Basic Satellite Antenna Settings – Part 2

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In the first part of this series (issue No. 191) we talked about the alignment of the antenna to a satellite. Here we want to complement the first part with an especially simple and above-all precise procedure. Our program FXPOS, which you can download from our website, was developed just for this purpose.

This program takes the place of the more complicated tables and curves that were needed to align an antenna to one or more satellites (mono or multifeed LNB's). In order to fully utilize its precise calculation accuracy, it would be best to get your local geographical coordinates from a GPS receiver. Maps would also be OK as long as longitude and latitude data is shown broken down into 0.2° steps.

You can download the program here:

http://www.tele-satellite.com/fxpos.exe

After starting the program, the valid azimuth and elevation settings for Astra 1 at 19.2° east in Munich are shown. Of course, these settings can be determined for any satellite from any location on Earth in the following manner:

- Simply entering in a "1" allows you to change the satellite position. It must be entered in decimal form with a decimal point whereby west positions must be preceded with a minus sign (for example: 97.0° west would be entered as -97.0).
- Entering a "2" lets you change your location. Longitude and latitude values must also be entered in decimal form (with decimal point). In this case west and southern values must be preceded by a minus sign.
- "3" exits the program.

The calculated values for azimuth and elevation are so precise that it should result in immediate optimal reception and no antenna fine-tuning would normally be necessary. Of course, the mechanical settings on the mast can't be adjusted so precisely. With that in mind, we suggest the following installation procedure:

- Install the mast in a perfect vertical position using a level.
- Adjust the dish for the correct elevation using the scale on the antenna.
- Align the antenna to the south (to the north in the southern hemisphere). After that, a compass is good enough.
- Select an active channel on your receiver.
- Turn the antenna slowly on the mast to the calculated azimuth value. Keep an eye on the receiver's signal quality display.
- If necessary, adjust the elevation of the antenna for maximum signal quality.

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*** ANTENNA-POSITION for Satellite on 19.2° East ***

Elevation:   34.3° Above Horizon
Azimut   :   8.7° East from South
=====================================================================

New Calculation:
     1=Change Satellite         2=Change Position         3=Exit

 New Satellite Position (East positive, West negative)
 Input: 13

*** ANTENNA-POSITION for Satellite on 13.0° East ***

Elevation:   34.8° Above Horizon
Azimut   :   1.8° East from South
=====================================================================

New Calculation:
     1=Change Satellite         2=Change Position         3=Exit

 New Local Coordinates (South/West negative)

 New Latitude: _
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It's this easy: after starting the program, the default settings are displayed. Use "1" to change satellites and "2" to change your position. The picture shows the default results for 19.2° east. After switching to 13.0° east, the new values are shown. Next, a new latitude position is entered.

Reference: Updated Satellite Names

With the ever-changing satellite fleet, older satellites are constantly being replaced by newer ones. Our SatcoDX charts already have the new satellite names.

In many receivers, though, it is necessary to look for transponder lists under old satellite names. This table shows some of the more important name changes.

Position	Previous Name	Current Name
42° E	Türksat 1C	Eurasiasat
28.5 ° E	Eutelsat 2F4 Telecom	Eurobird
23.5° E	Kopernikus 3	Astra 3A
16° E	Eutelsat F3	Eutelsat W2
10° E	Eutelsat F2	Eutelsat W1
7° E	Eutelsat F4	Eutelsat W3
5° W	Telecom 2B	Atlantic Bird 3
8° W	Telecom 2A2D	Atlantic Bird 2