Errata 1th edition

for the book

Digital Signal Processing with Field Programmable Gate Arrays

by

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Preface 1:

Page VIII 3th line from top:
Replace "although are some VHDL examples" with "although some VHDL examples"

Chapter 1:

Page 9 third bullet point: Replace "again" with "against"
Page 15 first line in sec. 1.4.1: Replace "seemed" with "seem"
Page 19 second line before Timing Estimates section: replace "rows" with "columns"
Page 20 Example 1.2, 6 line from the end: Replace t_{cici} with 7 x t_{cici}
Page 21 Figure 1.14 low part of 74LS175: Replace "6 x FF" with "2 x FF" twice

Chapter 2:

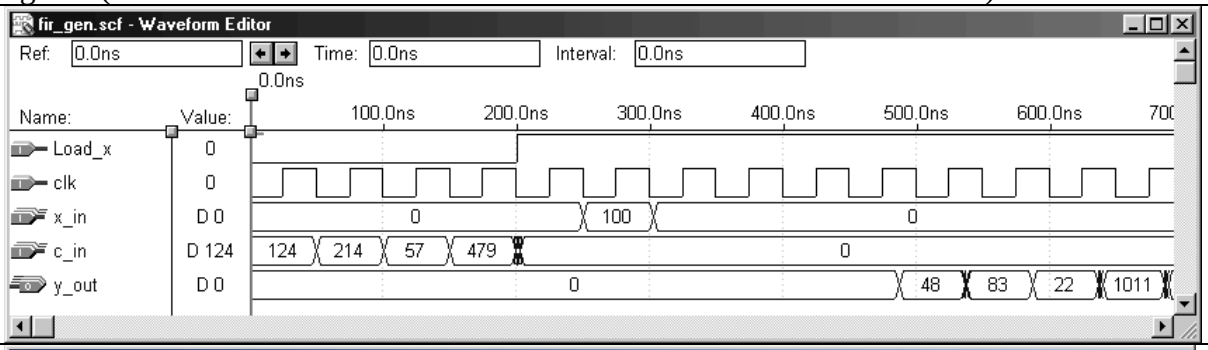
Page 29 line 10: Replace "with to the" with "with the"
Page 30 second line: Replace "preferablly" with "preferably"
Page 31 One's Complement: Replace "same representation except" with "bit-by-bit complement representations including"
Page 33 Example 2.1: Replace "16_{10}-1_{10} = $10\bar{1}100_{SD}$" with "16_{10}-1_{10} = $1000\bar{1}_{SD}$"
Page 33 Example 2.1: Replace "16_{10}-4_{10}+3_{10} = $10\bar{1}10_{SD}$" with "16_{10}-4_{10}+2_{10} +1_{10} = $10\bar{1}1_{SD}$"
Page 33 first sentence after Example 2.1: Replace "nonezero" with "nonzero"
Page 39: last line before table: Replace "C=r" with "C=2"
Page 45 Table 2.4 last line:
Replace "Range 2^{138} ~$3.8*10^{38}$ 2^{1024} ~$9*10^{307}$" with "Range 2^{128} ~$3.8*10^{38}$ 2^{1024} ~$1.8*10^{308}$"
Page 47 first line in sec. 2.3.1: Replace "due the" with "due to the"
Page 58 Eq. (2.29): Replace "$X_2 2^N+Y_1$" with "$X_2 2^N+X_1$"
Page 58 Eq. (2.29): Replace "$Y_2 Y_2$" with "$X_2 Y_2$"
Page 61 Equation (2.34): Replace "$x_b[k]$" with "$x_b[n]$"
Page 63 Table second line: Replace "001_2" with "010_2"
Page 64 Eq. (2.36) and (2.37): Replace "-2^b" with "-2^B"
Page 64 Example 2.18: Replace "N=4-bit" with "B=4-bit"
Page 65 Equation (2.39): Replace "$Ll+n$" with "$Nl+n$" twice
Page 68 for $\sqrt{W}$: Replace "m=1" with "m=-1"
Page 68 Table 2.10, m=1: Replace "$Y_K=K_1\ (X_0\cos(Z_0)+Y_0\sin(Z_0))$" with "$Y_K=K_1\ (Y_0\cos(Z_0)+X_0\sin(Z_0))$"
Page 68 Table 2.10, m=-1: Replace "$X_K=K_{-1}\sqrt{X_0^2+Y_0^2}$" with "$X_K=K_{-1}\sqrt{X_0^2-Y_0^2}$"
Replace "$Y_K=K_{-1}\ (X_0\cosh(Z_0)+Y_0\sinh(Z_0))$" with "$Y_K=K_{-1}\ (Y_0\cosh(Z_0)+X_0\sinh(Z_0))$"
Page 71 Fig. 2.24 Three times bottom assignments: Exchange "-/+" and "+/-"
Page 75 Exercise 2.1 5th line: Replace "total total" with "total"
Page 77 Exercise 2.7(a): Replace "stage" with "state"
Page 77 Exercise 2.9 3th line: Replace "$j(ad+bd)$" with "$j(ad+bc)$"

Chapter 3:

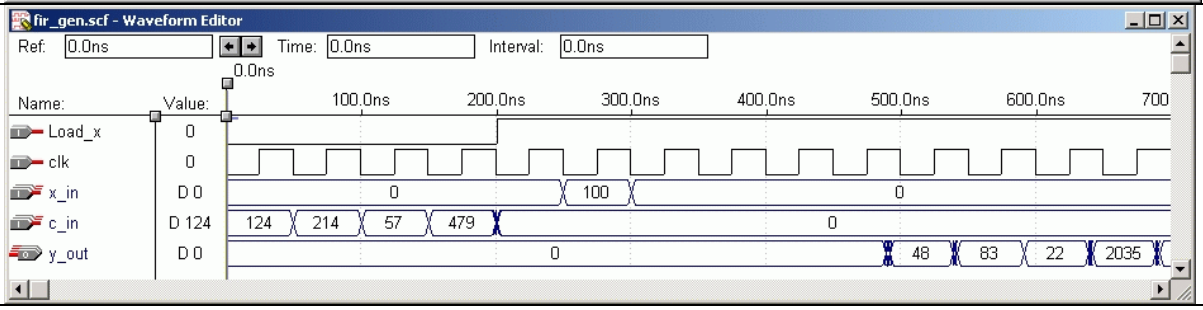
Page 80 next to Eq. (3.4): Replace "L^{th}-order" with "length-L"

Page 84 Fig. 3.4 (Note that the simulation SCF file on the CD shows the correct result):

replace



with



Page 84 first line: Replace "z^{-2} +- $33/256z^{-3}$" with "z^{-2} - $33/256z^{-3}$"
Page 85 Eq. (3.8): Replace "$d\Phi(\omega)$" with "- $d\Phi(\omega)$"
Page 85 Eq. (3.10): Add "k>0" to sum sign
Page 91 Fig. 3.8a: Replace "$f_s/2$" with "f_n"
Page 93 before Eq. (3.17): Replace "L^{th}-order" with "length-L"
Page 105 Example 3.8 first sentence: Replace "da3.mif" with "darom3.mif"
Page 112 first sentence after Example 3.10: Replace "archived" with "achieved"
Page 113 Exercise 3.3 2th line: Replace "$f[0] = 521$" with "$f[0] = 512$"
Page 114 Exercise 3.4 Equation (3.20):
Replace "$y[n]=256h[n]-32h[n]-16h[n-1]+h[n-1]$." with "$y[n]=256h[n]-16h[n]-32h[n-1]+h[n-1]$."
Page 114 Exercise 3.5 2th line: Replace "1046" with "1406"

Chapter 4:

Page 118 Eq. (4.3): Replace "$y[n-k]$" with "$y[n-l]$"
Page 120 item 4): Replace "unit circle" with "real axis"
Page 121 first sentence after Eq. (4.6): Replace "$|F(\omega)|^2|$" with "$|F(\omega)|^2$"
Page 127 Example 4.2, coefficients A,B incorrect: Remove "We will get … B=0.0001,… A=1.000…"
Page 128 Fig. 4.13 caption: Replace " **(b)** phase, and **(c)** group delay response" with "**(b)** group delay response, and **(c)** Pole/zero plot."
Page 129 section 4.3.2: Replace "desire" with "desired"
Page 129 Table 4.2: Replace "11 x 9" with "1 x 9"
Page 133 line 3: Replace "attendant" with "attained"
Page 134 Text before Eq. (4.16): Replace "0.25" with "0.75" and "1/4" with "3/4"
Page 135 Last Eq. in Example 4.5: Add "$72z^{-4}$" to numerator

Page 140 Exercise 4.6 line l=1 (third column): Replace "1 2^{-1} 2^{-1} -1 – 2^{-4} 1-2^{-2}" with "1 2^{-1} 1 -1 – 2^{-4} 1-2^{-2}"
Page 140 Exercise 4.6 line l=3 (last column): Replace "2^{-1}-2^{-6}" with "2^{-1}-2^{-5}"

Chapter 5:

Page 144 first section: Replace "Fig. 5.5" with "Fig. 5.5b"
Page 150 VHDL comments: Replace "m[0]= 127" with "m[0]=124" and "g[0]=127" with "g[0]=124"
Page 153 Figure lower signal path: Replace "$F_1(z)$" with "$F_0(z)$"
Page 153 sentence after Eq. (5.17): Replace "addition" with "delay"
Page 153 Eq. (5.19): Replace "z^{-1}" with "$-z^{-1}$"
Page 159 Fig. 5.17 caption: Add Fig. 5.17. MATLAB Simulation of …
Page 160 VHDL code: Replace "unsigned" with "signed"
Page 165 Fig. 5.22: Switch "D=1" and "D=2"
Page 165 Eq. (5.28): Replace "2N" with "2S"
Page 165 Eq. (5.31): Replace "0,5" with "0.5"
Page 166 Eq. (5.32): Replace "j=2N+1" with "k=2S+1"
Page 166 Eq. (5.33): Replace "m=0" with "n=0"
Page 167 VHDL code: Replace twice "2**14" with "2**13"; "2**13" with "2**12"; "2**12" with "2**11"; "unsigned" with "signed"
Page 171 Fig. 5.26 third input: Replace "x_2" with "x_3"
Page 172 Table 5.3 line for F7: Replace "521" with "512"
Page 187 Eq. (5.61): Use

$$G(z)\hat{G}(z)+H(z)\hat{H}(z)=F(z)-\hat{G}(-z)G(-z)=F(z)-F(-z)$$

Page 191 Equation (5.65): Replace "$H'(z) = H(z) + G(-z)S(z^2)$" with "$G'(z) = G(z) + G\hat{}(-z)S(z^2)$"
Page 191 Equation (5.66): Replace "$G'(z) = G(z) + H(-z)T(z^2)$" with "$G\hat{}'(z) = G\hat{}(z) + G(-z)T(z^2)$"
Page 191 Example 5.17 last equation: Replace "$h_1[n]$" with "$h_2[n]$"
Page 194 VHDL code: Replace "unsigned" with "signed"
Page 197 Equation (5.77): Replace "-1+-3z^{-1}+3z^{-2}+1z^{-3}" with "-1+3z^{-1}+3z^{-2}-1z^{-3}"
Page 197 Equation (5.79): Replace "-(1+a[0]) –a[0]z^{-1}+ a[0]z^{-2}+(1+a[0])z^{-3}" with "-(1+a[0]) +a[0]z^{-1}+ a[0]z^{-2}-(1+a[0])z^{-3}"
Page 197 Equation (5.80): Replace "s=-2 a[0]=-1,5 " with " s=-1/2 a[0]=-1.5 "
Page 200 Eq. (5.83) replace "$k^2/2$" with "$-k^2/2$"
Page 201 Fig. 5.52: Replace "analyse" with "analysis"
Page 206 Exercise 5.5: Replace "F2(z)=1+z^{-1}+z^{-2}" with "F2(z)=1+2z^{-1}+z^{-2}"

Chapter 6:

Page 209 Fig. 6.1: Replace "Tuckey" with "Tukey"
Page 212 Eq. (6.6): Use

$$\mathbf{x}^* = \frac{1}{N}\left(\mathbf{W}^*\mathbf{W}\right)^* = \frac{1}{N}\mathbf{W}\mathbf{X}^*,$$

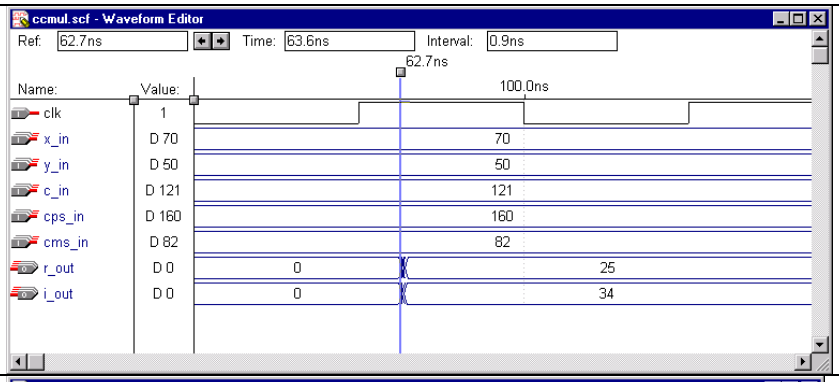
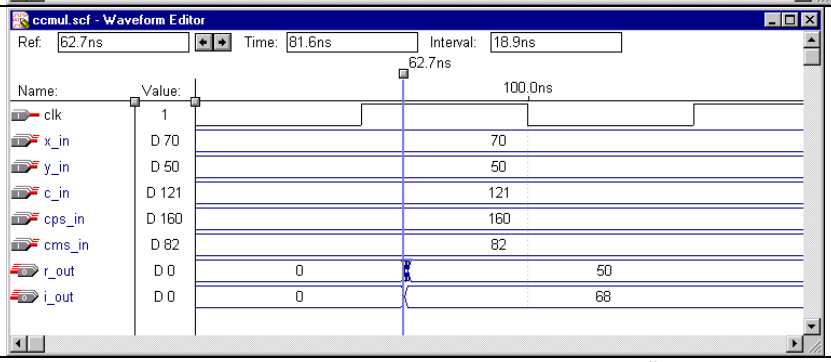
Page 213 Table 6.1 second column: Replace "n=0" with "k=0" also "x([n]" with "x[n]"
Page 217 Eq. (6.8): Add 3 times subscript "N" to **W**
Page 218 Fig. 6.7 text: Replace "n = 1,2,…, 16" with "n = 1,2,…, 14"

Page 219 Fig. 6.8 title: “2...” with “4…”
Page 220 Last equation: Replace $\begin{bmatrix}20\\30\\40\\50\\60\\70\end{bmatrix}$ *with* $\begin{bmatrix}20\\40\\30\\70\\50\\60\end{bmatrix}$

Page 222 VHDL code: Replace “unsigned” with “signed
Page 226 Example 6.7: $\begin{bmatrix}X[0]\\X[1]\\X[2]\\X[3]\\X[4]\end{bmatrix}$ *with* $\begin{bmatrix}X[0]\\X[4]\\X[3]\\X[2]\\X[1]\end{bmatrix}$

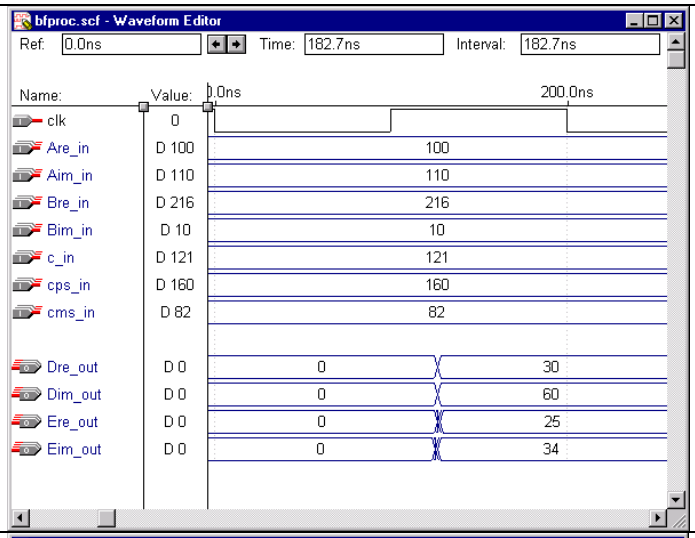
Page 230 third line: Replace “3 additions” with “6 additions”
Page 233 Example 6.11: Replace “256” with “128” three times
Replace “25 + *j*34” with “50 + *j*68”

Page 235 Figure 6.14: (Note that the simulation SCF file on the CD shows the correct result)

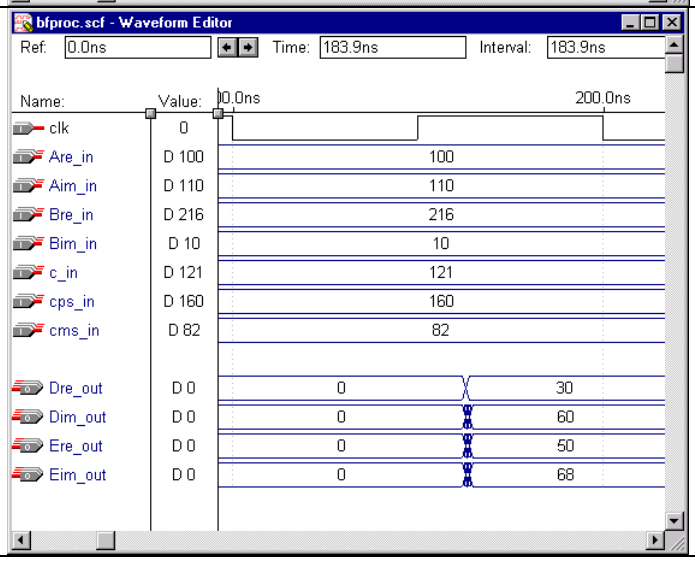
Replace	
With	

Page 235 comment sub_2 vhdl code: Replace “`(c-s)*x`” with “`(c+s)*x`”
Page 235 comment add_1 vhdl code: Replace “`(c+s)*y`” with “`(c-s)*y`”
Page 237 VHDL code: Replace “unsigned” with “signed”
Page 238 Figure 6.15 (Note that the simulation SCF file on the CD shows the correct result)

Replace



with



Page 248 for DCT-II: Replace "$c[n]$" with "$c[k]$"
Page 248 for DCT-III: Replace "$c[k]$" with "$c[n]$"

Page 254 Exercise 6.17: Replace "y = [x(1:2:N); x(N:-2:2)];" with "y = [x(1:2:N), x(N:-2:2)];"
Page 254 Exercise 6.19 Equation (6.83): Replace "$c[n_1]c[n_2]/2$" with "$c[n_1]c[n_2]/4$"

Chapter 7:

Page 276 section 7.2.1: Replace "efficient a to" with "efficient to"
Page 296 first line: Replace "fulfils" with "fulfills"
Page 319 line 7 from bottom: Replace "It possible" with "It is possible"
Page 320 Table 7.19: Replace "1,5" with "1.5" and "1,0" with "1.0"
Page 320 4 line: Replace "Hilbert that" with "Hilbert transformer"
Page 326 Table 7.21: Replace "Stage" with "State"
Page 330 Exercise 7.4: Replace "vetor." with "vectors."

References:

Page 333 reference 2: Replace “(Prentice Hall, Englewood Cliffs, New Jersey, 1999)” with “(McGraw Hill, New York, 1999)”
Page 336 reference 71: Replace “1995” with “1975”

Appendix :

Page 356 line 4 from button: Replace “[W3-1:0] y_out” with “[W4-1:0] y_out”