

# SATFI UK

DP300

User Manual



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## ***Notes, Cautions, and Warnings***



.....  
**Caution** – Improper handling by unqualified personnel can cause serious damage to this equipment. Unqualified personnel who tamper with this equipment may be held liable for any resultant damage to the equipment.  
.....

.....  
Install under DRY conditions ONLY! Do not install this system in the rain, or under any wet conditions. Moisture may affect electronics and void warranty!  
.....



.....  
**Warning** – 2 people are required to install the antenna onto the roof. Do not try to install the antenna by yourself.  
.....

.....  
**Note** – Before you begin, carefully read each of the procedures in this manual. If you have not performed similar operations on comparable equipment, ***do not attempt*** to perform these procedures.  
.....

# I ntroduction

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SATFI UK satellite antenna system is the innovative and a technologically advanced satellite Stationary system. SATFI UK has a unique combination of state-of-the art components with the most sophisticated satellite acquisition and tracking programs to provide the following features:

- Fast satellite acquisition
- Compatible with any Satellite Receiver
- Compatible with all Direct Broadcast Satellites (DBS)
- Built-in HD Digital Broadcast Location (DVB-S2)
- Capable of High Definition receiving

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## Specification

Antenna Type	Waveguide
Frequency Band	Ku Band
Radome Dimension	260x550
Antenna Weight	7kg
Antenna Gain	33dBi
Minimum EIRP	51dBW
Polarization	V/H
Type of Stabilization	2-Axis Step Motor
Elevation Range	15° to 60°
Azimuth Range	Unlimited
Rotation Rate	50°/sec
Temperature Range	-20° to 70°
Power	12~24VDC

**Table 1-1 Specification**

## Antenna System Overview

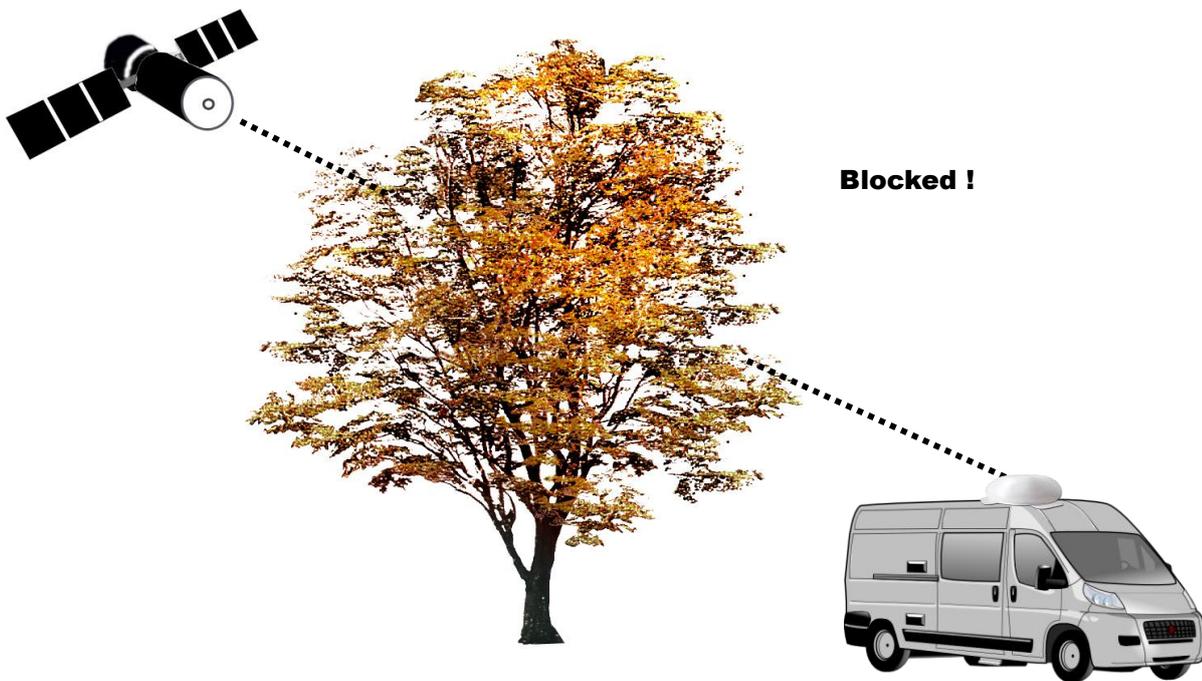
A complete satellite TV system, illustrated in Figure 1-1, includes SATFI UK antenna connected to an IDU, a satellite TV receiver, and a television set.



**Figure 1-1 System Diagram**

## Direct Broadcast Satellite Overview

Direct Broadcast Service (DBS) satellites broadcast audio, video and data information from satellites located 22,000 miles away in space. A satellite system, such as SATFI UK antenna, should include a dish and satellite receiver to receive the signals and process them for use by the consumer decoder & TV equipment. The system requires a clear view of the satellite to maximize the signal reception.



*Figure 1-2 Satellite Blockage*

Objects such as tall trees, bridges and buildings that block this view will cause a loss of signal. The signal will be quickly restored once the antenna has a clear line of sight again. Heavy rain, cloud, snow or ice may also interfere with the signal reception quality. If the satellite signal is lost due to blockage or severe weather condition, services from the receiver will be lost (picture will freeze frame and may disappear). When the satellite signal strength is again high enough, then the receiver will resume providing desired programming services.

## System Components



### Antenna Unit

The antenna unit houses the antenna positioning mechanism, LNB (low noise block), and control elements within a radome. Weathertight connectors join the power, signal, and control cable from the InDoor unit.



**Figure 1-3** System Components

### IDU (InDoor Unit)

The IDU is the system's user interface, providing access to the system and its functions through an LCD and three buttons. The IDU also serves as the vehicle's junction box, allowing the system to use vehicle's power, and supply and receive data to/from the antenna unit.

# **I** *nstallation*

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This section offers a general explanation of how to properly install the SATFI UK antenna. Installation of SATFI UK antenna must be accomplished by or under the supervision of an authorized dealer for the Limited Warranty to be valid and in force. The steps in the installation and setup process are as follows:

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## Unpacking the unit

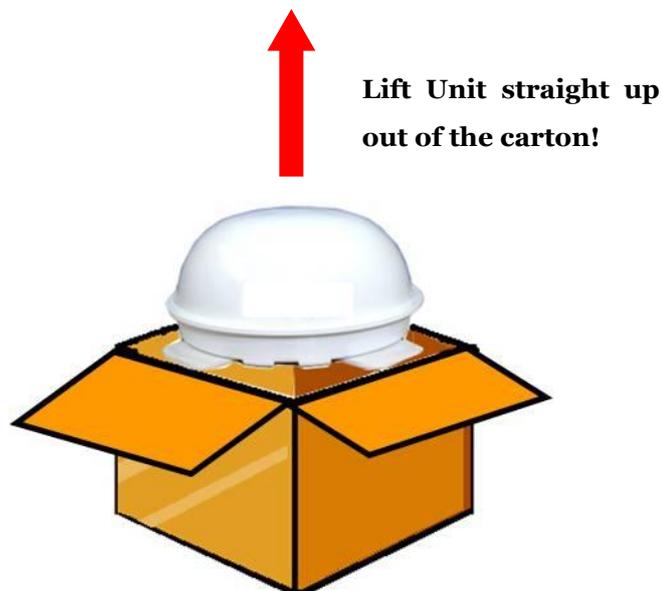
### 1. Open box and remove packing material.

The following items are included in the packaging of SATFI UK antenna.

Item	Description	Quantity
1	SATFI UK Antenna Unit	1 each
2	IDU(In Door Unit)	1 each
3	Power Cable(1.5m)	1 each
4	Coaxial Cable (10m)	1 each
5	Coaxial Cable (1m)	1 each
6	Mounting feet (fitted to antenna)	1 set
7	Cable gland	1 each
8	User Manual	1 set

*Table 2-1 Parts included*

### 2. Lift dome out of box vertically. Then lift unit out of box vertically. Do not turn box and “roll” out, or turn upside down to remove.



*Figure 2-1 Unpacking the unit*

## Preparing for the installation

### Install Tools and Materials

SATFI UK antenna system is designed for simple installation and setup. However, the following list of equipment or items should be available during installation of SATFI UK antenna.

- Electric drill and drill bits
- 11mm spanner & Philips 2 screwdriver
- Weatherproof & UV stable adhesive sealant
- Fasteners suitable for specific application (roof construction)

#### 1. Verification of the Vehicle's Power Supply.

- Confirm that the vehicle's power supply is 12VDC~24VDC (negative ground).

#### 2. Verification of the Satellite Receiver and IDU's attachment and the electricity supply

- Attach Satellite Receiver and IDU in the interior of the vehicle.
- Connect the power of satellite receiver and IDU.
- Once the power of satellite receiver and IDU is verified, it confirms that both Satellite Receiver and IDU are working normally.

#### 3. Procedure of the satellite's attachment and installation.

- Attach the satellite on the flat surface area of the vehicle's roof.
- Locate the IDU & satellite receiver securely within the vehicle.
- Connect each end of the Coaxial antenna cable to the satellite's terminal and the IDU.
- Connect the IDU and the satellite receiver box together through the coaxial cable.
- Make sure that the satellite is working normally, once the power is applied.



**Warning :** Things to consider when installing the antenna.

- **Turn off the power** when attaching or detaching the antenna.
- Make sure that the attached antenna is fixed **on the flat surface**.
- When attaching, ensure that all the products are adhered properly.
- Ensure that all the cables are connected properly.

## Selecting the location

Determine the optimum mounting location for the antenna radome assembly. It should be installed where :

1. The antenna has a clear line-of-sight view to as much of the sky as is practical. Choose a location where masts or other structures (like air conditioning units) do not block the satellite signal from the dish as the vehicle turns.
2. The antenna is at least 5 feet away from other transmitting antennas (HF, VHF and radar) that may generate signals that interfere with SATFI UK antenna. The further away SATFI UK antenna is from these other antennas, the less impact their operation will have on it.
3. Confirm that roof mounted equipment such as air-conditioning units, sky-lights, roof-boxes are all unhindered by the location of the antenna unit. Ideally mount it on the center-line and where the roof structure has additional support that can be used to secure the feet to.
4. The antenna radome assembly should be rigidly mounted to the vehicle. If necessary, reinforce the mounting area to assure that it does not flex due to the vehicle motion or vibration. Care should be used to ensure that fasteners and adhesive have been used correctly and allowed to cure fully before driving.
5. Carefully select the best location through which to drill the cable pass-through hole (consider possible hidden cable and pipe runs as well as the ability to seal the hole once cable is inserted) so that there is minimal cable trailing around on the roof and that it passes to the interior in a suitable discreet location. If the cable is to be shortened please ensure the interior end is cut and re-made with a high-quality compression type connector.

Perform a through site inspection on the roof for the antenna to be mounted.

1. The antenna must have a clear view of the sky and the horizon in all directions to avoid blockage of the satellite signal.
2. The antenna should be on the top of the vehicle.



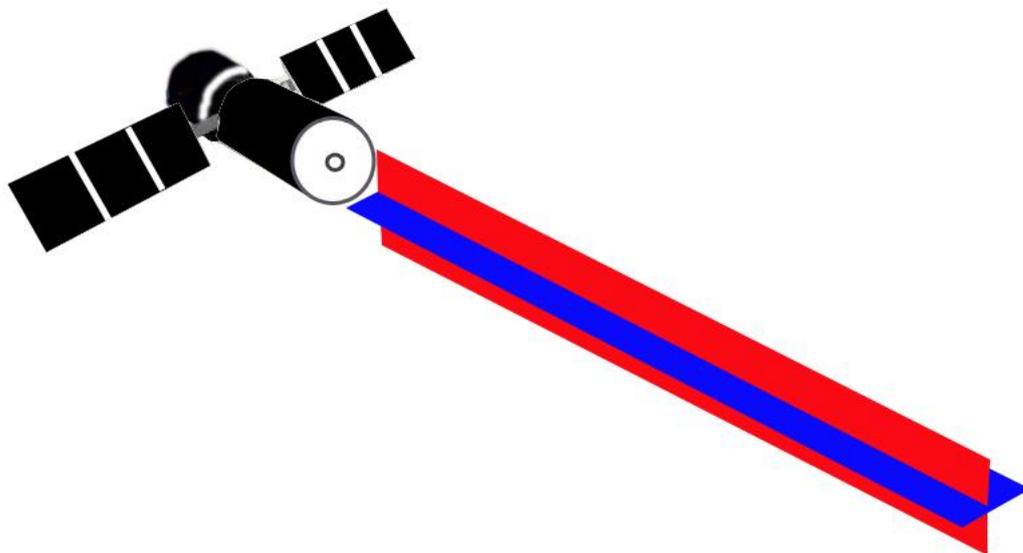
*Figure 2-2 Selecting the location*

## Equipment and cable installation

This offers a general explanation of how to install the IDU and satellite receiver properly to the inside of the vehicle connecting with coaxial cable.

1. The Coaxial cable is routed from the antenna to the IDU inside the vehicle via the supplied roof gland which should be carefully sealed with UV & weatherproof adhesive sealant.
2. After deciding where to place the IDU and satellite receiver, make sure that both units are placed in a dry and protected area.
3. The IDU and satellite receiver should be placed away from any heat source and in an area with proper ventilation.
4. Ensure that there are at least 3cm of space around both units for ventilation and connection of cables. **Do not stack the units on top of each other.**
5. The following describes the basic wiring configurations for SATFI UK antenna system.
  - Connect the Coaxial cable to SATFI UK antenna port on the back of the IDU
  - Connect one end of the supplied coaxial cable to the receiver port on the back of the IDU
  - Connect the other end of the coaxial cable to the satellite receiver

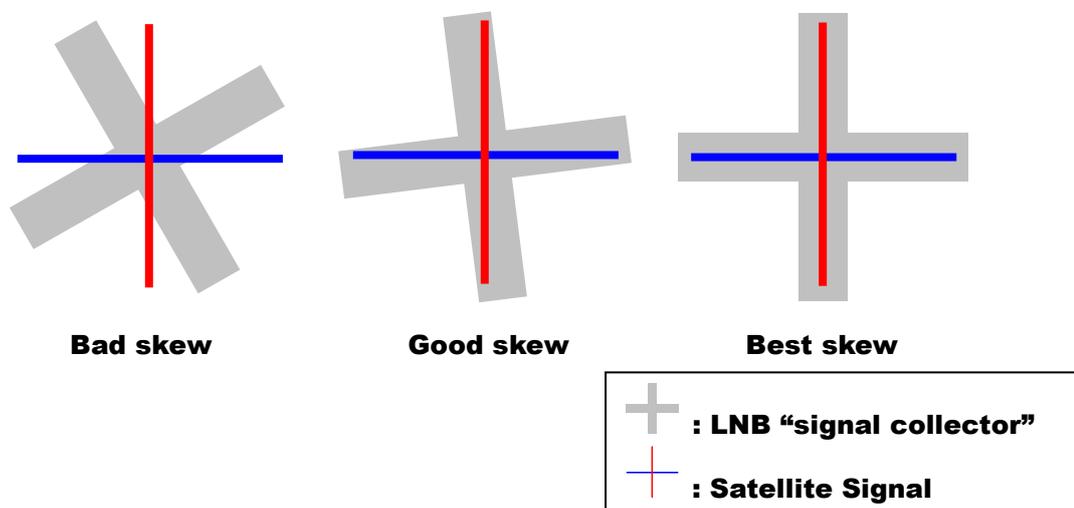
## Setting the LNB skew angle



*Figure 2-3 Satellite signals*

Your SATFI UK antenna is preconfigured for UK wide use – this section is for information only, no adjustments are required.

Signals transmitted in vertical (red) and horizontal (blue) wave offset exactly  $90^\circ$  from each other. Since linear satellite signals are oriented in a precise cross pattern, SATFI UK antenna's receiving element, called an LNB (low-noise block) must be oriented in the same way to optimize reception. This orientation adjustment is referred to as the LNB's "skew angle." *Figure 1-4* illustrates how skew determines the amount of signal the LNB collects. The more signal, the better reception.



*Figure 2-4 Best Skew Angle*

The correct skew setting varies depending upon your geographic location, since the orientation of your antenna to the satellite changes as you move. For complete details about adjusting the LNB's skew angle, see “**Appendix A – How to Set the Skew Angle**”



SATFI UK antenna system is easy to use. Under normal conditions, operation of SATFI UK antenna requires no intervention from the user. Antenna unit initialization and satellite acquisition is completely automatic.

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## Receiving Satellite TV Signals

Television satellites are located in fixed positions above the Earth's equator and beam TV signals down to certain regions of the planet. To receive TV signals from a satellite, you must be located within that satellite's unique coverage area. To check it, [see "Appendix B – Satellite Coverage Map"](#) In addition, since TV satellites are located above the equator, SATFI UK antenna must have a clear view of the sky to receive satellite TV signals. Anything that stands between the antenna and the satellite can block the signal, resulting in lost reception. Common causes of blockage include, trees, buildings, and masts. Heavy rain, ice, or snow might also temporarily interrupt satellite signals.

## Turning the System On/Off

Since power to SATFI UK antenna is controlled by the IDU, you can turn the antenna on or off by applying/removing operating power to the IDU.

### Turning on the System

Follow the steps below to turn on your SATFI UK antenna.

1. Make sure the antenna has a clear view of the sky.
2. Turn on your satellite TV receiver and TV.
3. Apply operating power to the IDU.
4. Wait one minute for system startup. The IDU will display the Tracking Satellite screen after system testing is complete.

### Turning off the System

Follow the steps below to turn off your SATFI UK antenna.

1. Remove operating power from the IDU.
2. Turn off your satellite TV receiver and TV.

## **Changing Channels**

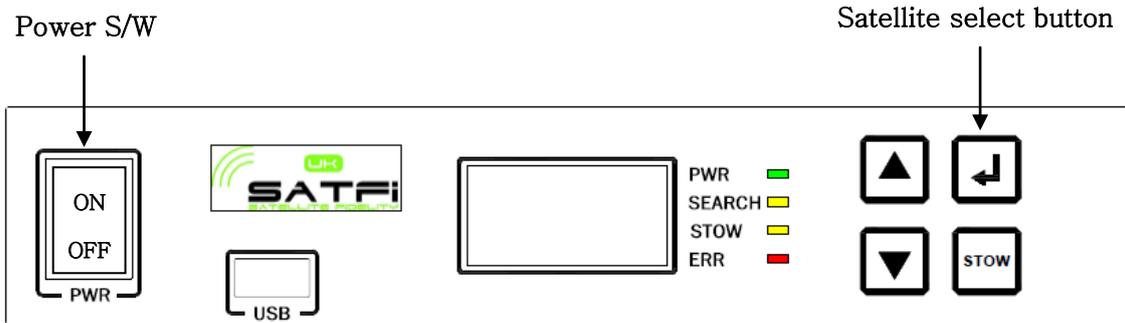
If you have followed the installation instructions, your system should be set to the satellite of your choice and the system should have downloaded the appropriate channel guides. When SATFI UK antenna system and satellite receiver is properly configured, it is easy to change the channel using the remote control that normally comes with the receiver unit. If using a FTA receiver please ensure you have the channel database updated regularly as channels do get moved from time to time by satellite operators.

## **Watching TV**

SATFI UK antenna is designed to operate as efficiently and as reliably as possible when the vehicle is parked. It is also the quickest satellite acquisition system available among similar antennas. If you have parked the vehicle and the antenna has completed its search for the selected satellite, turn off IDU power switch to avoid unnecessary use of power. Because the LNB receives its power from the satellite receiver through the IDU, the antenna will continue to receive the satellite TV signals.

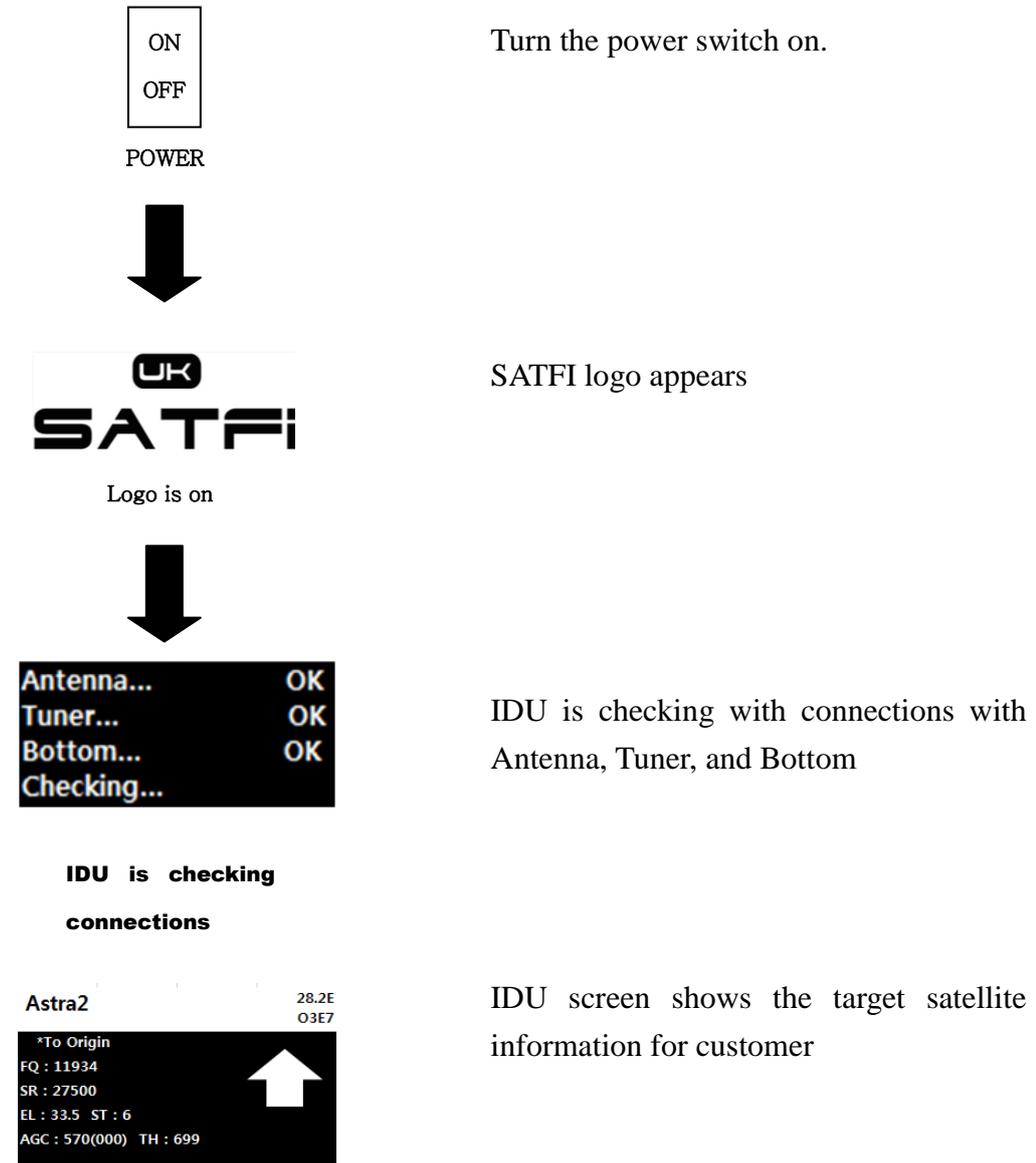
## Operating the IDU

### Appearance



*Figure 3-1 Appearance of IDU*

## General Operation Order



**Figure 3-2 Function of IDU**

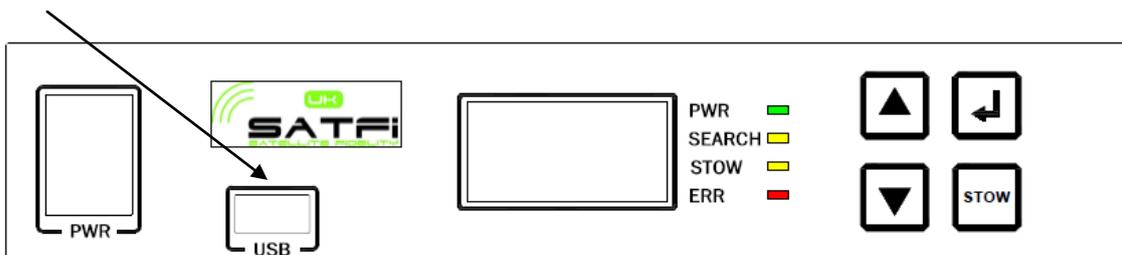
If the chosen satellite is detected, it goes into auto\_sleep mode. During auto\_sleep mode, the Screen on IDU will show dim as the picture below



**Figure 3-3 Auto-Sleep mode**

**USB port provided to update software (if required).**

USB port



**Figure C-1 USB port**

User needs to insert USB with Program from CA CLASE/WIWORLD, and turn on the IDU. The IDU will automatically find the software and update the new s/w for antenna.

# **T***roubleshooting*

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

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## Simple checks

### Can the antenna see the satellite?

The antenna requires an unobstructed view of the sky to receive satellite TV signals. Common causes of blockage include trees, buildings, bridges, and mountains.

### Is there excessive dirt or moisture on the antenna dome?

Dirt buildup or moisture on the dome can reduce satellite reception. Clean the exterior of the dome periodically with a non-abrasive cleaner.

### Is it raining heavily?

Heavy rain or snow can weaken satellite TV signals. Reception should improve once the inclement weather subsides.

### Is everything turned on and connected properly?

Make sure your TV and receiver are both turned on and set up for the satellite input. Finally, check any connecting cables to ensure none have come loose.

### Is the antenna's LNB set to the correct skew angle?

To optimize reception, the antenna's LNB needs to be set to the correct skew angle for the satellite you want to track. **See “Appendix A – How to set the skew angle”** for details

## Causes and Remedies

### Receiver Fault

Your satellite TV receiver might be set up incorrectly or defective. First check the receiver's configuration to ensure it is set up for the desired programming. In the case of a faulty receiver, refer to your selected receiver's user manual for service and warranty information.

### Satellite Coverage Issue

Television satellites are located in fixed positions above the Earth's equator and beam TV signals down to certain regions of the planet (not worldwide). To receive TV signals from a satellite, you must be located within that satellite's unique coverage area. **See "Appendix-B Satellite Coverage Map"**

### Satellite Signal Blocked

The SATFI UK antenna needs a clear line of sight (LOS) to the satellite for uninterrupted reception. Objects such as tall trees, bridges and buildings that block this view will cause a loss of signal. The signal will be quickly restored once the antenna has a clear line of sight again. Heavy rain, cloud, snow or ice may also interfere with the signal reception quality. If the satellite signal is lost due to blockage or severe weather conditions, services from the receiver will be lost (picture will freeze frame and may disappear). When the satellite signal strength is again high enough, then the receiver will resume providing desired programming services.

### Satellite Frequency Data Changed

If some channels work, while one or more other channels do not, or if the antenna cannot find the selected satellite, the satellite's frequency data might have changed.

See [www.caclase.info](http://www.caclase.info) for latest updates available for this product.

### **Improper Wiring**

If the system has been improperly wired, the antenna will not operate correctly. Refer to the User Manual for complete system wiring information or visit website [www.caclase.info](http://www.caclase.info)

### **Loose Cable Connectors**

We recommend periodically checking the antenna unit's cable connections. A loose cable connector can reduce signal quality or prevent automatic satellite switching using the receiver's remote control. Fasten the cable connector.

# Appendix A

## How to Set up the Skew Angle

Signals transmitted in vertical and horizontal wave offset exactly  $90^{\circ}$  from each other. Since linear satellite signals are oriented in a precise cross pattern, Free Way 1S antenna's receiving element, called an LNB (low-noise block) must be oriented in the same way to optimize reception. This orientation adjustment is referred to as the LNB's "skew angle." The correct skew setting varies depending on your geographic location, since the orientation of your antenna to the satellite changes as you move. This appendix provides how to set up the skew angle.

The SATFI UK antenna is pre-configured with 14deg skew for UK operation and should not require LNB skew adjustment when operating within UK & Eire.

# Appendix B

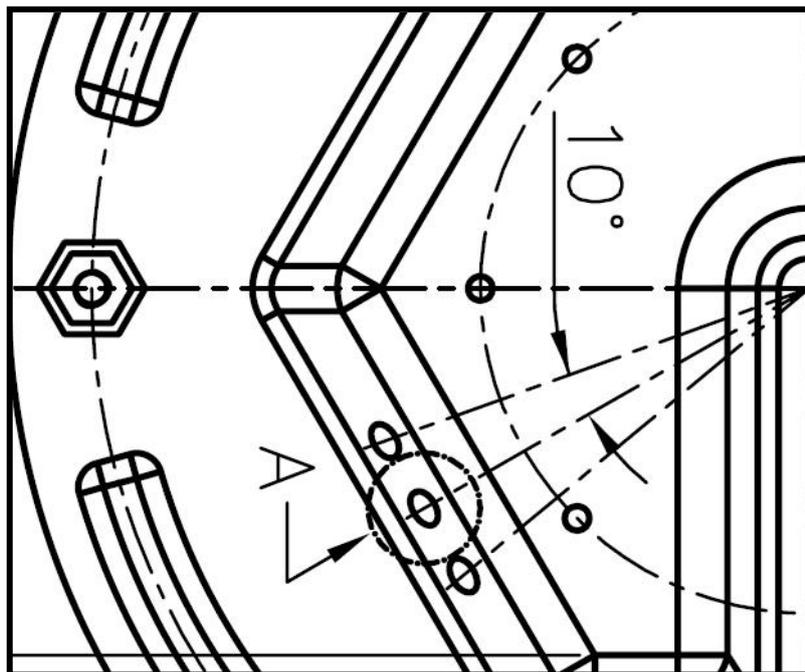
## Satellite Coverage Map

**Television satellites are located in fixed positions above the Earth's equator and beam TV signals down to certain regions of the planet (not worldwide). To receive TV signals from a satellite, you must be located within that satellite's unique coverage area.**

**The SATFI UK antenna is designed to work specifically with Astra 2 (28E) for Freesat / Sky / FTA broadcasts within UK & Eire.**

# Appendix C

## Antenna Drawing



## Antenna Drawing

