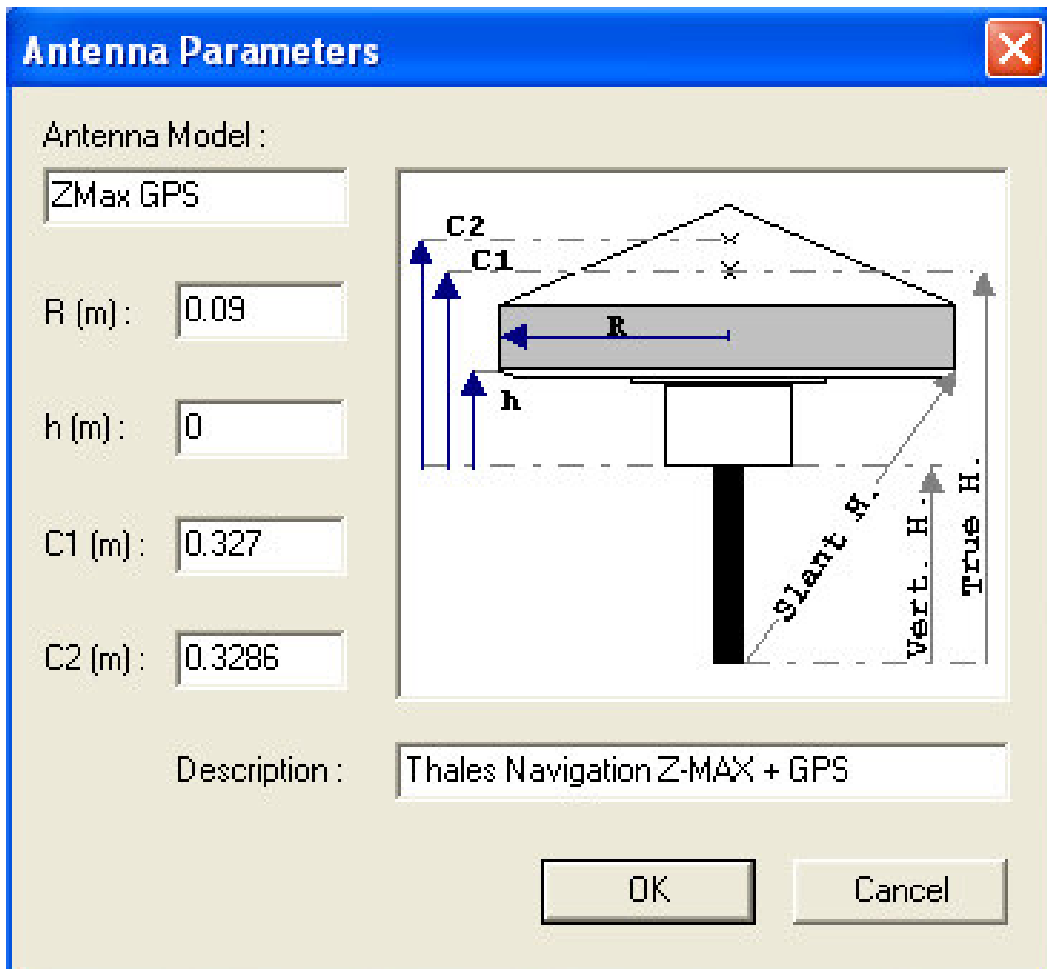


ZMax antenna updates in GNSS Solutions

The National Geodetic Survey has completed testing of the ZMax antenna. The antenna parameters in GNSS Solutions can be easily modified to match the NGS configuration.

From the Tools menu in GNSS Solutions, select GNSS Antenna to open the dialog box. For the first example select ZMax GPS. Click on the edit button in the upper right corner of the antenna dialog box.

If you see the following Antenna Parameters screen:



The image shows a screenshot of the 'Antenna Parameters' dialog box in the GNSS Solutions software. The dialog box has a blue title bar with the text 'Antenna Parameters' and a red close button in the top right corner. The main area is light beige and contains several input fields and a diagram.

On the left side, there are five input fields:

- 'Antenna Model :' with a text box containing 'ZMax GPS'.
- 'R (m) :' with a text box containing '0.09'.
- 'h (m) :' with a text box containing '0'.
- 'C1 (m) :' with a text box containing '0.327'.
- 'C2 (m) :' with a text box containing '0.3286'.

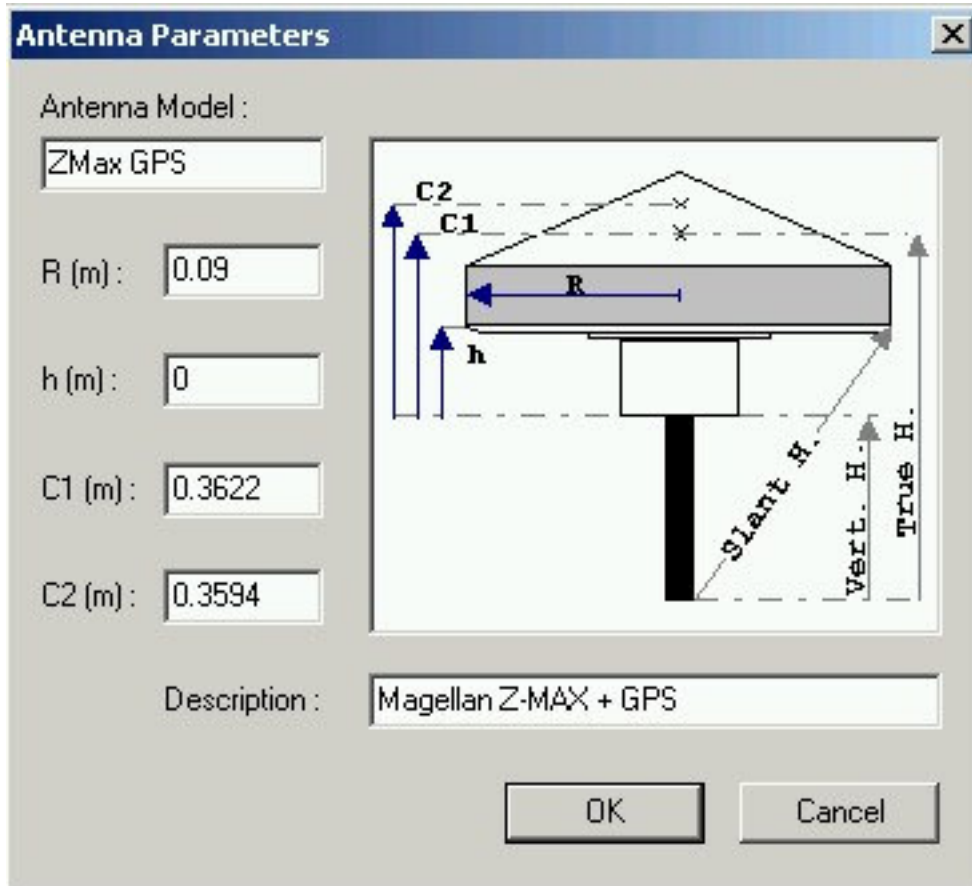
Below these fields is a 'Description :' label followed by a text box containing 'Thales Navigation Z-MAX + GPS'.

At the bottom right, there are two buttons: 'OK' and 'Cancel'.

In the center of the dialog box is a diagram of a ZMax GPS antenna. The diagram shows a cross-section of the antenna. It has a hemispherical top with a radius labeled 'R'. The center of the hemisphere is marked with 'x'. The height from the base of the hemisphere to the center of the top surface is labeled 'C1'. The height from the base of the antenna to the center of the top surface is labeled 'C2'. The height from the base of the antenna to the center of the top surface is also labeled 'h'. The height from the base of the antenna to the center of the top surface is also labeled 'Slant H.'. The height from the base of the antenna to the center of the top surface is also labeled 'Vert. H.'. The height from the base of the antenna to the center of the top surface is also labeled 'True H.'.

Screen shot 1: GNSS Solutions ZMax GPS Antenna Parameters

To match the NGS parameters change the numbers in the C1 and C2 boxes as shown:



Screen shot 2: GNSS Solutions ZMax Antenna Parameters modified to match the (millimeters to meters) NGS Parameters

Click OK.

Close the GNSS Antenna dialog box or proceed to the next page to modify the ZMax GPS UHF model.

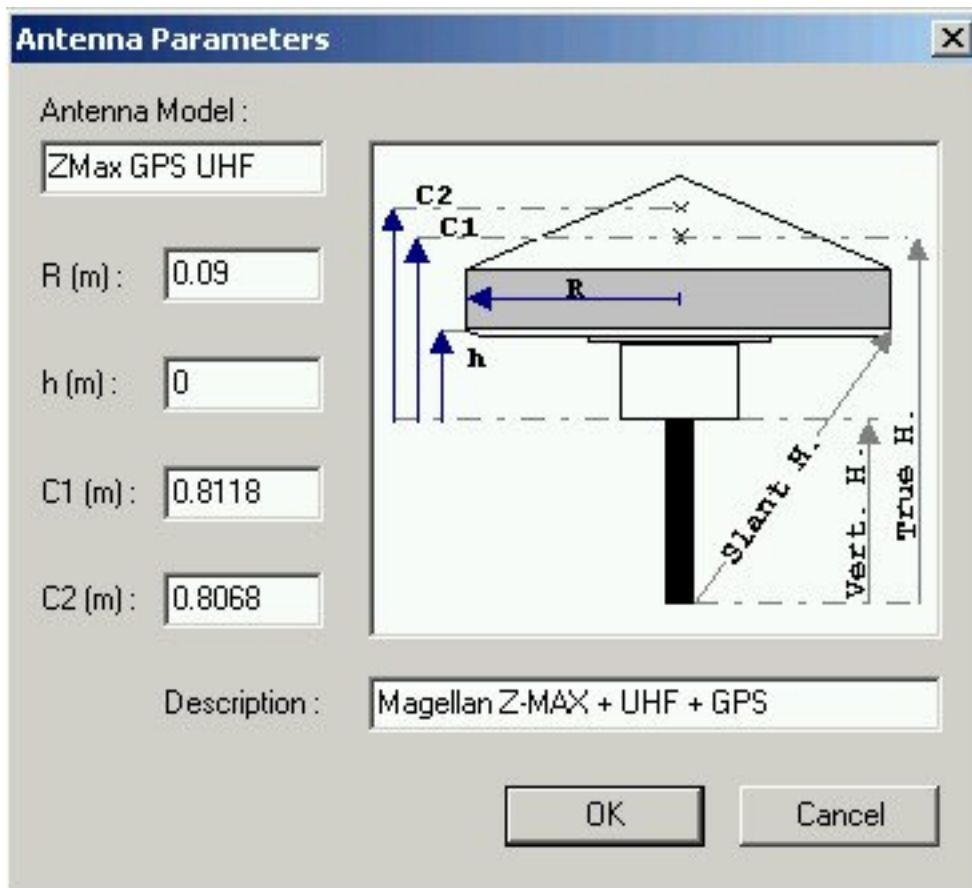
To modify the **ZMax GPS UHF** Parameters select ZMax GPS UHF. Click on the edit button in the upper right corner of the antenna dialog box.

If you see the following Antenna Parameters screen:

The image shows a software dialog box titled "Antenna Parameters" with a blue header bar and a red close button in the top right corner. The dialog is divided into two main sections. On the left, there are input fields for various parameters: "Antenna Model:" with a dropdown menu showing "ZMax GPS UHF"; "R (m):" with a text box containing "0.09"; "h (m):" with a text box containing "0"; "C1 (m):" with a text box containing "0.774"; and "C2 (m):" with a text box containing "0.7756". Below these is a "Description:" label followed by a text box containing "Thales Navigation Z-MAX + GPS + UHF". On the right side of the dialog is a technical diagram of the antenna. The diagram shows a rectangular antenna element with radius R mounted on a pedestal of height h . Above the antenna, two horizontal dashed lines represent heights $C1$ and $C2$, with $C2$ being higher than $C1$. A vertical line on the right indicates the "True H." (True Height). A diagonal line from the base of the pedestal to the top right corner of the antenna is labeled "Slant H.". At the top of the antenna, there are two 'x' marks. At the bottom of the dialog are two buttons: "OK" and "Cancel".

Screen shot 3: GNSS Solutions ZMax GPS UHF Antenna Parameters

To match the NGS parameters change the numbers in the C1 and C2 boxes as shown:



Screen shot 4: GNSS Solutions ZMax UHF Antenna Parameters modified to match the (millimeters to meters) NGS Parameters

Click OK.

Close the GNSS Antenna dialog box.

For more information about antenna calibration at the NGS see their web page.

<http://www.ngs.noaa.gov/ANTCAL/>

Phil Stevenson
November 7, 2006