Release Notes

General Notes Oct-'14

10.2

Changed a few things, Highlights:

- Fixed bug when reading certain nec2c output files where the translator changed the output file format.
- Suppress 'syntax error' warnings of F and N blocks in the library. WARNING: putting Z blocks with load files in the library and then deleting the load file can cause an unexpected warning.
- Fixed bug in N block with when K=1. If K=1 I change it to K=.999999999. This is related to having the ports 'short circuited' which is a no-no at the present.
- Added optional arguments to 'useZo', 'xMtch', and 'fixedV'. The argument is the amount of power desired. For example, 'xMtch(100)' delivers 100 watts to the circuit.
- Fixed bug in Square chart when displaying the 'Operating Point' on curves.
- Added 'Log10(a)') function.
- In F and N blocks, SimSmith can draw a line from start to finish OR, it can draw a simple curve. If you give the directive "TraceAs Series;" then the curve will be drawn as though an impedance was introduced 'in series'. "TraceAs Shunt;" is also supported. Many times this improves visual understanding...

10.1

Changed a few things, Highlights:

- Added MMANA frequency/impedance file output support.
- Removed S parameters from square chart... lack of interest.
- Added 'Conj(x)' (conjugate) to the N, F and G equations.
- Now report Gamma > 1 points on Smith chart.
- Fixed bug in N, F and G equations when using 'w' (omega).
- Fixed hang when working with large negative Gammas.
- Added 'powerUnits' to preferences. You can now display power in dBW or in Watts.
- Fixed 'out of memory' bug when sweeping larger numbers of parameters.
- Each time SimSmith starts up, it tries to determine if it closed down smoothly last time. If it decides it didn't, it will give you three options: 'continue' will simply try to continue startup, 'abort' will abort startup, and 'clear:' will clear out the 'lastSimSmithCircuit' file. (NOTE: SimSmith can get confused if you start it and close it without doing anything in between.) Anytime you think there's a bug, please send me the '.SimSmithLogFile' and 'lastSimSmithCircuit???.ss'.

- You can now drag a 'reference' from the Smith (or square) chart to a component to specify its load. Not done often but often enough I got annoyed.
- When adjusting the vertical position of an axis on the square chart, SimSmith will snap align the labels to the grid when you release the mouse. If you hold down the control key when you start the move, SimSmith will NOT do this alignment. This allows you to place a trace at a specific place on the chart independent of the grid. (May have been added to 9.10, I don't remember.)
- Now: 'captures' function available by default. This now works in java1.7.0_67 on osx. I changed the preference name to force everyone to default to 'enabled'.
- Generalized the display of 'operating point' on the Square chart(s). It is now shown on all traces (was shown on just "swr" when plotting frequency).   (Little circles on traces at operating point.)
- Fixed problem with mouse wheel gain.
- Now: When displaying 'Both' in the Smith chart, only those 'Path' elements leading to a displayed 'sweep' are shown. (Used to show all 'path's and it was confusing…
- Added a 'Voltage Current and Power' section to the primer.
- Fixed bug in transmission line AC6LA selection menu.

9.10

Fixed little things along the way., Highlights:

- Changed 'click/drag' positioning of Square chart axis. Simply click and drag in the axis area to change the vertical position. When adjusting the scale (mouse wheel), the scale is expanded around the last selected label. The last selected label is marked with a '>' or '<'. The marker is visible only when the mouse is in the axis area.
- Zooming all the way out on the Square chart (and then some) will reset the chart to its defaults.
- Optimized the Square chart line drawing algorithm somewhat.
- Square chart: fine gain axis placement and zooming can be done by holding down the ctrl key. It won't snap to align and it won't quantize zoom. Even finer granularity can be achieved by changing the file/preferences/wheelGain setting.
- On the Smith chart, the mouse will snap to 'the closest computation point on the closest line' to where the mouse is. This simplifies line selection at high zooms where the computation points can be far apart.
- Fixed a couple minor annoyances in F, N, and G equations.
- SimSmith no longer creates a temp file in your home directory when reading documentation.

9.9

Fixed lots of stuff and added some trivial features.

- Fixed problem with Square Chart axes when 'capturing' or 'saving an image'.
- N block evaluations can be cached to improve sweeping performance. Set file/preferences/enableNBlockCache.
- Fixed 'file gets updated' when double clicked (on windows).
- Fixed infinite loop when trying to write file that is 'read only'.
- Fixed problem while drawing the path of very short transmission lines.
- Fixed mouse wheel direction to be same as everyone (EVERYONE!) else... if you changed your mouse wheel settings, you'll have to do so again.
- I now 'self sign' for Windows/Linux/Java. You can add my certification to your trusted certificates and eliminate future warnings. Or not, up to you!
- Updated 'standards file' to allow "//" based comments and multiple values per line. This lets you have lines like
   // here is just a comment line.
   1 2 3 4 5 // first five
- Select parameters can have multiple values at once. At present, only the SWR and Q parameters on the Smith chart are supported. Multiple values are separated by whitespace. Thus, and SWR value of "2 3" will have two SWR circles while "2 2.5 3" will have three circles.
- S2P files can be used as load impedance files. See the Primer for more details.
- SimSmith now creates ".SimSmithTemp.pdf" in your home directory. It should be put somewhere else but I got lazy.

- SimSmith now creates ".SimSmithLogFile" in your home directory. If you have a problem, please send me your "lastSimSmith???.ss" file, any load files you are using, and the '.SimSmithLogFile" (notice the leading period in the file name.) It may be empty but its good to know that.
- Added 'click/drag' of Smith chart to reposition the chart. Simply click/hold on the chart away from any trace and drag the chart to a new position. Quick movements may cause erratic behavior.

9.8

- Fixed power loss reporting in Square chart. It was off by a factor of 2.
- Fixed N block evaluation problem… again.

9.7

- Fixed problem with N block.

9.6 & 9.5

- Added Smith Chart 'grid' brightness control

- Added 'chartMinimumScale'; when zooming out, the chart will not be allowed to become smaller than the chartMinimumScale. 1 is the maximum minimum scale.

- Set default 'suppressCaptureMenu' based on OS and Java version.

- Fixed scaling problem with lettering on the Smith chart.

- Fixed transparency issue with square chart axes on capture and images.

9.4 and before

- Introduced the N block. See 'help/N block syntax' for details.

- Trap tuning. Now, changing L or C changes only the frequency. Changing the frequency changes L and C more or less in proportion.

- The mouse wheel 'speed' can be adjusted using "file/preferences/wheelGain". This is the multiplier used to adjust zoom each time the mouse wheel advances. Setting it larger, say 1.05 or even 1.10 will make the zoom 'faster' but also increase granularity.

- Reference file names show only the file name, not the entire path to the file.

- PREFERENCES: the preferences behavior has been changed. The preferences are now read in only at the beginning of the session. This makes the preferences more of a 'user' concept. As a result, importing a design from another user doesn't change your "preferences".

- Max Plot Points: the maximum plot points specified in the file/preferences menu is now quietly enforced. This may change again....

- Coupling Coefficient: the Transformer 'k' parameter and the N block coupling coefficient ('k') are no longer restricted.

- Transformer: the ever painful transformer code has been rewritten again, sigh. It should now operate 'in reverse' by negating the L and C values (but not the 'k' as of my last debug: 12-23-13). Keep an eye out if you are using transformers, especially if you are trying to use in 'in reverse'.

- Sweeping: the 'steps' parameter has been replaced by the 'numPnts' parameter. Previously, to get 1 MHz samples from 1 to 20 you requested 19 'steps', now you request 20 points.

- Drag and Drop. If you drag and drop a file onto one of the circuit elements, SimSmith will look at the extension. If the extension is ".ss" it will load in the file as a new circuit description. If it isn't ".ss" and the circuit element will take a file to describe impedances, SimSmith will try to load the file as the impedance description.

- Help/reset screen size: now endeavors to fit the screen onto the physical screen even if you set the file/preferences/reset screen width or file/preferences/reset screen height big. This simplifies importing of designs as well.

- Drag and Drop. If you drag and drop a file onto the Smith or Square charts, SimSmith will try to load that file as a reference. You can drag/drop multiple files into the charts. (But not the circuit area... one file at a time there please).

- Delete Items: you can delete an item directly by selecting with the left mouse button while holding the 'control' key.

- Drag Tuning: the limits on a single click/drag are set based on value. When you start the drag, a parameter's limits are set to the value/10 and value*10. Sometimes it is necessary to do a drag to get 'close', stop, and then 'drag' again. DRAG TUNING MAY NE BE AS RESPONSIVE AS THE PAST, PATIENCE!

- N and F blocks: the first parameter is now a button. The label of the button is the first line of the equation or netlist. Click on the button to edit the equation/netlist.

- N and F blocks: you can access other component parameters in your equation by using the $ construct. For example, "$A.ohms" references the 'ohms' parameter of the A circuit component.

- N and F blocks: you can enable drag tuning of an N or F block parameter by including a directive. For example, "DragTune a,c;" will enable drag tuning of the a and c parameters but no others.

- DRAG TUNING algorithm has changed. It should deal with large changes more readily than before.

- LINE OPTOMIZATION: the line drawing algorithms have changed to be a little smarter in deleting small line segments. Things should appear smoother now.

- One Click Delete. Holding down the 'control' key while clicking on an object will automatically drag it to the garage can.

- Undo does not work for libraries. Sorry.

- References: can be added and deleted using drag/drop. References can no longer be listed but not drawn.

- Smith chart zooming. The 'magnification button' of the Smith chart has been removed. You can now zoom into and out of the Smith chart using the mouse wheel. The zoom happens around where the mouse is pointing.

- SWR and Qeye parameters have moved from the Generator to the Smith chart itself. They are now down by the small Square chart.

- N block Current Controlled Sources: these are now like Spice, the third argument is the identifier of the component through which the current is being sensed. Unlike spice, the sensed component need not be a voltage source.

- Scattering Parameter displays: These are no long logarithmic. The reflection coefficient is plotted from 0 to 1. The transfer parameter is not really a transfer parameter, it is the voltage delivered to that component; this is why the axis is labeld 'V' rather than 'T'. Setting the generator voltage to 1 makes the 'V' the same as 'T'. Displaying the angle of these parameters can be enabled in the file/preferences menu.

- Square Chart Scale: the square chart scales can be changed using the moue wheel. Place the mouse pointer in the axis area and the wheel will increase or decrease the scale.

Release Notes for version 8

- The power computed in each component is now the power dissipated by that component. In the Square chart, the power, again is the power lost in the component.

- The voltage and current reported in the circuit element reflect the current through the part and the voltage across the part. This can be confusing for N and F blocks... be warned!

- The 'lastSimSmithSession.ss' file name: the file name now reflects the version of SimSmith being used. The banner at the top of the session shows the file name.

- Square Chart: can now be either 'swr/powerLost' or 'reflection/transmission'. The button down by the plot menus indicates which is being shown. Clicking on the button changes the mode.

- UNDO. SimSmith now has an undo command. Just below the tuning buttons you'll find an 'undo' and a 'redo' button. The slider in between is a timeline; clicking on it will move to that point in time. History is 50 changes deep. Usually, but not always, 'control z' or 'command z' will undo the latest change. Control y or command y 'redoes' the command.

- Printing has been replaced by 'image save' and 'image capture' capabilities. Image save works on all system, image capture to clipboard works on some systems. The 'file/preferences/includeCaptureMenu' turns on the main menu. Image save file names can be auto-incremented if they are of the form "name#.png". The '#' field is incremented.