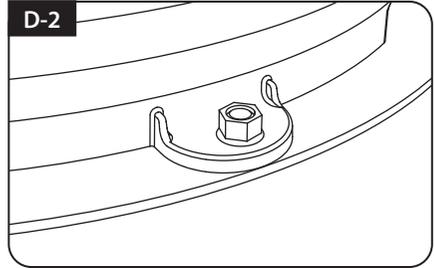


Prepare to place the antenna on to the four upright bolts

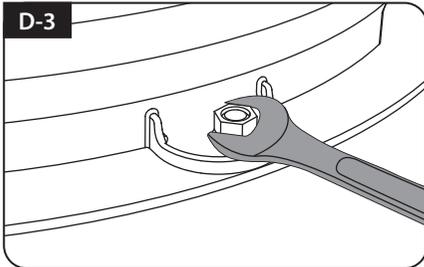
## D. Fix the antenna main unit with 4 pcs of nuts using spanner



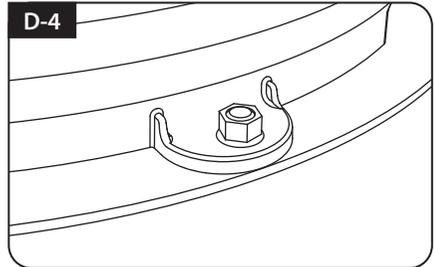
Parts required, spanner, four(4) nuts and four(4) washers



Place the antenna on the aluminium plate and place the washers over each bolt



Fit the supplied nuts to each of the four bolts and tighten firmly with spanner

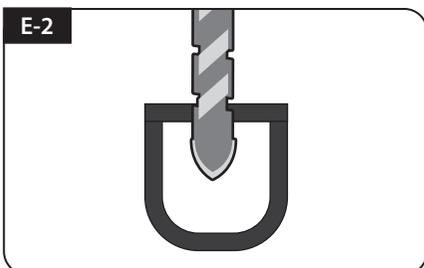


Make sure you check and four (4) nuts are tightened

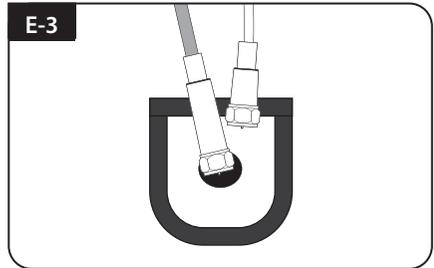
## E. Cable holder installation 1



Place cable holder around 30CM from the rear centre of the antenna. Apply friction tape 5mm from the outside of the holder



Drill a 20mm hole (or larger) in the centre of the tape marking



Make sure that hole size is big enough to insert all cables together by one and one

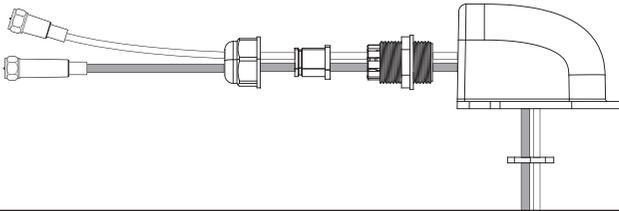
## F. Cable holder installation 2

F-1



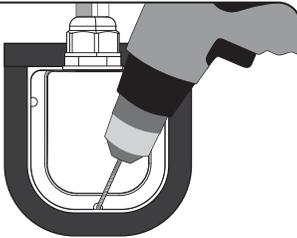
controller cable and two(2) of receiver cables, cable holder and gland for installation

F-2



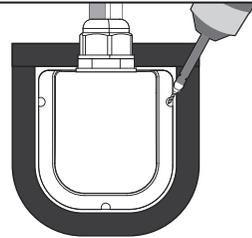
Put the cable inside the Cable holder as above picture.

F-3



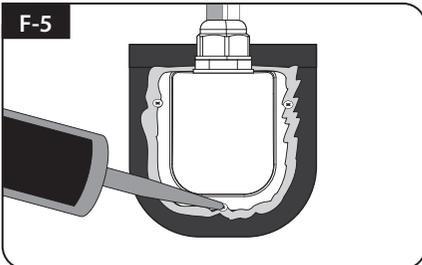
Place the assemble cable holder inside the tape markings. Drill three(3) 2mm holes

F-4



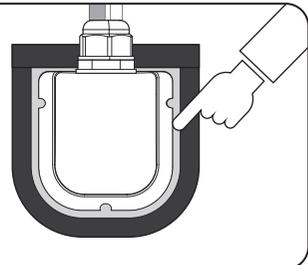
Fix cable holder on the vehicle roof with three(3) of M4 x 20 screws at drill holes made

F-5



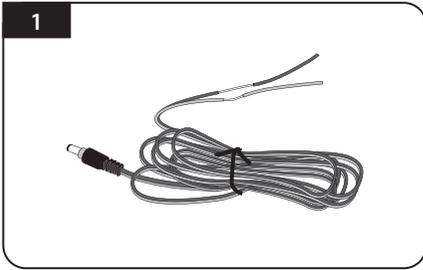
Apply silicone around cable holder and on the top of the screws for waterproof

F-6

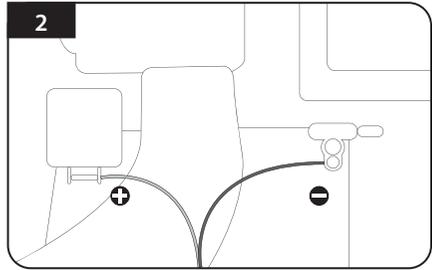


Connect cables to relative ports. Remove friction tape then tidy silicone before dry

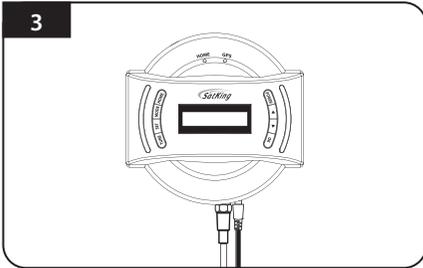
## 8-4. Battery connection



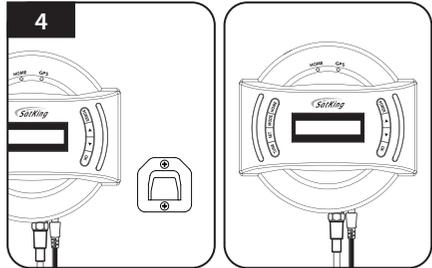
Power input cable



Match the power cables polarities to the battery polarities, red to red and black to black.



Connect to controller using power input cable and controller cable



Fix the controller bracket where you would like to fit the controller