



# USALS INSTALLATION GUIDE for ROTOR SAT HH100 and HH120



**Stab - USALS**  
UNIVERSAL SATELLITES  
AUTOMATIC LOCATION SYSTEM



For the Rotor installation in DiSEqC1.2 mode please consult the instruction manual inside the package.

### USALS System

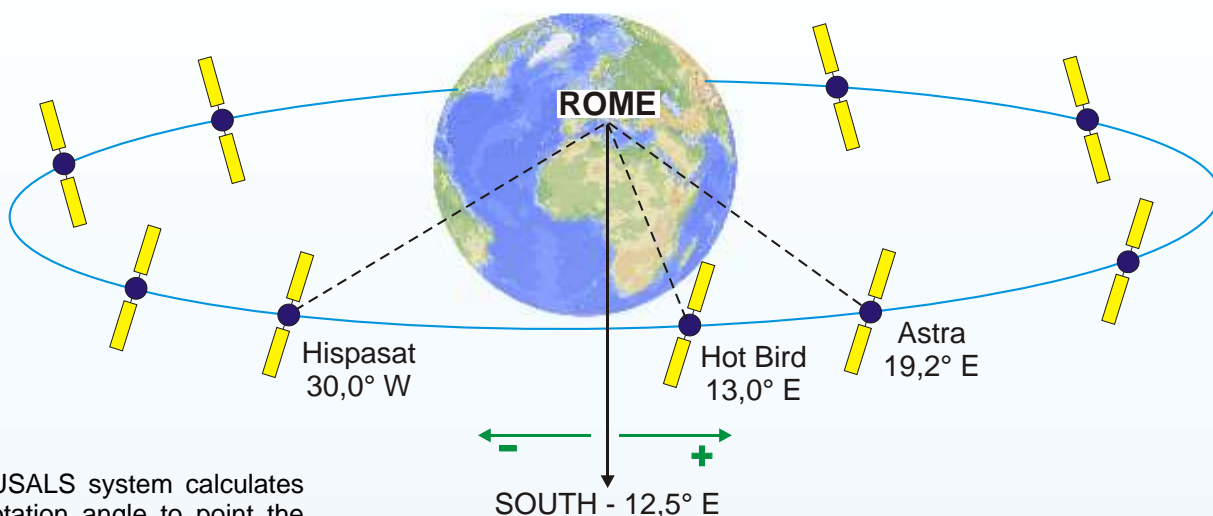
The USALS system (Universal Satellite Automatic Location System) is a calculation system processed by STAB which enables the receiver to calculate the position of all satellites in orbit with a precision lower than 1 meter with reference to the place of installation. All this in a completely automatic mode and with no specific technical knowledge required, either during installation or use.

How to recognize if your receiver is in compliance with "USALS" standard:



- The receiver box must carry the USALS logo:
- In "Motor setting" menu there must be the "USALS" mode.

Example of calculation of the satellites position with reference to London performed automatically by a receiver implemented with USALS® program:



The USALS system calculates the rotation angle to point the desired satellite and the rotor automatically moves to the correct position, for example:

**Installation in Rome:**

**Latitude = 41,9°N**

**Longitude = 12,5°E**

Satellite	USALS automatic calculation
Astra 19,2°E	+ 7,5°
HotBird 13°E	+ 0,6°
Hispasat 30°W	- 46,9°

To obtain the data of **latitude**, **longitude** ed **dish elevation** see the web site:

[www.stab-italia.com/maps.php](http://www.stab-italia.com/maps.php)

and follow the instructions on page 4

### Accessories for assembly



Bracket for anchoring the pole



U Bolts



Clamps



Screws



Nuts



Washers



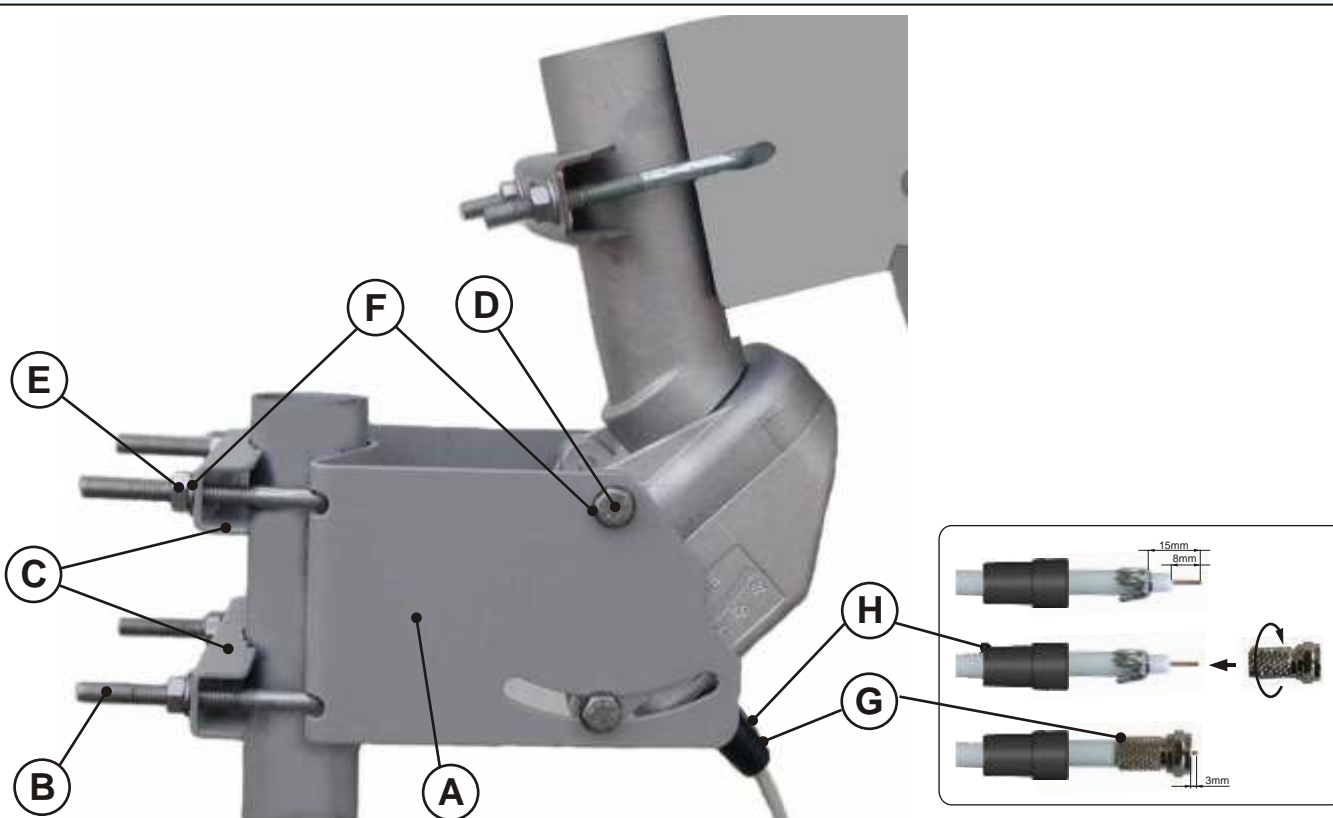
F Connectors



Connectors covers



Instructions manual



### How to obtain the coordinates of installation place

From the website [www.stab.italia.com/maps.php](http://www.stab.italia.com/maps.php) it is possible to obtain the following data:

**LATITUDE**, **LONGITUDE**, **DISH ELEVATION**.

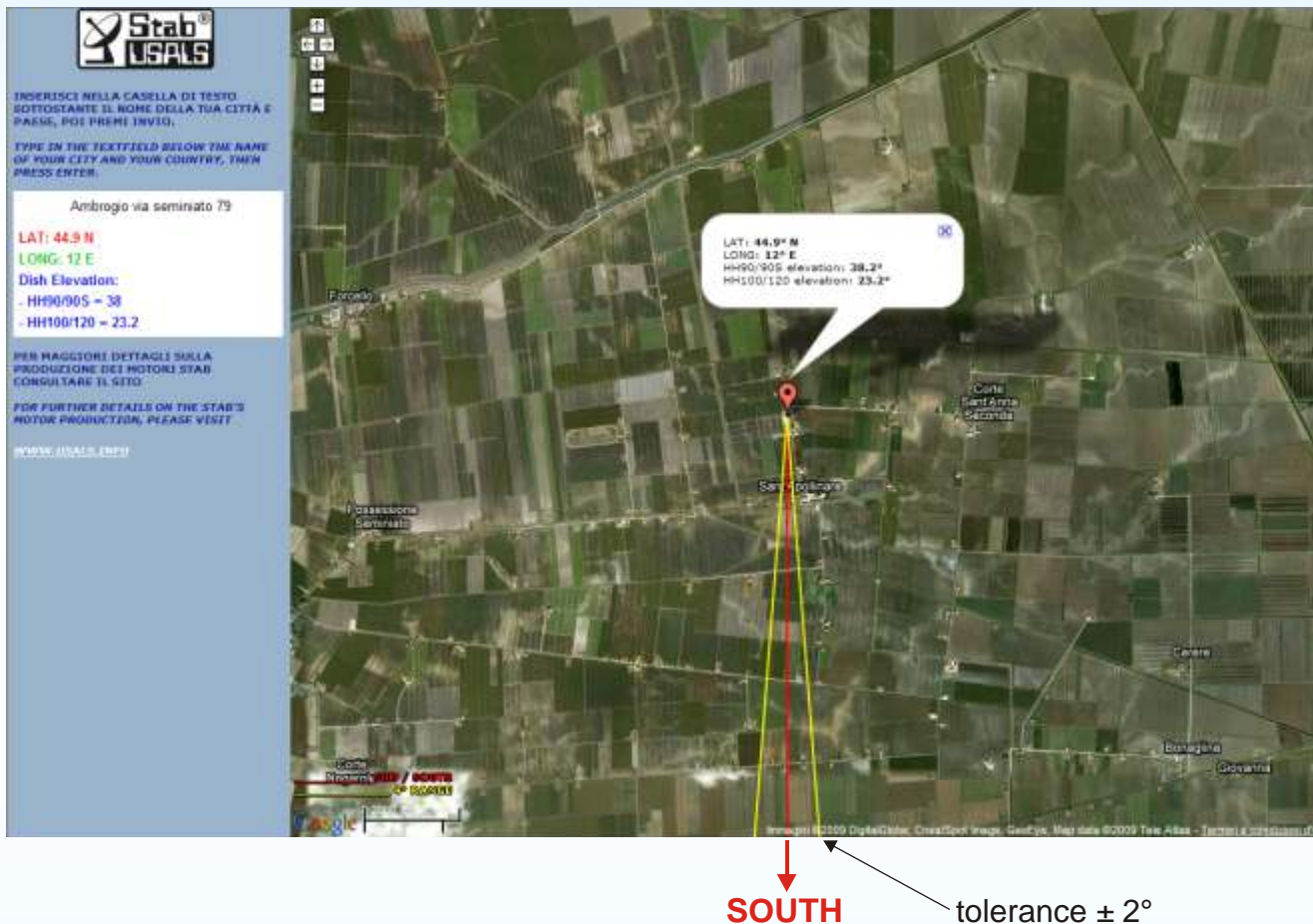
These data are essential to perform the installation in USALS mode.

Type the address of installation place





Example:  
installation by STAB  
address: Seminiato street, 79 - 44034 Ambrogio (FE)



If the position is not accurate, drag the red pointer in the correct position.

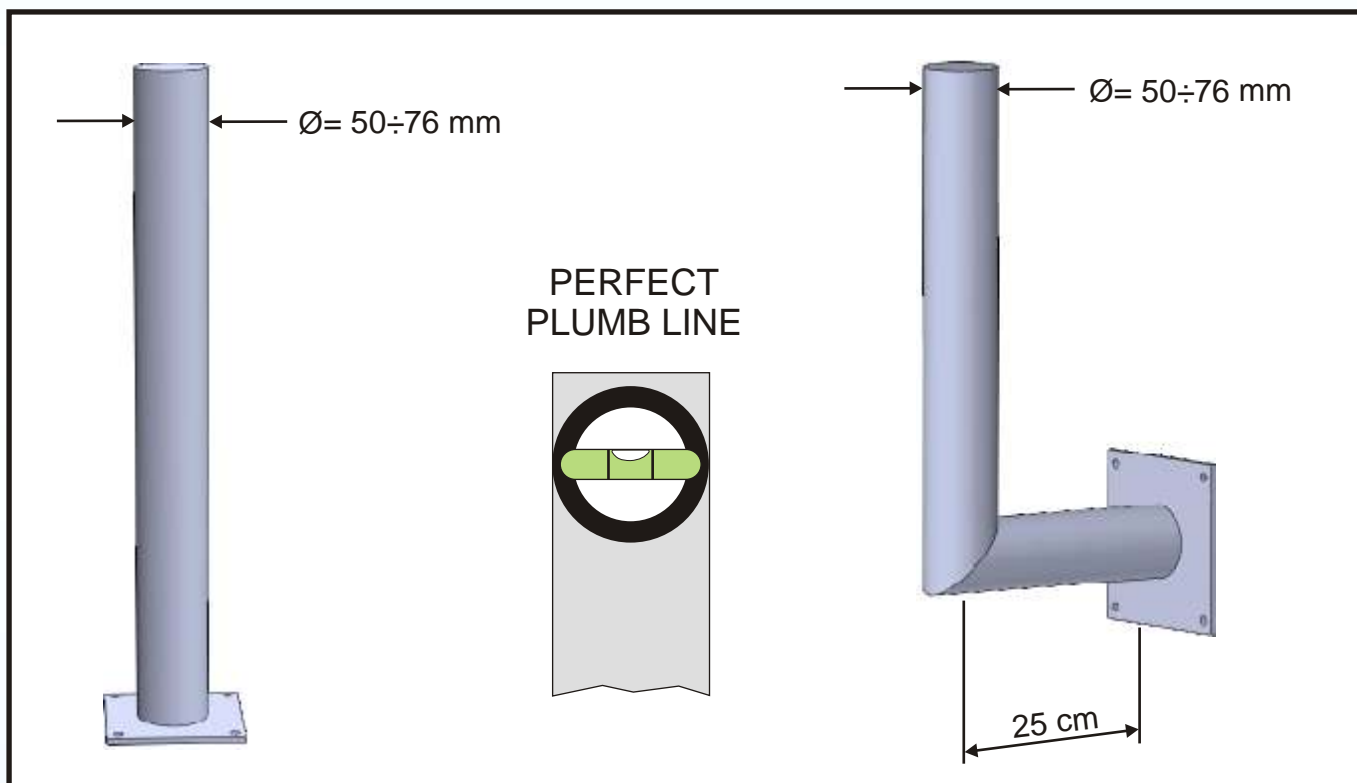
Note the following data:

**LATITUDE: 44,9° N**  
**LONGITUDE: 12,0° E**  
**DISH ELEVATION: 23,2°** (for HH100 / HH120 rotors)

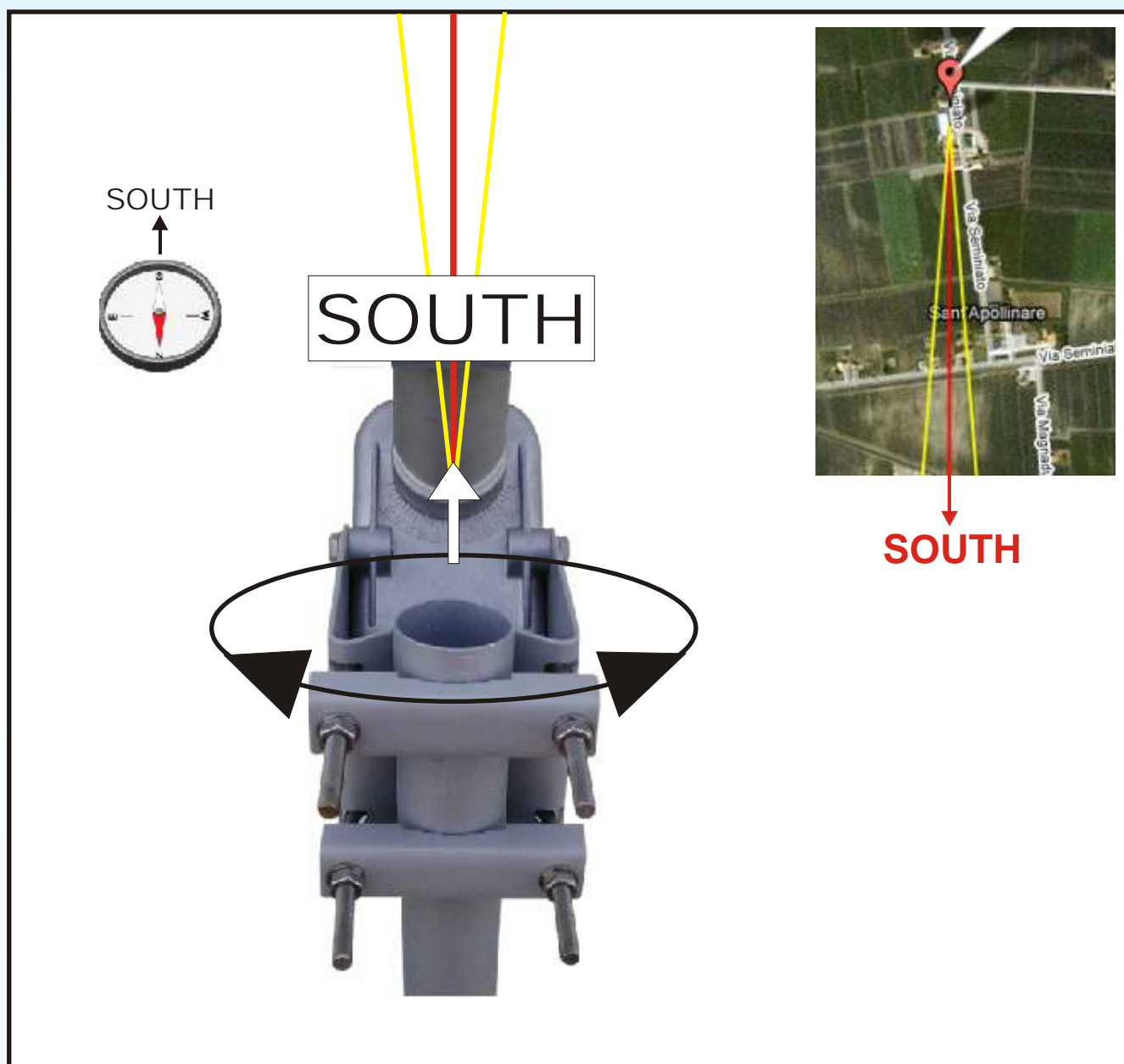
On the map you will be also helped by a SOUTH line indicator (tolerance +/- 2°) in order to make the first dish pointing easier as explained later on.

### STEP BY STEP INSTALLATION

1



In order to obtain a correct pointing of the satellites, all system must be in a perfect plumb line.



Fix the motor to the supporting pole tightening the brackets by hand uniformly.

Turn all system to the SOUTH with the help of a compass or following the information data provided by website:

[www.stab-italia.com/maps.php](http://www.stab-italia.com/maps.php)

Tighten the screws.

3



Adjust the rotor inclination to your **LATITUDE** and tighten the fixing screws.

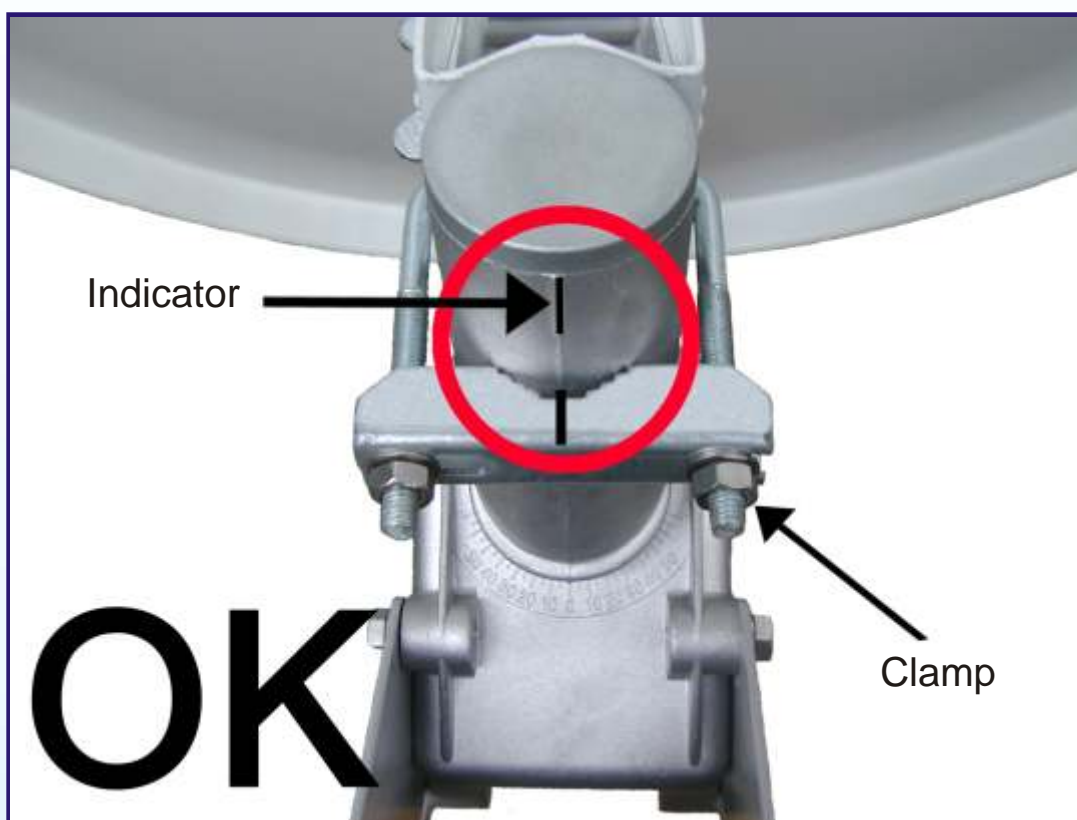
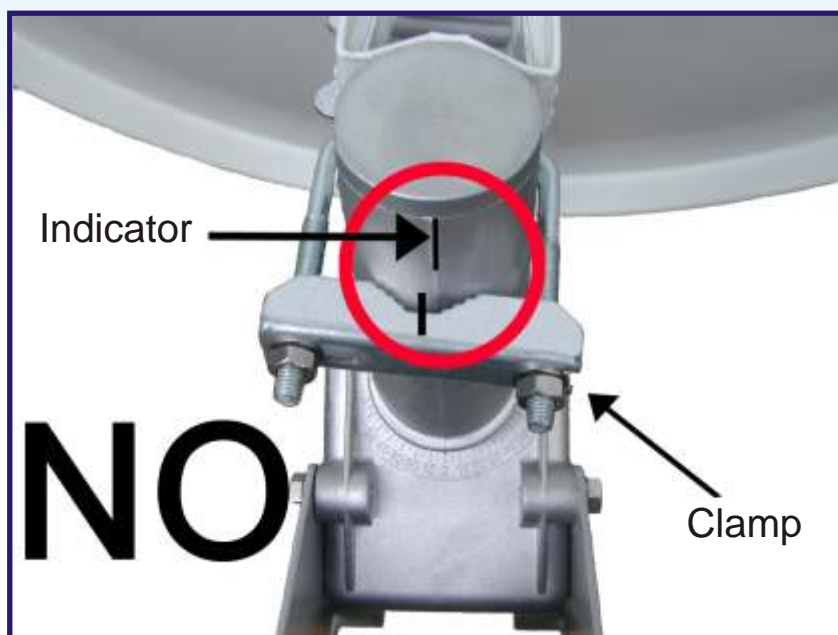




Fix the dish to the rotor's antenna support without tightening definitively the screws.

5

Align perfectly the rotor's tube indicator to the dish axis and tighten the screws.





Align the **DISH ELEVATION** (value obtained from the website [www.stab-italia.com/maps.php](http://www.stab-italia.com/maps.php)) and tighten the fixing screws.

# 7

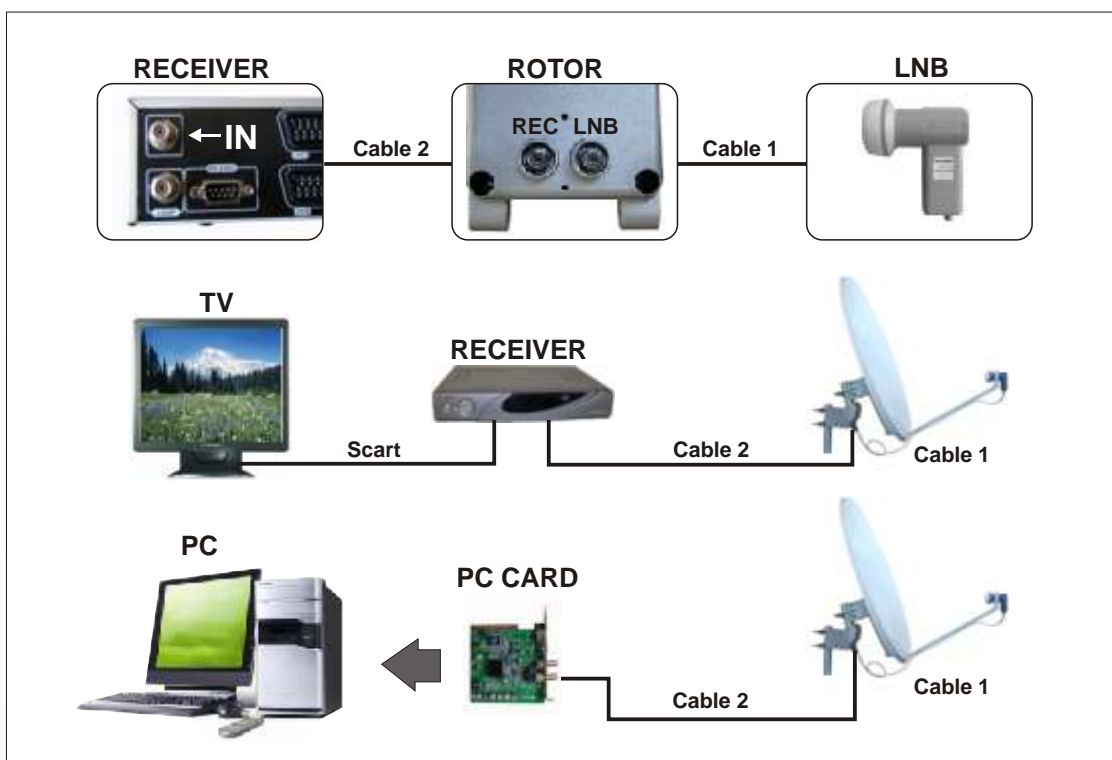
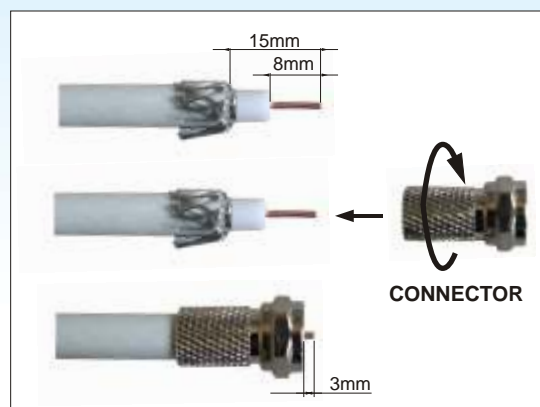
## Connections

### CABLE 1:

On a coaxial cable approximately 1,5 m long, set up 2 F-connectors and connect the LNB to the rotor's LNB plug.

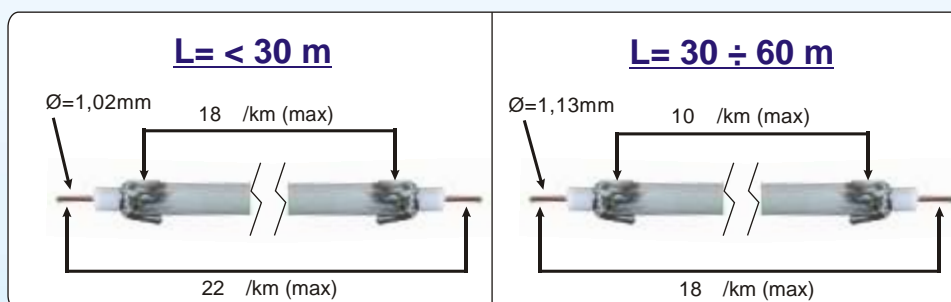
### CABLE 2:

Fit an F-connector on each end of the cable going to the receiver and connect the rotor's REC plug to the plug of the receiver.



### Characteristics of the coaxial cable.

An unsuitable cable could prejudice the correct working of the motor!  
Therefore we recommend to follow the features below:



### Settings from the receiver's menu

8

Follow your receiver's instructions manual in order to select the type of installation in USALS mode

Choose a satellite the nearest to your South (=your Longitude)

example: STAB, **Longitude=12°E**  
nearest satellite= **HOT BIRD 13°E**

Fill in the empty spaces in the receiver's menu with **Latitude** and **Longitude** (values obtained from the website [www.stab-italia.com/maps.php](http://www.stab-italia.com/maps.php))

*example of receiver's menu*

Antenna setup		Motor settings	
<b>HotBird 13°E</b>		<b>USALS</b>	
(1) 10,719 GHz		Move Stop	
Vertical - 14V		Go to reference Vertical - 14V	
27,500 MSPS		<b>LATITUDE</b> <b>44,9° N</b>	
Tuner Lock		<b>LONGITUDE</b> <b>12,0° E</b>	
FEC 3/4			
Level 31%	<div style="width: 50%; background-color: red;"></div>		
Quality 20%	<div style="width: 25%; background-color: red;"></div>		

Confirm the inserted data with OK.

The motor will automatically be driven to the calculated position.

Wait until the motor stops.



**9**

Rotate the dish-motor locked together clockwise or anticlockwise very slightly until you hear the maximum beep sound level (in case of receivers with Sat finder function) or until you get the best image quality on screen.

Tighten the screws.

**CONGRATULATIONS!!!**

Installations and pointing of all satellites have just been completed

[illegible]



*[www.stab-italia.com](http://www.stab-italia.com)*

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