Setting Up Probe 4 to Match TVStudy Methodology

Changes in the new TVStudy Program

- Uses 1 arc second (30 meter) terrain database. (Old OET69 program uses USGS 3 arc second terrain)
- Uses "True Geometry" for depression angle calculation. (Old OET69 program ignores terrain in depression angle calculation)
- Adjusts generic antenna patterns to use electrical beam tilt indicated in CDBS (Old OET69 program ignored electrical beam tilt values in CDBS)
- New program does not mirror generic patterns. (Earlier versions of Probe have an option for this as "Symetrize" generic patterns. In the latest version of Probe the word "mirror" is used to describe this process.)
- Inverts negative electric beam tilt values from the FCC database.
- Minimum HAAT value of 30.5 m (Old OET69 program uses 30 meters).
- Contours are computed using 360 radials (Old OET69 program used 72).
- Uses the CDBS DA patterns regardless of the status of the DA flag in the data.
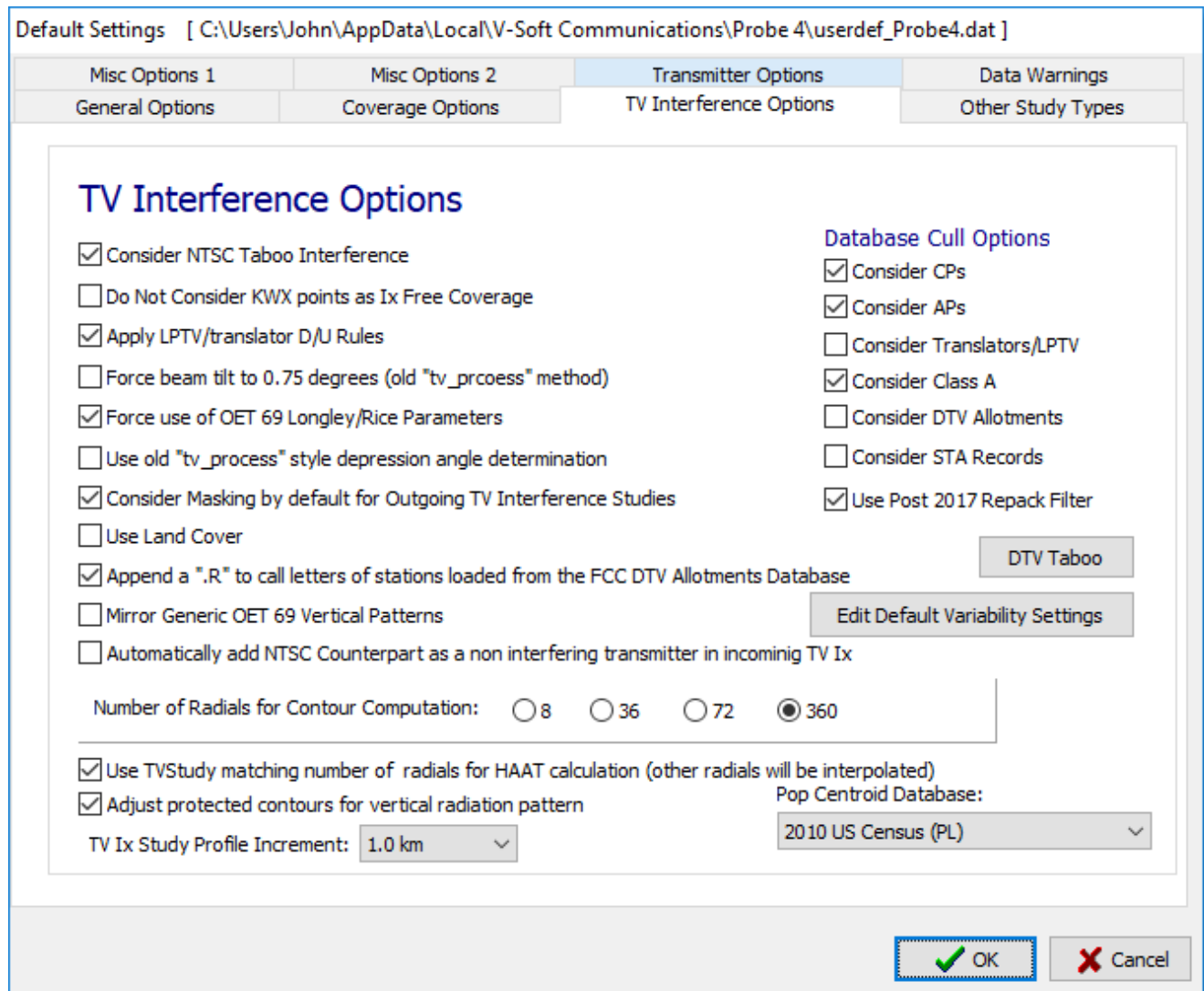
New Terrain Dataset

V-Soft is now offering a new 30 meter terrain database (called the "FCC 30 Meter" database) that contains the data used by the new TVStudy program. Using this dataset Probe is able to load point elevations that exactly match those used by the TVStudy software. This dataset represents a combination of data from several different sources and covers the United States, Canada, and Mexico.

Options in Probe

Suggested parameter settings to match the default TVStudy settings.

From the menu - "View" → "Study Defaults" and then select the "TV Interference Options" tab:

Default Settings   [C:\Users\John\AppData\Local\V-Soft Communications\Probe 4\userdef_Probe4.dat]

| Misc Options 1 | Misc Options 2 | Transmitter Options | Data Warnings |
| General Options | Coverage Options | TV Interference Options | Other Study Types |

TV Interference Options

☑ Consider NTSC Taboo Interference

☐ Do Not Consider KWX points as Ix Free Coverage

☑ Apply LPTV/translator D/U Rules

☐ Force beam tilt to 0.75 degrees (old "tv_prcoess" method)

☑ Force use of OET 69 Longley/Rice Parameters

☐ Use old "tv_process" style depression angle determination

☑ Consider Masking by default for Outgoing TV Interference Studies

☐ Use Land Cover

☑ Append a ".R" to call letters of stations loaded from the FCC DTV Allotments Database

☐ Mirror Generic OET 69 Vertical Patterns

☐ Automatically add NTSC Counterpart as a non interfering transmitter in incominig TV Ix

Number of Radials for Contour Computation: ○ 8   ○ 36   ○ 72   ● 360

☑ Use TVStudy matching number of radials for HAAT calculation (other radials will be interpolated)

☑ Adjust protected contours for vertical radiation pattern

TV Ix Study Profile Increment: 1.0 km ⌄

Database Cull Options

☑ Consider CPs

☑ Consider APs

☐ Consider Translators/LPTV

☑ Consider Class A

☐ Consider DTV Allotments

☐ Consider STA Records

☑ Use Post 2017 Repack Filter

[DTV Taboo]

[Edit Default Variability Settings]

Pop Centroid Database:

2010 US Census (PL) ⌄

✔ OK   ✗ Cancel

Corresponding settings chosen in the "Wizard":

Results Comparison Using These Settings

Using the new 30 meter terrain – the total "interference free coverage" calculation for a group of test
test stations came out like this:

	TVStudy Area	Probe Area	Difference	%		TVStudy Pop	Probe Pop	Difference	%
KDSM	45123.8	45268.6	-144.8	0.32		1095476	1098539	-3063	0.28
WNBC	24954.3	25023.6	-69.3	0.28		19771181	19788500	-17319	0.09
KUSA-D	27380.9	27485.8	-104.9	0.38		3460846	3471536	-10690	0.31
KPIX-TV-D	31905.2	31802.9	102.3	0.32		7482743	7436749	45994	0.61
WFAA-D	44819.3	44838.0	-18.7	0.04		6828114	6829747	-1633	0.02
WNCF-D	29280.0	29247.6	32.4	0.11		627891	624500	3391	0.54
	Average % Difference:		0.24						0.31