Differences Between *TVStudy* Versions 1.3.2 and 1.3.1

Updates the input data handling to process the latest modifications to the CDBS files. Additionally, in the /lib directory, a command line utility called fix_application can be used to convert older application.dat files to be compatible with *TVStudy* 1.3.2.

Limits the scroll-back buffer for messages in the study run windows to 15,000 lines (usually about 2 hours), when the buffer is full older messages are removed. The complete message log is written to a temporary disk file and can still be saved if desired. This resolves issues with out-of-memory conditions leading to failures for very long-running studies.

Sets the user interface language to U.S. English for all contexts so numeric display and parsing are consistent. The user selection of the country or locale in the computer's operating system no longer has any effect on the language in the *TVStudy* user interface.

Improves console logging in recent versions of MacOS by allowing error messages to be saved to a local file "tvstudy_err.log" in the "lib" directory.

Corrects the formula used to calculate the minimum required D/U ratio in cases of co-channel DTV-to-DTV interference where the desired predicted signal level is very near the threshold for reception consistent with section 73.623(a)(3)(i) of the rules. The formula applies only at locations where the S/N ratio is greater than 16 dB but less than 28 dB. For these instances the formula in *TVStudy* was D/U=15 +log10[1.0/(1.0-$10^{-x/10}$) and the correct formula is D/U=15 +10log[1.0/(1.0-$10^{-x/10}$). The correction results in a slight change in study results in comparison to all previous *TVStudy* versions. The percentage of 2x2 kilometer global grid cells affected by the correction is approximately 0.25% for full-service TV stations and 0.1% for Class A TV stations.

Corrects an issue where unpopulated cells in the border regions of the US could be incorrectly assigned to Canada or Mexico when evaluating foreign stations. This issue only impacted area calculations for Canadian and Mexican stations in the border regions; area and population calculations for US stations and population calculations for international stations were not impacted by this issue.

Accounts for an issue in elevation pattern lookup that could cause unreasonable estimates of signal strength to be determined at extreme downward depression angles when relying on elevation patterns that have been entered manually or imported, if the pattern tabulation does not include a final point at 90 degrees. Rather than extrapolating, the lookup will now use the last point in the pattern data when beyond the tabulated range.
Displays the available disk space in the study list window. Disk space is checked when a study run is started and a warning is shown if disk space appears too low based on estimates of cache and output file sizes for the run.

Improves the user interface in study run windows. Time-to-completion estimates now appear at the bottom of all study run windows, including normal runs. Study runs will output messages indicating the status of the run. A "working" message will appear, including a completion status indication when possible, for operations within the run that may be lengthy. In *TVStudy* 1.3.1 these estimates appeared only for pair studies.

Updates the default study template to include a complete set of interference rules for evaluation of LPTV and Class A stations with regard to Canada and Canadian stations.

Allows for most study parameters to be set independently by country.

Enables the distance range parameters for average terrain calculations to be optionally set independently for each country.

Adds the capability to select alternative contour projection methods when out of the range of the propagation curve tabulations at small distances. In addition to using the free-space formula, which remains the default *TVStudy* 1.3.2 parameter as in previous versions, the free-space formula may now alternatively be scaled to match up with the curves, or may be disabled entirely so all lookups beyond the curve range just return the last point on the curves.

Enables new options for selecting how elevation patterns are to be used for contour projection. In addition to the use of elevation patterns for all contour projections in previous *TVStudy* versions, which remains the default *TVStudy* 1.3.2 parameter, now elevation patterns may alternatively be disabled entirely for contours, so contours are projected using only azimuth pattern data regardless of other parameter settings, or may be used only for full-service stations but not for Class A or LPTV stations. The latter option will allow *TVStudy* to match the practice of the Media Bureau.

Adds the capability to select whether the generic elevation pattern is doubled for Class A and LPTV stations. Previously, the generic patterns were doubled (in relative field) only when used with LPTV stations, and this remains the default *TVStudy* 1.3.2 parameter. The new options alternatively allow this doubling parameter to be disabled entirely, which will cause *TVStudy* to apply or not apply the elevation pattern to LPTV and Class A stations consistent with the “Use generic patterns by default” option in the CDBS tab and the “Use elevation patterns” option in the Contours tab, or to be applied to both LPTV and Class A stations, which will allow *TVStudy* to match the practice of the Media Bureau.

Includes the DTS site number in the cell output file for DTS undesired stations.

Includes in the parameters CSV file fields for emission mask and frequency offset.