Frequency Synthesizer Design Handbook Errata

Page 49, Equation 3.22

$$Y\left(e^{j2\pi f T_s}\right) \approx \frac{1}{T_s} X(f) \; for \; |f T_s| \le \frac{1}{2}$$

Page 70, Equation 3.62

$$\begin{bmatrix} \phi_0 & \phi_1 & \phi_2 & \dots & \phi_M \\ \phi_1 & \phi_0 & \phi_1 & \dots & \phi_{M-1} \\ \dots & \dots & \dots & \dots & \dots \\ \phi_M & \phi_{M-1} & \phi_{M-2} & \dots & \phi_0 \end{bmatrix} \begin{bmatrix} 1 \\ a_1 \\ \dots \\ a_M \end{bmatrix} = \begin{bmatrix} a_0 \\ 0 \\ \dots \\ 0 \end{bmatrix}$$

Page 74, Figure 3.18

Captions should read “-3.2V” rather than “-320 V”

Page 83, Figure 3.28

Loads connected to grounds (2 of them) labeled “S” should be labeled “Z”

Page 85, Equation 3.71

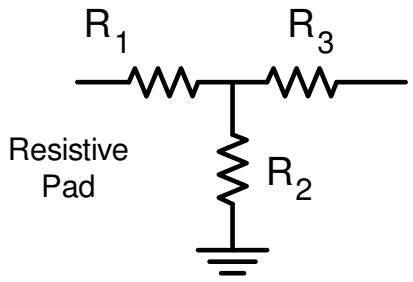
$$G_T = \frac{|S_{21}|^2 \left(1-|\Gamma_s|^2\right)\left(1-|\Gamma_L|^2\right)}{\left|\left(1-S_{11}\Gamma_S\right)\left(1-S_{22}\Gamma_L\right)-S_{12}S_{21}\Gamma_S\Gamma_L\right|^2}$$

Page 88, Figure 3.31

The positive node of the op-amp should be connected directly to ground rather than through a capacitor to ground.

Page 110, Figure 3.46

One entire graphic-inset is missing:



Page 113, Figure 3.47 (Decoupling around varactor diodes shown incompletely)

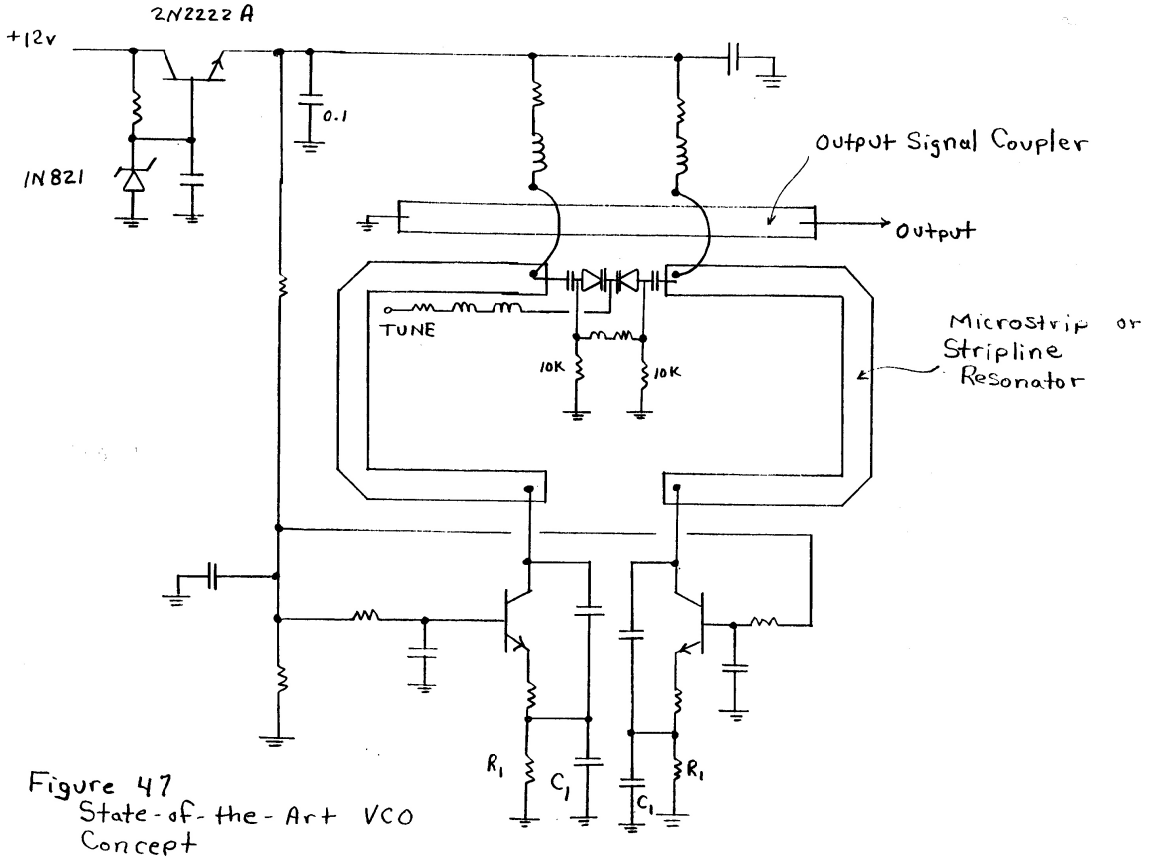
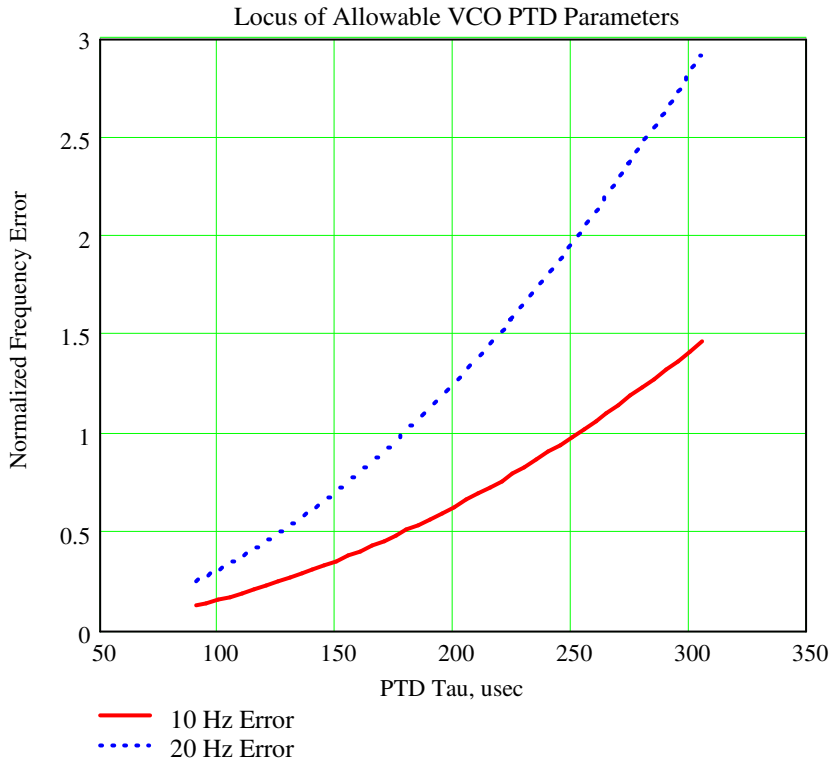


Figure 47
State-of-the-Art VCO
Concept

Page 272, Equation (6.22) The square on sin() was erroneously dropped inside the sin function.

$$E\{\ \}=\sum_{k=-M}^{+M}\sum_{p=-M}^{+M}R_d\left(|k-p|\right)\frac{\sin^2\left(\pi f T_s\right)}{\left(\pi f\right)^2}e^{-j2\pi f(k-p)T_s}$$

Page 284, Figure 6.33 Legends on plot were dropped



The normalization referred to for the y-axis makes it very easy to do the plot. Using equation 6.33, the actual quantity plotted in this figure is given by

$$\Delta F e^{-\frac{T_o}{\tau}}=\Delta f\left(T_o\right)\left[\left(\omega_n\tau\right)^2+1-2\zeta\omega_n\tau\right]$$

with an additional scaling factor of 10^{-6} where T_o is the settling time of interest which was taken to be 500 µsec.

Page 291, Figure 7.2

Graph labeling should read "Attenuation characteristic of filter F_1"

Page 298

Fourth line down of text should read $\tau_o = 0.125$ (subscript left off).

Page 301

Fifth line down of text should read τ_o (subscript left off).

Page 357, equation 8.13

Left hand side of the equation should read $\begin{bmatrix} s_1(t+h) \\ s_2(t+h) \end{bmatrix}$

Right hand side first matrix has an h^2 that should be simply an h

$$\begin{bmatrix} 1 & -h\omega_n^2 \\ h & (1+2\zeta\omega_n h) \end{bmatrix}$$

Page 367, equation 8.39. The first line is missing a factor of h. Should read as:

$$x_{n+1} = \frac{4}{3}x_n - \frac{1}{3}x_{n-1} + \frac{2}{3}h\dot{x}_{n+1}$$

Page 391, Figure 9.4

Caption should read "with permission" rather than "by permission"

Page 392, Figure 9.5

Caption should read "with permission" rather than "by permission"

Chapter 5 References

The references listed for Chapter 5 are not correctly listed. Items that appear in the book as "Selected Biography" were removed from the original References list without properly renumbering them in the text. The listing below has the reference numbers that correspond to the numbers used in the main text of Chapter 5.

References

1] Crawford, J.A., "Understanding the Specifics of Sampling in Synthesis," Microwaves and RF, Vol. 23, No. 8, August 1984, pp. 120-126,144

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8] Blake, J., "Design of Wideband Frequency Synthesizers," RF Design, May 1988, pp. 26-34

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17] Crawford,J.A., "Extending Sampling to Type 2 Phase-Locked Loops", Microwaves & RF, Sept. 1984, pp. 171-174