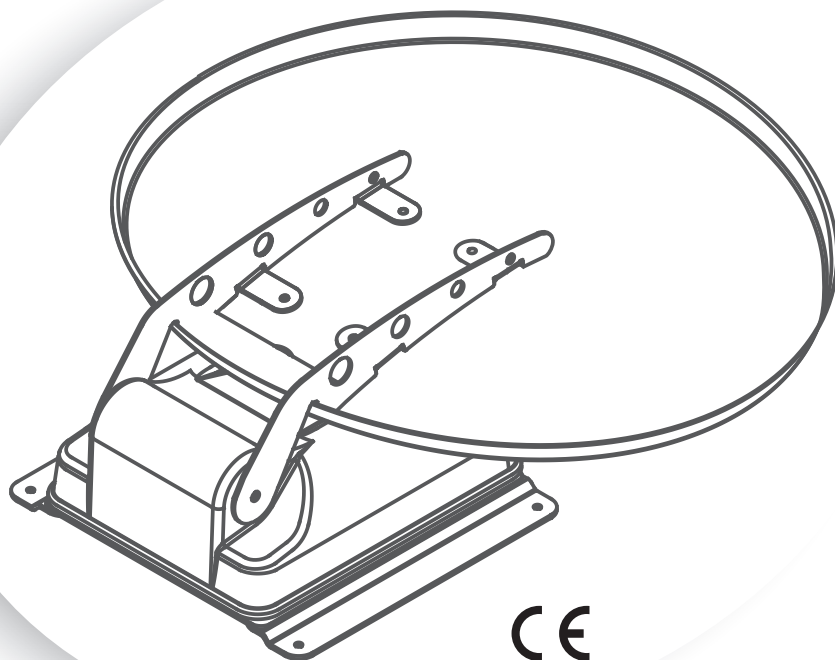


KiwiSat *Plus*

Automatic Satellite Antenna



GB

CE

DVBS2



1 INTRODUCTION

1.1 Symbols used..... Page 3
1.2 Proper use Page 3
1.3 Description Page 4
1.4 Components..... Page 5
1.5 Technical specifications..... Page 6

2 INSTALLATION

2.1 Assembly instructions of the external unit Page 7
2.2 Assembly instructions of the cable run box Page 8
2.3 Assembly instructions of the control box Page 9
2.4 Assembly instructions of the control unit Page 9
2.5 Electrical connections..... Page 10
2.6 Mounting satellite dish..... Page 12

3 GENERAL SAFETY REGULATIONS

3.1 Working area..... Page 13
3.2 Safety and electric supply Page 13
3.3 People's safety Page 13
3.4 Safety during assembly..... Page 14

4 USE

4.1 Destination of use Page 14
4.2 Description of the 1P control panel..... Page 16

5 DISPOSAL..... Page 17

6 INFORMATION

6.1 Service Page 17
6.2 Warranty Page 18
6.3 Manufacturer's declaration of conformity..... Page 19
6.4 Troubleshooting Page 20









Congratulations on buying this Kiwisat satellite dish with automatic tracking. This is a technologically advanced and high quality product for satellite TV reception in vehicles.

Before installing and operating the, satellite system examine carefully the functions of the device and its proper use.

Carefully read this use manual and always keep it close to the device for quick and easy reference. If the device is transferred to a third party, do not forget to pass on all the necessary documents.

1.1 Description of the symbols used

	Read the instructions manual		Important warning
	Keep to the safety warnings		Dispose of the device in an environmentally friendly manner
	Operations to be performed exclusively by authorised and trained personnel		See the picture concerning the letter shown

1.2 Proper use



For correct use of your Kiwisat automatic satellite dish, check the following:

1.2.1 Make sure that no trees, walls, buildings or other objects that may compromise the reception of the TV satellite signal are close to the satellite dish before opening it. (see pictures 1A and 1B)



1.2.2. Before switching the system on, make sure that there are no obstacles that might hinder the opening and rotation of the satellite dish (tree branches, balconies, canopies, etc)

1.2.3 The satellite dish has been designed and tested to resist a wind speed of 120 km/h. However, in the case of very strong wind, we suggest you keep the satellite dish closed because its wide surface may cause damage stress to the roof of your vehicle.

1.2.4 The battery voltage must always be sufficient; if the supply voltage is lower than 10V, the electronic safety circuit will prevent the satellite dish from being lifted.

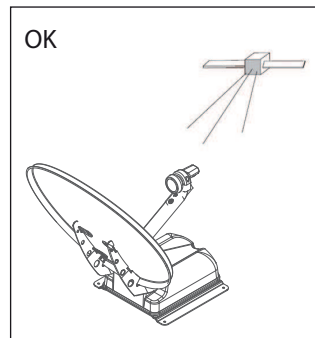
1.2.5 The battery voltage must always be sufficient; if the supply voltage is lower than 10V, the electronic safety circuit will prevent the satellite dish from being lifted.

1.2.6 The satellite dish must be used only if the external temperature is between -15°C and $+45^{\circ}\text{C}$. Using the satellite dish outside these values may damage the satellite dish or cause malfunctions.

1.2.7 After using the satellite dish and before moving off, make sure that the satellite dish is closed. In any case, do not move until the audible signal that indicates that the dish is parked turns off.



1A



1B

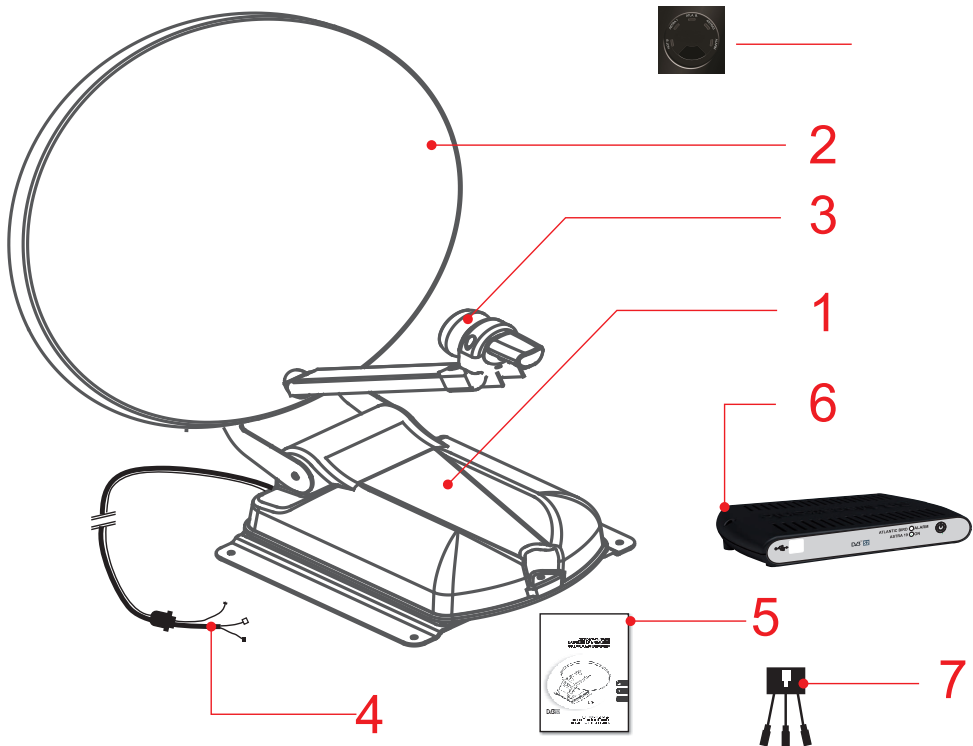
1.3 Description

Your Kiwisat satellite dish uses a totally automatic satellite tracking system. This system can track satellites that give a signal modulated in QPSK, according to the DVB-SI EN 300 468 Standard, and can hence:

- search the selected satellite
- park the satellite dish

1.4 Components

- 1 Motor-driven external unit
- 2 Offset satellite dish
- 3 Universal LNB
- 4 Wiring
- 5 Assembly and use manual
- 6 Control box for external unit
- 7 Box power connector
- 8 User control panel, display version



1.5 Technical specifications

• Satellite dish	offset
• Search system	fully automatic NID recognition according to the DVB-SI EN 300 468 specifications,tunerDVBS2
• Settable satellites	Depending on the model for the country: ASTRA 19 - HOTBIRD 13 (Germany - Italy) ASTRA 19 - ATLANTIC BIRD (France) ASTRA 19 - ASTRA 23.5 (Netherlands) ASTRA 19 - ASTRA 28 (England) OPTUS D1-T1 (New Zeland) OPTUS D3-T1 (Australia)
• Power supply	12V DC -20 + 30%
• Absorbed current	Max 2 Ampere
• Current absorbed in stand-by	≤ 5mA
• Weight	≤ 8,5 kg
• Protection fuse	3A
• Size (when closed) (HxWxL)	height: 195 mm Width: 610 mm Length: 650 mm

INSTALLATION

2



Only specialised personnel should install the satellite dish. Incorrect installation may damage the system.



Before installation, open the carton packaging and make sure that the satellite dish is in good condition. Make sure that all parts described in the instruction manual are present. (Apollo Entertainment does not accept any claims for damage caused by transport or missing material after the satellite dish has been installed).

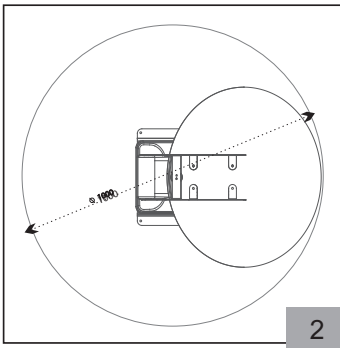
2.1 Assembly instructions of the external unit



CAUTION! Read carefully the safety standards concerning installation before installing the device. The non-observance of these instructions may lead to damage or serious injuries.



2.1.1 On the roof of the vehicle, find a sufficiently large area of roof (preferably at the sides of the roof) that allows for the positioning of the satellite dish (see picture 2)



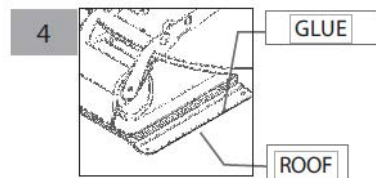
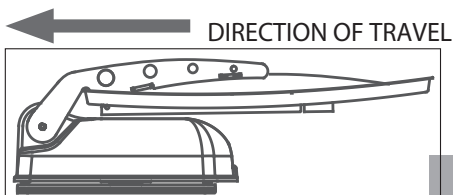
2.1.2 Clean carefully the area of the roof selected for the installation of the external unit (remove oil, grease and dust). Carefully clean the lower part of the fastening plate in order to remove any trace of dust and grease.

2.1.3 With a silicon gun apply a homogenous layer of structural polyurethane adhesive at **ambient temperature** in the lower part of the fastening plate (dekasyl MS-2 OR MS-5 glue is recommended; keep to the instructions for application).

2.1.4 Position the external unit on the previously cleaned roof area. Push strongly on it in order to ensure a good distribution and adhesion of the glue.

CAUTION!!! When assembling the external unit, ensure that the bottom of the dish when closed is facing the direction of travel (see picture 3)

To complete the installation of the external unit, apply a layer of adhesive around the fastening plate in order to make it totally waterproof (see picture 4)



Note: leave the adhesive to set for 24 hours before moving the vehicle

2.2 Assembly instructions of the cable run box

2.2.1 For easy and quick installation of the satellite dish, find a position on the roof where the supply and control box will be installed (see 2.3.1).

2.2.2 With a 20 diameter hole cutter make a hole for the passage of the cables inside the vehicle's cabin.

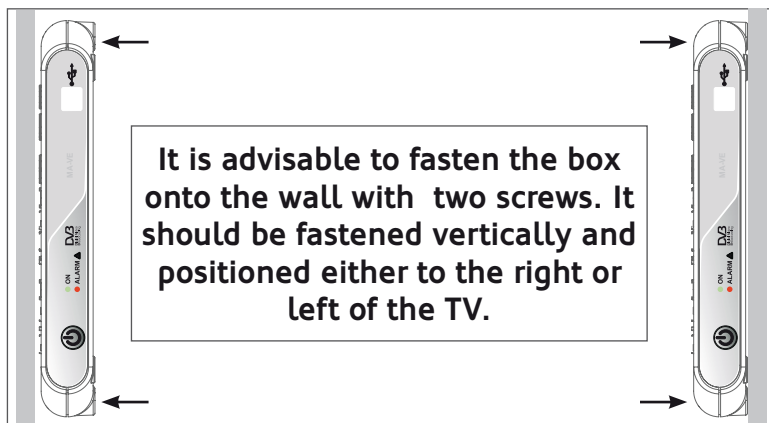
2.2.3 Clean and remove any grease from the surface around the hole. Take the cable box and make a hole in it so the M25 cable (which includes the sat cable and the internal connection cable) can pass through.

2.2.4 Run the cables inside, through the hole previously made in the roof and fix the cable firmly to the cable box with the bolt (supplied in the kit).

2.2.5 Apply a generous layer of polyurethane adhesive on the base of the box (use the same type as that used for the fastening of the external unit). Position the box on the roof close to the hole and press in order to ensure a good distribution and adhesion of the glue. Run the cables securely along the roof (insert them into a cable channel in order to protect them from UV rays) and bring the excess cables into the camper.

2.2.6 The cables must be fastened to the roof in order to prevent them from moving or being caught by objects such as branches.
The external assembly of the satellite dish is now complete.

2.3 Assembly instructions of the control box



5

2.3.1 Find a place inside the vehicle that is easily accessible to the user, preferably near the TV or inside a cupboard.

2.3.2 Position and fasten the wall box inside this accessible and ventilated area so that any service operations can be performed easily and quickly (see picture 5).



CAUTION! The ventilation of the device is important because it avoids overheating of the components.

2.4 Assembly instructions of the internal control unit for LED and Plus versions

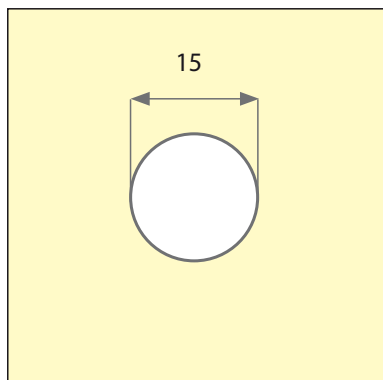
2.4.1 Find an area inside the vehicle that is easily accessible and visible from a distance less than 2 metres from the control box (i.e. the length of the connection cable between the box and control panel).

2.4.2 Use a hole cutter with a 15mm diameter to make a through hole at the point selected for the assembly (see drawing 6).

2.4.3 Run the RJ45 patch cat6 connection cable supplied with the satellite dish and connect the box to the internal control unit (see drawing 7/7.1).

2.4.4 Fasten the control unit by means of the 4 screws supplied (see drawing 6).

6



2.5 Electrical connections

2.5.1 Connect the grey cable from the external unit to its terminals on the internal control box (see drawing 7).

2.5.2 Connect the black coaxial cable from the satellite dish LNB to the F connector of the control box.

Note: in satellite dishes with dual output, the second black coaxial cable from the satellite dish must be directly connected to the second receiver (see drawing 7.1).

2.5.3 Insert the power connector supplied with the system into the special connector on the control box.

2.5.4 Connect the black cable of the power connector to the negative pole of the domestic battery and the red cable to the positive pole of the domestic battery.

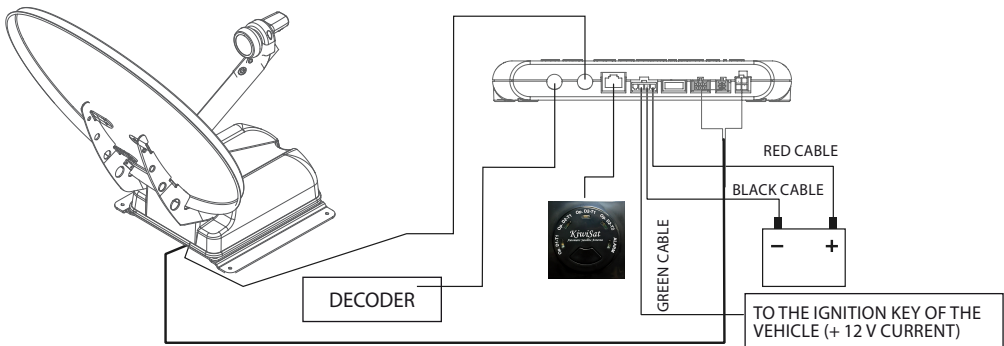
2.5.5 Connect the green cable of the power connector to the special D+ position on the vehicle dashboard. This enables automatic closing of the satellite dish in case it is left in the up position.

In many cases the connection is on pin 15 of the general terminal board and in any case it corresponds to an active and positive voltage of +12 VDC generated when the vehicle ignition key is rotated.

This connection prevents the operation of the satellite dish when the vehicle is moving or the ignition key is turned for ignition.

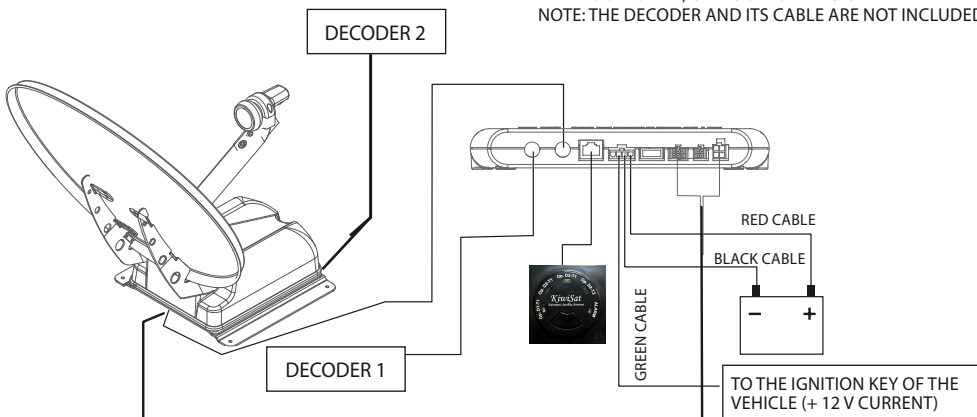
7

WIRING DIAGRAM, ONE-OUTPUT VERSION
NOTE: THE DECODER AND ITS CABLE ARE NOT INCLUDED



7.1

WIRING DIAGRAM, ONE-OUTPUT VERSION
NOTE: THE DECODER AND ITS CABLE ARE NOT INCLUDED



2.6 Mounting satellite dish

Before fixing the satellite dish to the motor unit the electrical wiring should firstly be connected (see step 2.5). Before starting the procedure you should make sure that the LNB arm is free (during packing it is fastened to the dish plate for protection). It is advisable to loosely connect the electrical wiring before installing the

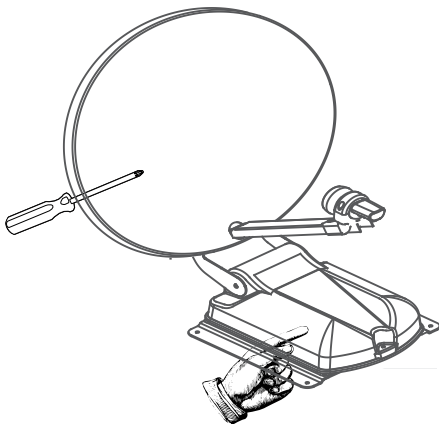


antenna, although you can also connect them once the motor unit has been fixed to the vehicle roof. Connect the electrical wiring and push the ON/OFF button (see picture 7.2) on the control panel (for other satellite versions see step 4.2 and 4.2.2). Wait until the support mast is open and block it open in this position by pushing the ON/OFF button again or by disconnecting the antenna from the electrical supply (advisable especially for the 1P satellite version). At this stage you are ready to assemble the satellite dish.



Caution!!! Never unscrew the existing cap screws that you will find on each side of the dish base. These cap screws were especially fitted with a threadlocker during manufacturing and allow the satellite dish base to move independently

even if the antenna is not switched on. If these cap screws are unscrewed then they will have to be put back again by using a torque wrench and replacing the threadlocker on the screw.



Take the 4 screws, flange nuts and the dish base from the kit, use a Phillips screwdriver to fix the base to the dish (see picture 7.3) reconnect the antenna if it was disconnected and then reclose the support mast.



Caution !!! check that once the support mast is closed (against its rubber gasket) that it is:

- 1) resting perfectly against the LNB head
- 2) that no warning signals occur due to maximum motor stress. If one of the two above mentioned conditions occur then it will be necessary to un-screw the lateral cap screws that fix the dish base and recalibrate the system (find a new closure point or reposition the dish to the LNB correctly) making sure to replace the threadlocker before tightening the screws again with the torque wrench.



CAUTION ! Read all the instructions.

The improper or non observance of these instructions may result in serious damage and injuries.

KEEP THESE INSTRUCTIONS

3.1 Working area



Before switching the system on, always make sure that the working area is free from obstacles (tree branches, protruding balconies etc.).

RISK OF DAMAGE TO SATELLITE DISH AND VEHICLE

3.2 Safety and electric supply

The device must be exclusively powered with 12 V, supplied directly from the service battery using cables with a minimum section of 2.5 mm.

If a 12V electric power supply is used instead of the battery, make sure that it is stabilised and able to deliver 3 Amps continuously and 10 Amps for short periods.

Do not use a poor quality battery charger that is not stabilised.

3.3 People's safety



Before enabling the opening of the satellite dish, make sure that nobody is on the vehicle roof. If someone is on the roof of the camper, he/she could be hit by the satellite dish when it is opened or closed.

RISK OF SERIOUS INJURY

3.4 Safety during assembly



For the assembly operations that imply the risk of fall, the necessary safety pre-cautions must be adopted: for instance, a work bridge to be used when operating on the vehicle roof. Make sure that the roof of the vehicle has sufficient carrying capacity for the assembly operations.

Moreover, during assembly make sure that :

- The device is disconnected from the electric mains
- The person in charge of the assembly does not suffer from vertigo
- The person in charge of the assembly wears non-slip and accident-prevention shoes.
- Nobody is under the satellite dish during assembly.
- The lifting apparatus is non-slip and dry.
- The bridge and ladder are sufficiently stable and robust

USE

4

4.1 Destination of use

The satellite dish is manufactured for the reception of digital TV and radio signals from a satellite only when the vehicle is stationary. The reception unit allows for the reception of satellite TV and radio signals whose frequency is included between 10.7 GHz. and 12.75 GHz. Any different use renders the warranty void.

Caution: Apollo Entertainment does not accept any liability for damage caused by:



- Wrong use that does not comply with the intended use of the device
- Repairs not performed by authorised service centres
- Tampering with any mechanical components
- Use of non-original spare parts and fittings
- Non-observance of the instructions in this manual

IN THE ABOVE-MENTIONED CASES THE WARRANTY IS VOID

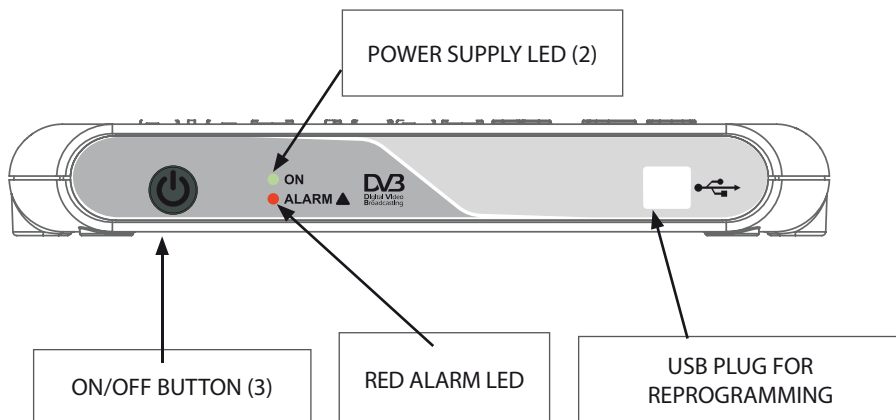
4.2. Description of the 1P control panel

Switching on

To switch on the system press the on/off (3) button on the control panel. When this button is pressed the red and green LED will simultaneously be switched on to check that the LEDs are working correctly. After a few seconds the red LED will turn off and the green LED will start to flash, to show that the system is searching for the satellite. Once the satellite has been found and confirmed the green LED will stop flashing and remain fixed. The green LED will then begin to flash very quickly when the signal is recognized and will go back to fixed mode as soon as the satellite is acknowledged.

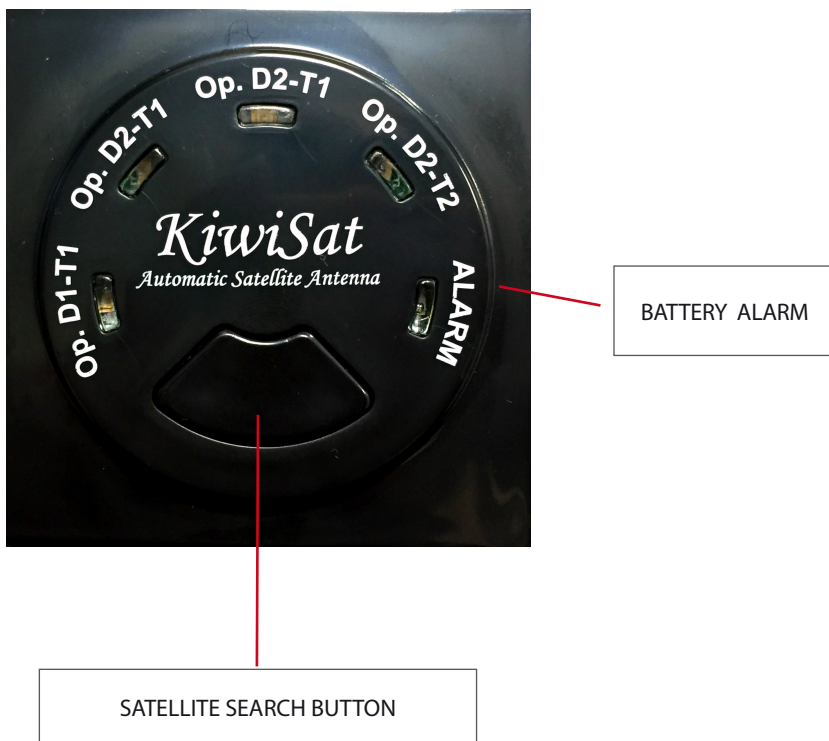
Parking/switching off

To park and therefore switch off the satellite dish press the on/off (3) button for a few seconds until the green LED starts to flash. This procedure must always be carried out before travelling in order to close the satellite dish and put it back into position for travelling. During this operation the green LED will keep flashing until the dish is completely closed and will only stop flashing once the dish has been fully closed..



Please note that for any warning signals you must read paragraph 6.4.1

4.2.1 Description of the LED control panel



In compliance with article 13 of Law Decree n. 151 of 25th July 2005 “implementation of the 2002/95/EC, 2002/96/EC and 2003/108/EC Directives concerning the reduction of hazardous materials in electric and electronic devices and of waste disposal”



This symbol means that this device must be disposed of separately from other waste and not in household waste after its use.

The user must dispose of this device in the special collection centres for electric and electronic waste, as regulated by the local legislation in force.

The proper selective waste collection, followed by recycling, treatment and eco-compatible disposal of the device, has a positive impact on the environment and health because it facilitates the re-use and recycling of the materials composing the device.

The illegal disposal of the product by the user implies the administrative sanctions provided for by the regulations in force.

INFORMATION

6.1 Service



CAUTION ! Only qualified and authorised personnel can repair the device (see paragraph 5.5 on the service centres). This guarantees that the device is used in conditions of safety, without running the risk of voiding the warranty and that only original spare parts are used.

6.2 Warranty

6.2.1 The device has a warranty of 3 years from the date of purchase for all its mechanical parts. For the electronic parts Apollo Entertainment warrants that the device has been manufactured and tested carefully and is therefore free from defects before its delivery.

6.2.2 Keep the receipt or invoice, which must be shown as a purchase proof for any service operations under warranty (otherwise the warranty is void).

6.2.3 Apollo Entertainment will repair any defects found on this device free of charge in a reasonable time after receiving the device. The necessary costs for this purpose, especially the work and material costs, will be totally charged to us, while the costs and risks concerning the transport of the device to the authorised centre will be charged to you.

6.2.4 The operations under warranty do not imply an extension or renewal of the warranty period of the device. The replaced parts become automatically our property.

6.2.5 For any warranty operations we kindly ask you to deliver your device to our authorised service centre. Make sure that the packaging is in perfect conditions for a safe transport (original packaging). A brief description of the failure must be included and inserted in the pack, together with your full address. Moreover, as a proof of warranty right, do not forget to put your original document of purchase (receipt or invoice) in the pack.

6.2.6 WAIVERS

The warranty does not cover those defects that:

- occur following improper, negligent or careless use or storage of the device;
- are caused by wrong installation, maintenance or repair performed by non authorised - personnel or by damage caused by transport;
- are not referable to manufacturing defects;
- are caused by the use of non original spare parts and accessories;
- have been caused by lightning, wrong supply voltage or other force majeure events, not ascribable to the Manufacturer.

6.3 Manufacturer's declaration of conformity

CE DECLARATION OF
CONFORMITY

APOLLO ENTERTAINMENT
LIMITED
21c Karepiro Drive,
Whangaparaoa, Auckland

Declare, under their own responsibility, that the following product:
AUTOMATIC SATELLITE DISH, Type KIWISAT

Complies with the following standards :

Electro-magnetic compatibility	: 55022, EN 55024
Machine safety	: 12100-1,EN12100-2,EN294,EN349
IP level	: EN60529
529 vibration	: 965/56 EEC

6.4 Troubleshooting

PROBLEMS	CAUSES	SOLUTIONS
The satellite dish cannot be opened	<ul style="list-style-type: none"> -No power supply to the satellite dish -An obstacle is on the satellite dish -The vehicle is moving or engine is on -Loose or broken connection 	<ul style="list-style-type: none"> -Check the power supply & fuse -Switch the control panel on - Remove the obstacle - Stop the vehicle and turn off - Check the connections
Error: satellite not found	<ul style="list-style-type: none"> - Obstacles in front of the satellite dish (trees, metal walls, buildings, etc.) prevent the reception of the signal. - The connection from the box to the LNB is loose - You are outside or at the extreme limits of the satellite footprint 	<ul style="list-style-type: none"> - Move the vehicle away from anything that prevents satellite reception and make sure that the South is free from obstacles - tighten the connectors and try again - Make sure that you have followed the instructions in paragraph 4.7; otherwise wait until you arrive in a more central area
Error: rotation maximum stress	<ul style="list-style-type: none"> - there are obstacles in the area of action of the satellite dish (trees, ice or snow) 	<ul style="list-style-type: none"> - remove the obstacles that prevent rotation
Error: elevation maximum stress	<ul style="list-style-type: none"> - there are obstacles in the area of action of the satellite dish (trees, ice or snow) 	<ul style="list-style-type: none"> - Remove the obstacles which are causing the obstruction.
Rotation error	<ul style="list-style-type: none"> - the rotation motor does not work 	<ul style="list-style-type: none"> - check the connections of the grey cable to the box from the satellite dish to the external unit position
Elevation error	<ul style="list-style-type: none"> - the elevation motor does not work 	<ul style="list-style-type: none"> - check the connections of the grey cable to the box from the satellite dish to the external unit position
Error: insufficient power supply	<ul style="list-style-type: none"> - the battery is too low and cannot ensure the correct operation of the system 	<ul style="list-style-type: none"> - charge the battery
Error: unstable power supply	<ul style="list-style-type: none"> - faulty battery or presence of non stabilised power supply 	<ul style="list-style-type: none"> Turn off any current generators or have the battery checked
The satellite dish loses the signal	<ul style="list-style-type: none"> - slow connections - strong storm or wind 	<ul style="list-style-type: none"> - check and tighten the F connections of the box, satellite dish and decoder - wait until the storm or wind cease
RF cable error	<ul style="list-style-type: none"> broken or disconnected satellite cable 	<ul style="list-style-type: none"> - check the connection - check the supply voltage - check the LNB

6.4.1 PROBLEMS AND SOLUTIONS CONTROL PANEL 1 P

Unlike the LED and DISPLAY versions this type of control panel manages errors through light impulses and acoustic warning signal sequences. When a functional error occurs the red led turns on in a fixed mode. To find out what kind of error has occurred you only have to press the ON/OFF button. A series of flashing and acoustic signals will indicate what kind of error is underway. Please see the below table.

SIGNAL DESCRIPTIONS	PROBLEMS
1 flash with 1 beep	- vertical rotation error
2 Flashes with 2 beeps	- horizontal rotation error
3 Flashes with 3 beeps	- maximum effort error
4 Flashes with 4 beeps	- satellite not found error
5 Flashes with 5 beeps	- battery
6 Flashes with 6 beeps	- check RF cable
7 Flashes with 7 beeps	- violation error range vertical
8 Flashes with 8 beeps	- violation error range horizontal
9 Flashes with 9 beeps	- key camper ON
10 Flashes with 10 beeps	- power unstable error



WARNING! To clear your antenna from any errors, push the ON/OFF button for 5 seconds until the green LED begins to flash.

If the error is correctable the antenna will begin to function normally; if not then you must contact your nearest service center.

WARRANTY CERTIFICATE :

NAME	SURNAME	ADDRESS	TOWN'
ZIP CODE	PROVINCE	TELEPHONE	E-MAIL
Date of purchase	Retailer's stamp	

Notes:

KiwiSatPlus

Automatic Satellite Antenna

APOLLO ENTERTAINMENT LIMITED
Email: info@apollotv.co.nz
Address: 21c Karepiro Drive, Whangaparaoa,
Auckland, 0932 Phone: 09-424-1427
Fax: 09-424-1425

code: RSM110268