Jitter Budget Calculator
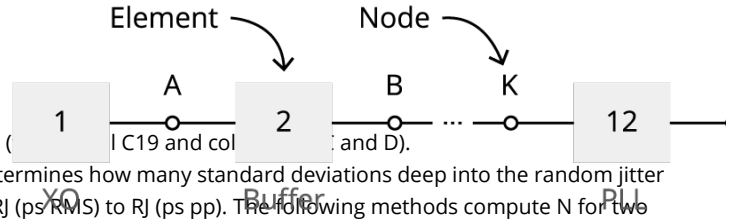
Step 1: Delete the example data in the green-colored cells (~~~~l C19 and col~~~~ and D).

Step 2: Enter a crest factor (N) in cell C19 below, which determines how many standard deviations deep into the random jitter distribution you wish to include when converting RJ (ps RMS) to RJ (ps pp). The following methods compute N for two common applications:

If you're computing the eye-closure in a bathtub curve, compute N using the following calculator with TIE random jitter set to 1 ps RMS and values of BERs and DTD set by your application:

rms-eye-closure-calculator

Alternatively, if you're computing the amount of (TIE) jitter present in an edge, compute N using the following calculator with jitter set to 1 ps RMS and values of P and DTD set by your application:

rms-peak-peak-calculator

Step 3: For each element in your system, enter data in the table below for columns A, C, and D (which are for Description (optional), DJ (ps pp), and RJ (ps RMS), respectively).

Step 4: After entering all of the elements needed to model your system in Step 3, read the TJ (ps pp) value in column J for the last node in your system. The "Change in TJ" column indicates which element contributes the most to the overall TJ.

Enter N (crest factor) =   9,51

Description of Element	Element	Elemental Jitter Budget			Node	Nodal Jitter Budget			Change in TJ
		DJ (ps pp)	RJ (ps RMS)	RJ (ps pp)		DJ (ps pp)	RJ (ps pp)	TJ (ps pp)	(ps pp)
XO	1	0	1,2	11,4120	A	0,0000	11,4120	11,4120	11,4120
Buffer	2	12	0,2	1,9020	B	12,0000	11,5694	23,5694	12,1574
PLL	3	32	2,4	22,8240	C	44,0000	25,5888	69,5888	46,0194
	4			0,0000	D	44,0000	25,5888	69,5888	0,0000
	5			0,0000	E	44,0000	25,5888	69,5888	0,0000
	6			0,0000	F	44,0000	25,5888	69,5888	0,0000
	7			0,0000	G	44,0000	25,5888	69,5888	0,0000
	8			0,0000	H	44,0000	25,5888	69,5888	0,0000
	9			0,0000	I	44,0000	25,5888	69,5888	0,0000
	10			0,0000	J	44,0000	25,5888	69,5888	0,0000
	11			0,0000	K	44,0000	25,5888	69,5888	0,0000
	12			0,0000	L	44,0000	25,5888	69,5888	0,0000