EASISAT 3.5 *Air*

AL-CAR

SAT ﹥IP ™ TECHNOLOGY

ENGLISH : User's manual

GERMAN: Bedienungsanleitung

FRENCH : Manual utilisateur

DUTCH : Gebruikershandleiding

Contents

1. General Information

1-1. Introduction

These instructions describe the functions and operation of EASISAT 3.5 Air, auto skew satellite system.

Correct and safe operation of the system can only be ensured by following instruction, both for installation and operation.

EASISAT 3.5 Air is an intelligent satellite-TV reception system which can align itself towards a preset satellite automatically as long as the system is located within the footprint of selected satellite.

EASISAT 3.5 Air only occupies requisite space while it performs the necessary adjustments with slim and agile antenna body.

For general operation, please ensure that the system always has a clear view to the sky. In Europe, all satellites are in an approximate position in the south. If the satellite's signal beam is interrupted by obstacles such as mountains, buildings or trees, the unit will not function and no TV signal will be received. For more information on general use of this unit consult local dealer for assistance.

Also, it is equipped with SAT>IP LNB and 802.11AC router, which enables user to use up to 8 different mobile devices simultaneously to watch satellite broadcasting channels.

This EASISAT 3.5 Air is designed with most state-of-the-art technology, taking part of the worldwide trend set.

1-2. Proper use and operation

This product has been designed for portable use and fixed installation on vehicles with maximum speeds of 130 km/h. The unit is programmed to automatically aims at geostationary television satellites.

The power is supplied by a standard vehicle electrical system with a rated voltage of 12 or 24 Volts DC. For installations on the vehicle, use power input cable (cigarette lighter cable) to supply power. For portable use, optional power adaptor produced by EASISAT 3.5 Air manufacturer must be used.

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 is not permitted.
- To complete installation, installer must strictly follow instruction in the supplied user manual. Failure to follow the user manual may cause damage to the unit or user's vehicle.
- The product does not require any regular maintenance; all service must be carried out at approved service centers.
- 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 user's vehicle with the mounted satellite system in a drive-through car wash or a car wash with a high-pressure cleaner.

1-3. Safety notes

Please carefully read and follow the operating instructions in this manual and use the EASISAT 3.5 Air for its intended purpose.

Upon installation of EASISAT 3.5 Air, please ensure the installation is done with supplied cables and ensure the cables are not modified in any way.

As the user of this equipment, be responsible for ensuring compliance with the relevant laws and regulations.
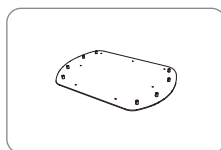
The manufacturer does not take liability for direct or indirect consequential damage of the system, motor vehicles or other equipment by reason of unsuitable battery usage or erroneous installation or wrong wire connection.
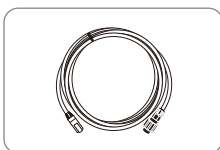
2. Contents

2-1. Accessory included

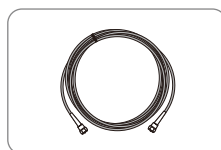|	
Main unit	Mounting plate
SAT>IP LAN cable	Cigarette lighter adaptor
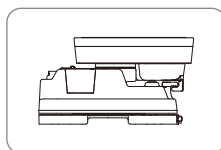
Main unit

Mounting plate
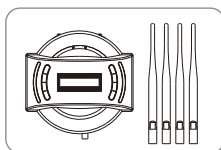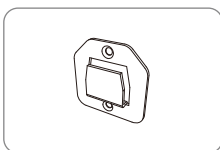
SAT>IP LAN cable

Cigarette lighter adaptor
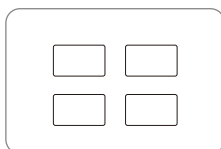
Receiver cable -12m , Grey
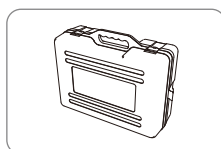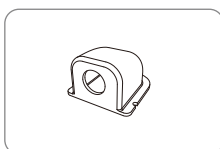
Controller / Wi-Fi antenna(4)

Controller bracket

Controller cable - 12m , Black

Base pads

Carrying case

Cable holder
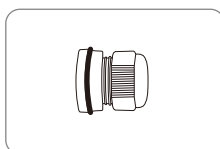
Cable gland
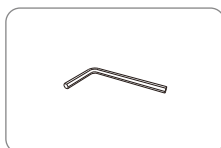
Allen wrench
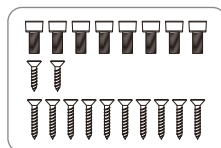
M6 × 15(8) ,
M4 × 16(2) , M4 ×20(10)
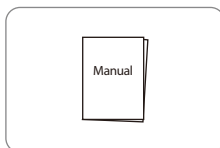
User manual
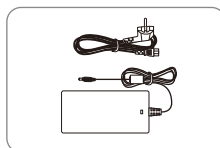
Power adaptor
(Optional)

Manual

※ **Power adaptor has to be purchased separate. Please ask to local dealer/shop for more information.**

※ **Only power adaptor produced by SNIPE series manufacturer is guaranteed and has be used.**

※ **Actual components may differ from the above images.**

※ **The unit enables to have power from car battery. To make power input cable for direct connection, cut off cigarette lighter adaptor and peel off to take copper cables out.**

2-2. Name of parts

Main unit

Latch

Antenna

Elevation

Main body

Base

Mounting plate

LNB & SAT>IP server

Skew pivot

to Receiver

SAT>IP port

to Controller

Controller

HOME LED

Communication LED

NID check LED

Error message LED

HOME , MODE , ROUTER , TUNE button

GPS LED

LAN LED

SAT>IP LED

CPU LED

ROUTER PW LED

POWER , Arrows , OK button

LCD screen

Bracket

Power port

to Main unit

Ex LAN port

USB port

SAT>IP port
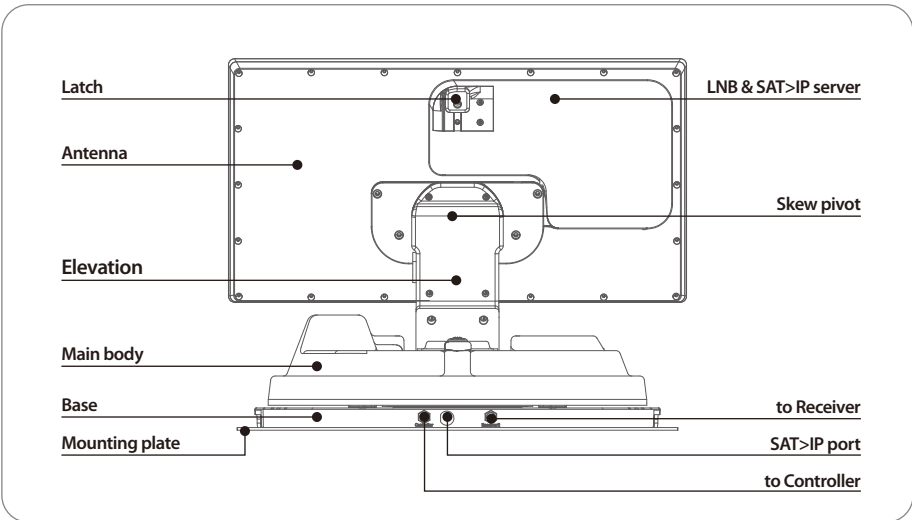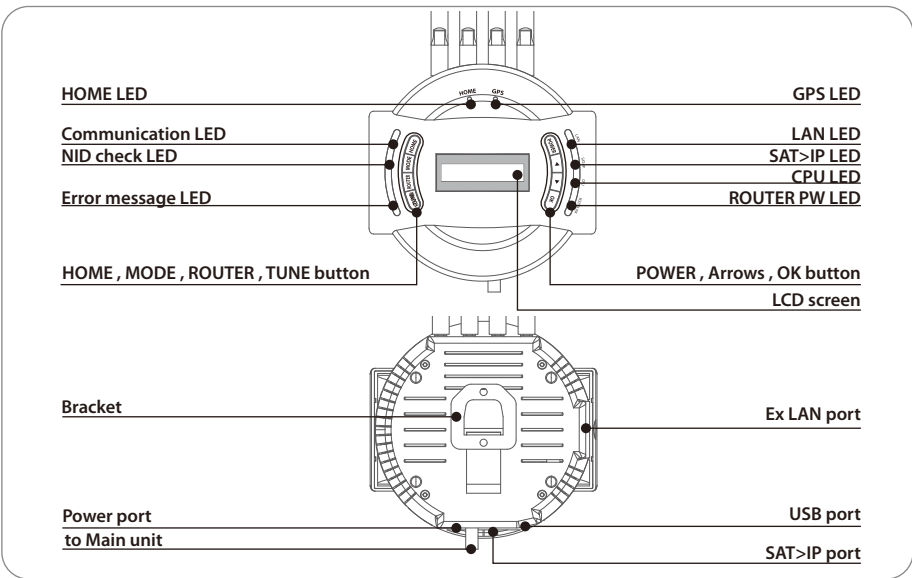
3. Operating Instruction

3-1. Connection diagram

MAIN UNIT

Controller

Receiver

TV

RECEIVER

Receiver cable

(Grey color)

Controller cable (Black color)

SAT>IP LAN cable

CONTROLLER

Cigarette lighter adaptor or Power input cable
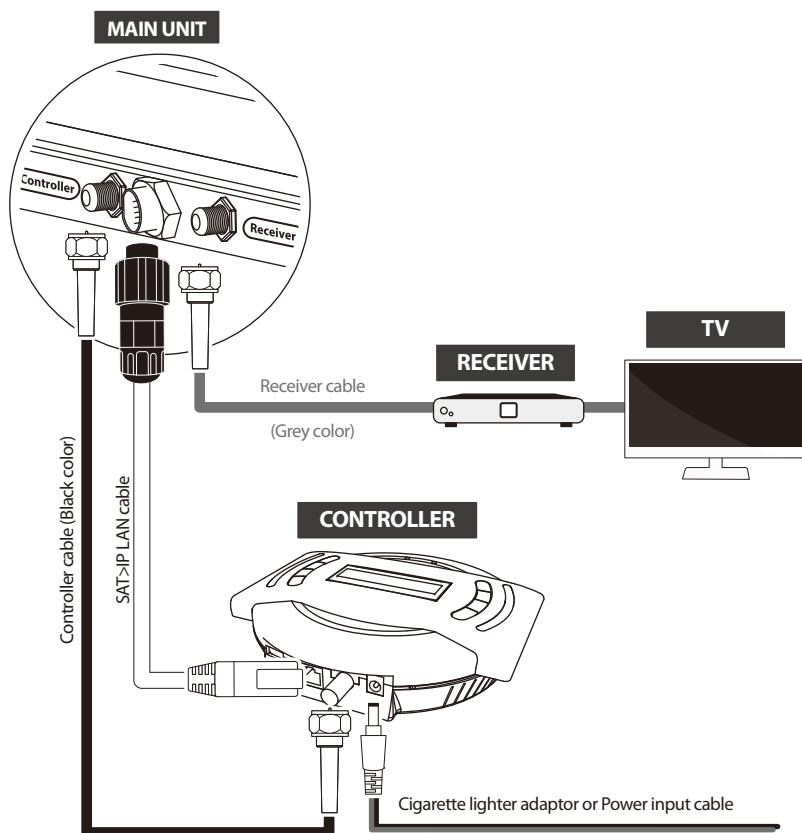
Use black controller cable to connect the antenna to the controller.
Controller cable looks similar to the receiver cable but has different color and labeling. Please check the labels to use the correct cable for the job.
Please ensure the cables that are supplied are used and not modified in anyway.

NOTE In order to watch the broadcast in Smart devices must be dedicated programs or application.
Please visit http://Satip.info for more information.
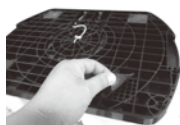
Portable use

Attach four(4) base pads to the bottom of antenna base.

3-2. Functional description

HOME LED	**GPS LED**
Communication LED	**LAN LED**
NID check LED	**SAT>IP LED**
	CPU LED
Error message LED	**ROUTER PW LED**
	POWER , Arrows , OK button
HOME , MODE , ROUTER , TUNE button	**LCD screen**

Assemble controller Wi-Fi antenna

a. Get ready four (4) of Wi-Fi antennas to assemble to the controller.
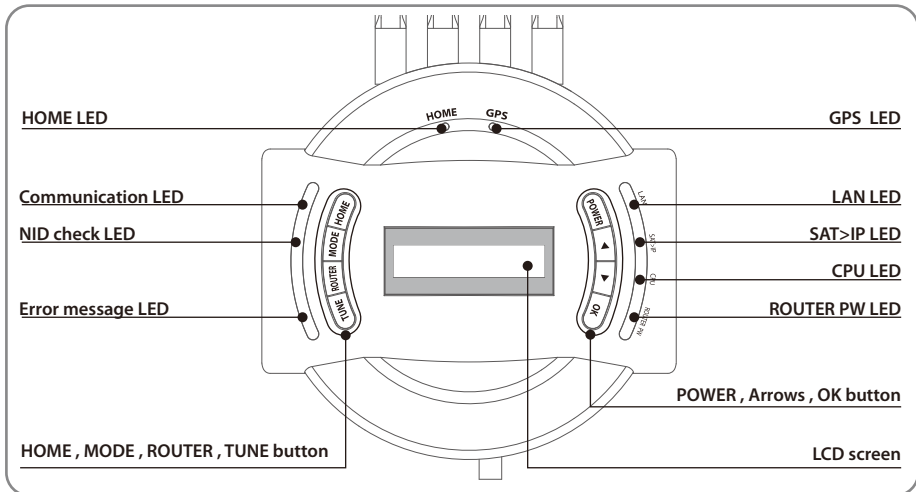
b. Check the printed Wi-Fi range, 5G or 2.4G, at the bottom of antenna and on the top side of the controller to match.

c. Put and spin of each antenna to assemble the controller.

d. Hold the bottom of each antenna and spin tight till the end for firm assembly.

Hold the very bottom of antenna and spin tight
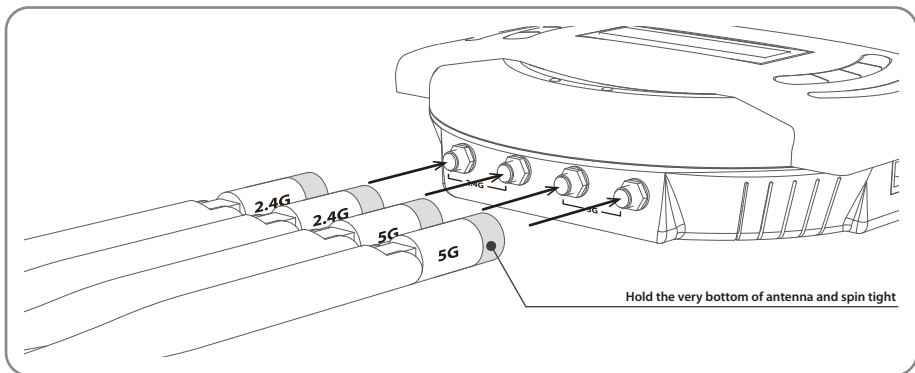
NOTE

Please mind that the Wi-Fi antenna should not be placed behind or underneath of metal material to ensure its performance.

1. Get ready to use

a. When the all cable connections are completed, press POWER to turn the unit on.

b. HOME LED will be solid this means the antenna is ready to go.
   If the antenna did not go back to HOME position, HOME LED will continue to flash while antenna comes back to HOME. When the unit is ready, the default satellite "ASTRA1" or the last selected satellite will be shown on LCD screen of the controller.

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

c. Communication LED will be solid when the unit is turned on.
   (This light means antenna unit is communicating with controller correctly.)

d. ROUTER PW LED will be solid on since the unit is turned on.
   (This light means embedded router is ON)

e. CPU LED will flash since the unit is turned on.
   (This light means embedded router is working properly.)

f. SAT>IP LED will flash temporarily to check operational channel when SAT>IP server is turned on.
   (This light will flash again when SAT>IP server is in actual operation streaming data out to smart devices.)

g. GPS LED flashes while searching for the current location. When GPS position is confirmed the LED will become solid.

h. Waiting until both HOME & GPS LED's are solid is recommended as this will allow the unit to find the selected satellite faster with more precise alignment accuracy.

i. If the searching operation starts before GPS becomes solid GPS LED will continue to flash even when the satellite is already locked. In this case, the unit may readjust skew once its current location is confirmed.

2. Selecting the satellite

a. Select the satellite which user wants to view using arrow buttons on the controller and press OK.

b. Network Identification (NID) check LED will flash and the antenna status will display "SEARCHING" and then "CHECKING" on LCD screen.

c. NID check LED will be solid once the satellite is found and then "SAT FOUND" will appear on LCD.

d. If wrong satellite is selected, move to the correct satellite name using arrows and press OK to confirm new satellite.

3. Back to HOME position & Turning off

    a.   After use and before travelling, press HOME to return the unit back to HOME position.

    b.   To fully turn off the unit, press and hold POWER for 5 seconds when the unit is at HOME position.

    c.   If user stays in a location for an extended period or wish to save power user can leave the unit up by simply turning off the unit by ROUTER button on the left side of controller. ROUTER PW LED will be off but signal stills comes through.

4. Special function 1 : FINE TUNE mode

FINE TUNE mode can be initialized when a selected satellite is found and user wants to increase the signal strength further.

    a.   Press TUNE to start FINE TUNE mode.

    b.   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 satellite receiver.

    c.   Repeat the same process of adjust the EL (Elevation) and SK (LNB skew).

    d.   To save new position of the satellite and exit, press TUNE button. Saved new position will be placed in the memory for the next turn on. But once vehicle moves or confirms new GPS location, the saved position will be reset.

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 unit 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.

    a.   Press MODE once to enter TEST mode and press OK.

    b.   Go to the available functions on LCD using the arrow buttons and press OK to select.

    c.   To exit, press MODE and unit will return to previous status.

7. Special function 4 : Ex LAN port

User are able to watch SAT>IP broadcasting channels on IP client or laptop by hard wired connection of LAN cable to ex LAN port on the left side of the controller. If Ex LAN port is in use, LAN LED on the right side of controller will be solid on. (Extra LAN cable is not included in the package.)

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 LED(second LED on the left side) becomes solid.

3. Now, the selected satellite has been locked and the TV channels will be shown on smart devices and TV.
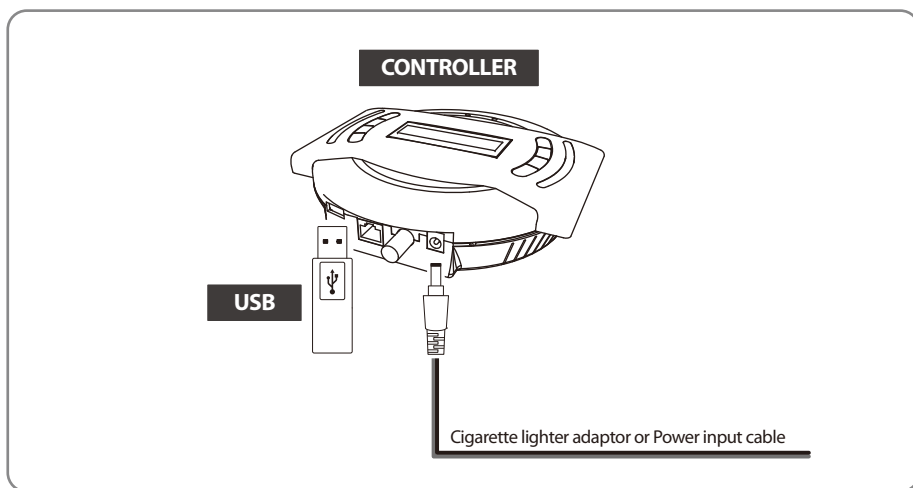
WARNING

When user physically moves the unit, the unit must be returned to HOME position to prevent damage.

NOTE

The unit will be automatically folded back to HOME position if vehicle moves faster than 25km/h when the unit is powered.

4. Software Upgrade

CONTROLLER

USB

Cigarette lighter adaptor or Power input cable

> **NOTE**
> USB 2.0 standard has to be only used for upgrade

1. Transfer software program to a USB root folder (not belonging to any other folder) in an empty USB.

    i.   Please go to website www.selfsat.com to download update program (software).

    ii. In case a controller does not recognize 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 "UPGRADE FINISHED" 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. This function is only used if the satellite operator changes all its parameters.

ii. Select the satellite to be modified, as example "00 XXXX(satellite name) ~ 11 XXXX" 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 inputting data for FREQ (frequency) and SYMBOL (symbol rate).

v.   Select type of signal DVBS or DVBS2 and press OK.

vi. Select polarization 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 the unit will return to previous status.

ix. For manual TP data RESET, press MODE to enter TEST mode and press OK. Go to "TP RESET" and press OK among available functions on LCD using arrow buttons.
Restart the unit to apply the reset to next start up.

6. Preparation of broadcasting on SAT>IP clients

6-1. How to set Wi-Fi network on devices

A. On smart devices to watch SAT>IP broadcast

<iOS / Android OS>
Go to "Setting" ▷ "Wi-Fi" ▷ Select "SATIPLINK2G" or "SATIPLINK5G"

> **NOTE**
> Only "SATIPLINK2G" may be found if devices does not support dual band Wi-Fi.

B. On laptop to watch SAT>IP broadcast

<Window 10 / 8 / 7 / Vista>
Go to "Setting" (Win10/8) / "Start" (Win7/Vista) ▷ "Control panel" ▷ Left click on "Network and Internet" ▷ "Networking and Sharing Center" ▷ "Network Connections" ▷ Select "SATIPLINK2G"

<Window XP / 2000>
Go to "Start" ▷ "Control panel" ▷ Left click on "Network and Internet Connections" ▷ "Networking Connections" ▷ Select "SATIPLINK2G"

<MAC OS>
Click "Apple" menu ▷ "System Preferences" ▷ Click "Network" icon ▷ Select "SATIPLINK2G"

> **NOTE**
> ▶ PC needs to support Wi-Fi network and normally "SATIPLINK2G" is only shown on the Wi-Fi list.
> ▶ If PC does support dual band Wi-Fi, both "SATIPLINK 2G" and "SATIPLINK 5G" will be available.
> ▶ "SATIPLINK 5G" is recommended if possible to provide more stable reception of broadcasting.
> ▶ Wi-Fi name would be shown as "SATIPLINK 2Gxx" or "SATIPLINK 5Gxx", ends with extra numbers.

※ **If "SATIPLINK 2G is not found on the Wi-Fi list, please check below.**

<Window 10 / 8 / 7 / Vista>
Go to "Setting" (Win10/8) / "Start" (Win7/Vista) ▷ "Control panel" ▷ Left click on "Network and Internet" ▷ "Networking and Sharing Center" ▷ "Change Adapter Settings" (Win10/8/7) / "Manage Network Connections"(Vista) ▷ Right click "Local Area Connection" ▷ "Properties" ▷ Double click on "Internet Protocol Version 4 (TCP/IPv4)" ▷ "Obtain an IP address automatically" ▷ "Obtain DNS server address automatically" ▷ "OK"

<MAC OS>
Click "Apple" menu ▷ "System Preferences" ▷ Click "Network" icon ▷ "Ethernet" in the left side box ▷ "Advanced" in the lower right corner ▷ Select "TCP/IP" in the top option ▷ Pull down the menu and click "Configure IPv4" ▷ "Using DHCP" ▷ "OK" ▷ "Apply"

6-2. Configuration of the router via web

A. After selecting SATIPLINK 2G(2.4G) / SATIPLINK 5G(5G) Wi-Fi network, open Ethernet browser and go to http://satiplink.com (default web address) to visit router's web management page.

1) To setup, configure your wireless network name (SSID) and password.

    Default password is "SATIPLINK25", and must be in all capital.

2) "Save" to take changed settings.

3) For further settings, click "Advanced setting" on the top right of the page.
    - Change the router's password
    - Manage the router's settings
    - Change the wireless channel if the internet connection is not good enough

> **NOTE**
> ※ http://satiplink.com page will only be available after access of SATIPLINK2G (or 5G) Wi-Fi network through router embedded in EASISAT 3.5 Air.

6-3. Configuration of the router via web

A. SAT>IP App for iOS/Android smart devices
    Go to Apple store or Google Play to download a SAT>IP App such as "Elgato SAT>IP" which allows user to receive decrypted programs and then run App

B. SAT>IP PC viewer for Microsoft Windows
    Go to www.satip.info to download a SAT>IP program such as "DVBViewer". Within the options menu user can choose user's SAT>IP server and change the settings.

C. SAT>IP TV or TV connected from SAT>IP STB
    Embedded software enables in TV or STB to receive IP streams from SAT>IP server

D. TV with SAT>IP Wi-Fi Dongle
    Connected SAT>IP Wi-Fi Dongle enables TV to receive IP streams from SAT>IP server

> **NOTE**
> ※ Go to www.satip.info to have the latest information for SAT>IP applications and PC program.

7. Trouble Shooting

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

A. No function when power on the controller
   i. Check again all the cable connections have been made correctly.

- Connection between the power and controller.
- Connection between the controller and antenna. Make sure that the left port of the antenna should be connected to the controller.

   ii. Check if the power input cable has been damaged.

   iii. Check the battery polarities (+/-).

B. Fail to search the selected satellite
   i. Satellite signals can be blocked or degraded by buildings, trees. Make sure there are no obstructions in a southward direction.

   ii. Select another satellite as example Astra3, if this locks then select your desired satellite. ie Astra1.

   iii. Turn the unit off and then back on again and select 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 status.
- Try to power OFF/ON again. If problem persists, please contact local dealer/shop for assistance.

D. Other issues
   i. If the system has been improperly wired, it will not operate properly. Contact local dealer/shop for assistance of cable damage.

E. Not able to watch SAT>IP broadcasting channels on users devices
   i. Make sure that the unit is locked the satellite correctly.

   ii. Check Wi-Fi connection between the unit and users' devices.

   iii. Make sure that SAT>IP clients such as mobile app, IP STB, IPTV, etc., works properly.

8. Specifications

8-1. Dimension

515mm

192mm

454mm

MAX 426mm
MIN 192mm

126mm

316mm

355mm
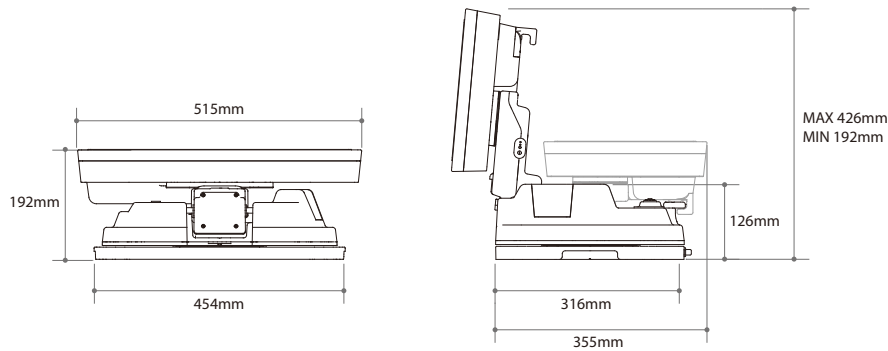
8-2. Specifications

a. Antenna

Input Satellite Frequency		10.7 ~ 12.75 GHz
Polarization		Vertical & Horizontal
Antenna Gain		33.7 dBi @ 12.7 GHz
Size (W x D x H)		515 × 355 × 192 mm
Weight		12.5 kg
Min EIRP		50 dBW
Angle Range (Elevation , Azimuth , Skew)		15°~90° , 360° , -45°~+45°
Satellite Searching Time		120 seconds (AVG)
LNB	Output	1 Legacy
	Output Frequency	950 ~ 2,150 MHz
	L.O. Frequency	9.75 / 10.6 GHz
Operating Temperature		-30 ℃ ~ +60 ℃
Input Voltage		DC 12 ~ 24 V
Power Consumption		100 W (in searching)
Wirelessly Operating Channels		8 channels at the same time
Wireless connection		IEEE 802.11 AC compliance

b. Router (Embedded in controller)

CPU	RTL8197DN + RTL8192ER + RTL8812AR
Flash / DRAM	8MB (SPI Serial Nor Flash) / 8MB (SPI Serial Nor Flash)
Wired LAN Interface	10/100/1000 Base-T Port 2ea
Wireless LAN Interface	2.4G : 802.11b/g/n (2T/2R) , MAX 300Mbps
	5G : 802.11a/n/ac (2T/2R) , MAX 867Mbps
Frequency Band	5 GHz/2.4 GHz (20 / 40 / 80 MHz Bandwidth Channel bonding)
Antenna	2.4G : 4dBi Dipole 2ea MIMO Technology
	5G : 5dBi Dipole 2ea MIMO Technology
Operation / Storage Temp.	0℃ ~ 40℃ (operating) / 0℃ ~ 50℃ (Storage)
Operation / Storage Humidity.	80% (operating) / 90% (Storage)
Special Function	P.S.E (Power Sourcing Equipment, supported 802.11at)

9. Caravan/Motorhome Installation

9-1 . Required space for EASISAT 3.5 Air

Please allow that there is enough space around EASISAT 3.5 Air for flat antenna section to complete a full 360° scan of the sky and return to the HOME position.

Vehicle rear

51.5cm

37.5cm

33.8cm

17.8cm

Center of
the rotation unit

A : Radius 22.5cm
up to a height 12.9cm

B : Radius 32cm
up to a height 19.4cm

Driving direction

19.6cm

16.9cm

19.4cm

12.9cm

Driving direction
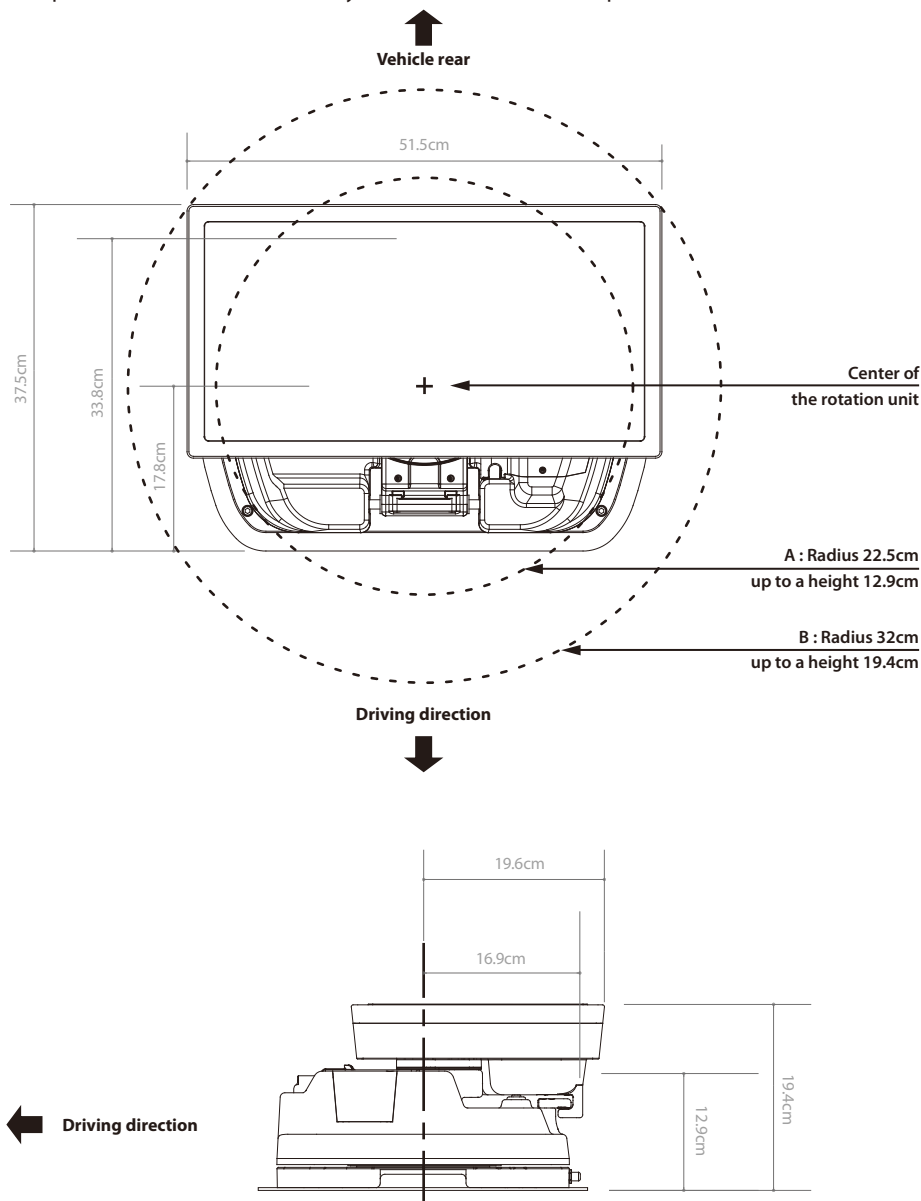
9-2. Equipment for installation
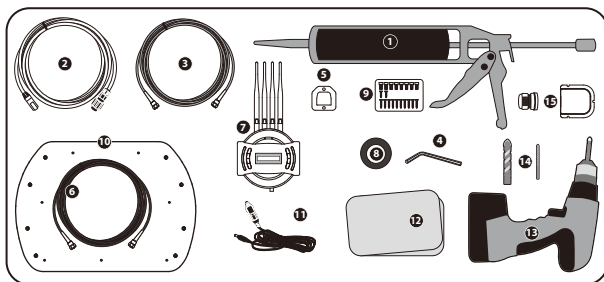
1. Silicone
2. SAT>IP LAN cable
3. Receiver cables
4. Allen wrench
5. Controller bracket
6. Controller cable
7. Controller
8. Friction tape
9. M6 × 15(8) , M4 × 16(2) , M4 ×20(10)
10. Mounting plate
11. Cigarette lighter adaptor (Power input cable)
12. Cleaner
13. Power drill
14. 2mm drill bit, over 20mm drill bit
15. Cable holder & gland

※ **Mounting plate direction**

Front of vehicle (3 Holes)

FRONT

Driving direction
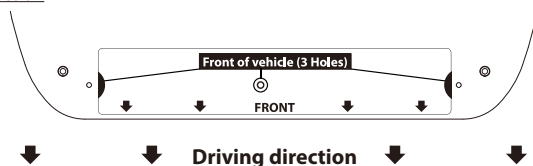
9-3. Instruction for installation

A. Mounting plate installation on a vehicle roof

A-1
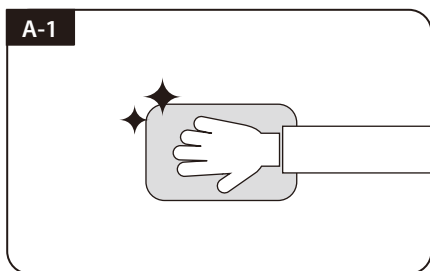
Clean the surface with cleaner

A-2

FRONT
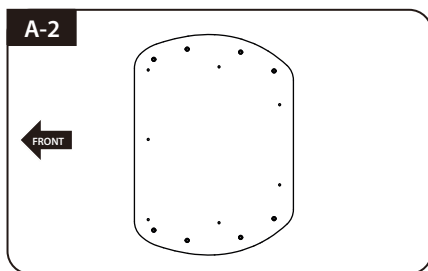
Locate mounting plate in the center of the vehicle roof

A-3
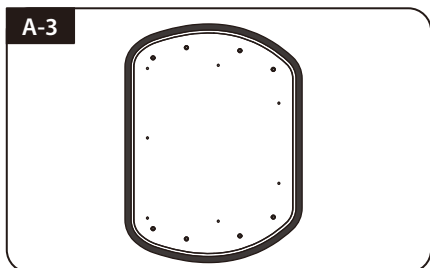
Attach friction tape outside of the mounting plate by 5mm away from the plate edges

A-4
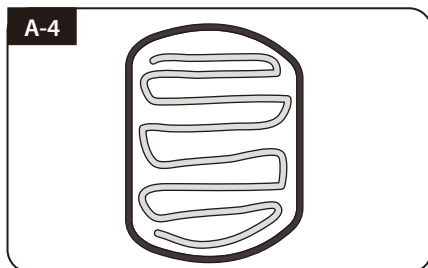
Put aside the mounting plate to apply silicone within the attached tape line but leave 2cm inward gap from the line

B. Assemble 7pcs of M4x20 bolt to fix the mounting plate

B-1
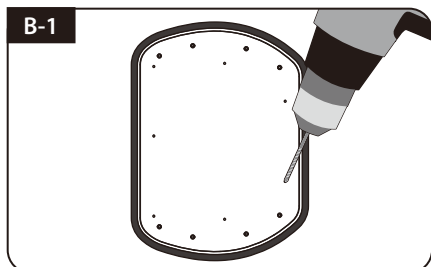
Place the mounting plate on the silicone and make 7 holes (2mm) with a power drill

B-2
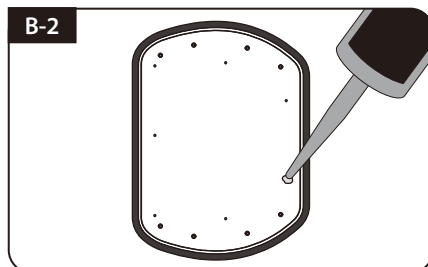
Apply silicone on the holes

B-3
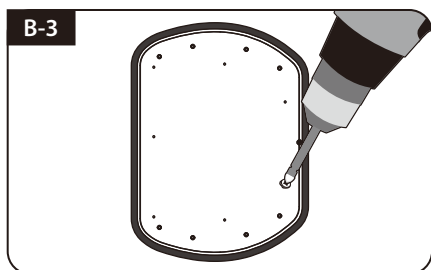
Assemble seven(7) of M4x20 screw

B-4
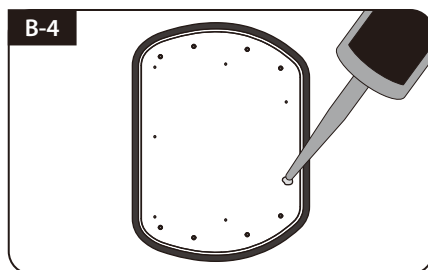
Re-apply silicone to cover bolts assembled

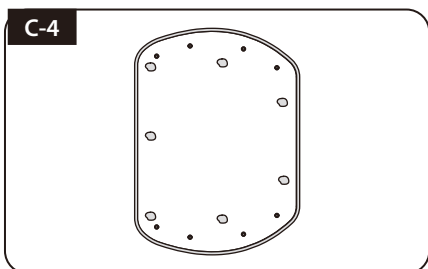## C. Apply silicone between mounting plate and friction tape

C-1
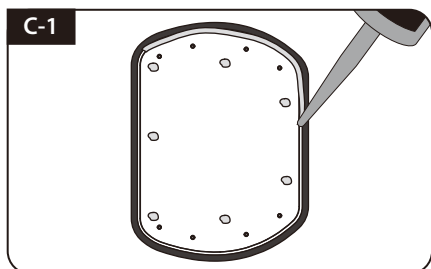
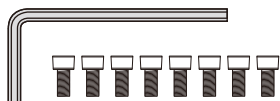Apply silicone around mounting plate edges

C-2
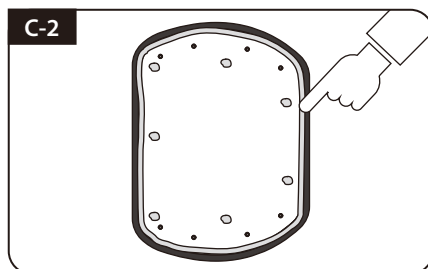
Tidy silicone surface

C-3
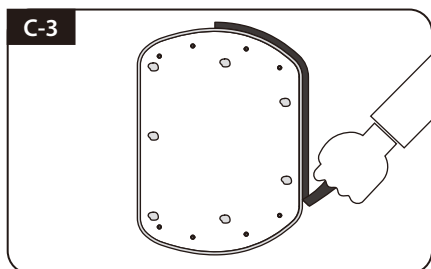
Remove friction tape and allow to dry

C-4

Prepare to place the antenna on to the upright bolts

D. Fix mounting plate with 8 pcs of M6x15 bolt using allen wrench

D-1

Parts required, allen wrench and eight(8) of M6×15 bolt

D-2
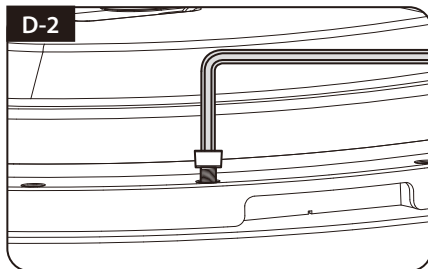
Place the antenna on mounting plate and tighten firmly each bolt by allen wrench
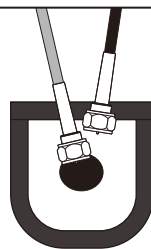
E. Cable holder installation 1

E-1

Place cable holder 30cm away from the rear center of the antenna. Apply friction tape 5mm from away the outside of holder

E-2
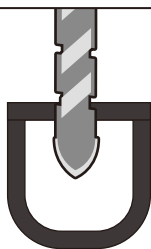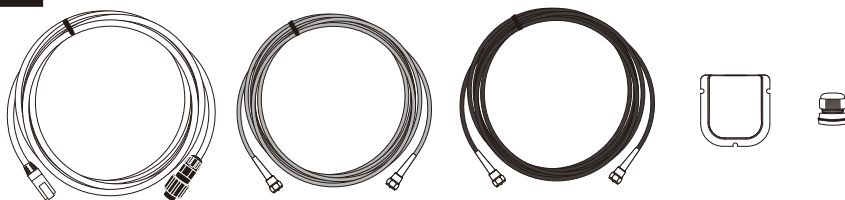

Drill a 20mm hole (or larger) in the center of the tape marking

E-3

Make sure that hole size is big enough to insert all cables together by one and one
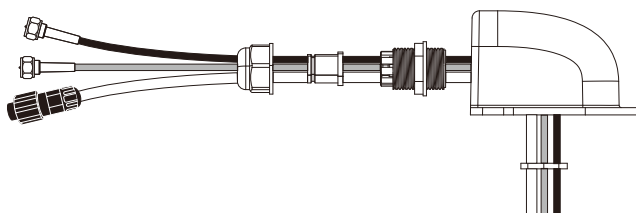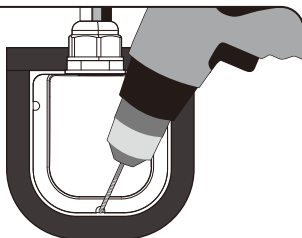
F. Cable holder installation 2

F-1

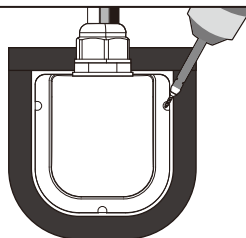SAT>IP LAN cable, controller cable, receiver cable, cable holder and gland are required

F-2

Set up required parts as above picture
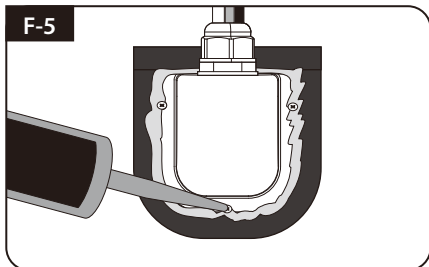
F-3

Place the assembled cable holder inside the tape marking and drill three(3) of 2mm holes
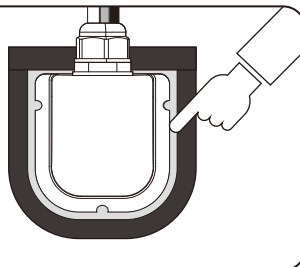
F-4

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

F-5

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

F-6

Connect cables to the ports of the antenna , remove friction tape and tidy silicone before dry

G. Controller installation

G-1

Get cigarette lighter adaptor (power input cable)
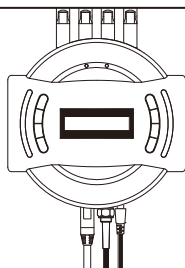

G-2

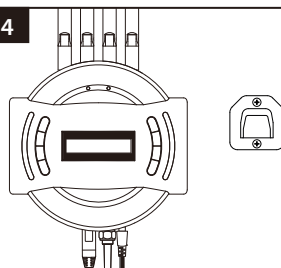Fix controller bracket where it should be fixed using two(2) of M4x16 screw

NOTE

The unit enables to have power from car battery. To make power input cable for direct connection, cut off cigarette lighter adaptor and peel off to take copper cables out.

G-3

Connect power-controller-antenna using cigarette lighter adaptor and controller cable

G-4

Place controller on fixed bracket

EASISAT 3.5 *Air*

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