

Satellite pointing by TassyJim

One of the first tasks when I pull up at a new campsite is to set up the satellite TV.

There are lots of sources of pointing data available but some need Internet access, some don't take into account the 45 degree tilt of the Optus satellites and at least one printed table from a major supplier has incorrect data.

As I was installing a Maximate in the caravan to monitor various systems, the Maximate was an obvious choice for a satellite aiming program.

To aim your dish, you need azimuth (or bearing), elevation and LNB skew or tilt. To calculate these, you need your location and the position of the satellite.

Pointing the satellite is usually done with a compass so we also need magnetic variation for our location.

Magnetic variation formulae are complex so it was easier to use a lookup table for the whole degrees and then interpolate to get the intermediate position.

The data for the lookup table was sourced from www.ngdc.noaa.gov

Magnetic variation is not constant but the data here should be good for a few more years yet.

The program is configured for Australia but it could be altered for anywhere.

Latitude and Longitude are entered in decimal degrees with negative for South and West

Just hitting enter without any data will use the default location (North West Tasmania)

The functions take three variables:

Satlong	-	Geostationary satellite longitude
Eslat	-	Earth station latitude
Eslong	-	Earth station longitude

The Magnetic variation is stored in a string array to save memory.