bits - trans - harms - filt - level

SUMMARY: This delta-friendly sequence has been optimized for very high efficiency, having a maximum of only sixteen transitions per quarter. A second order filter is recommended.

Level: **32 of 32**

Bits in word: **384**

Bits in quarter: **96**

Controlled harmonics: **2 through 22nd**

Filter: **2nd order Butterworth, F = 2.0**

Maximum transitions: **16**

Graph max distortion: **0.5%**

Report max distortion: **0.25%**

Verify zero third: **no**

Delta friendly: **yes**

Amplitude: 0.994821   Distortion: 0.249% Transitions: 10   Jitter: -16.5%   Mat: [[0 2][16 0][16 5][29 3][35 8][48 14][64 16][80 16]]
%110000000000000001111100000000111000111111110000011111111111111111111111111111111111
H3 = 0	H5 = -0.000993163	H7 = 0.000831746	H9 = 0	H11 = 0.000141239
H13 = -0.000389841	H15 = 0	H17 = -0.000931985	H19 = -0.00187581	Hex: $C000 F807 1FE0 FFFC FFFF FFFF

Amplitude: 0.984505   Distortion: 0.243% Transitions: 10   Jitter: -49.5%   Mat: [[0 3][16 0][16 3][26 6][38 7][48 13][64 16][80 16]]
%111000000000000001110000000111111000000111111110001111111111111111111111111111111111
H3 = 0	H5 = -0.000533346	H7 = -0.0013101	H9 = 0	H11 = 0.000546902
H13 = -0.00152385	H15 = 0	H17 = 0.00113836	H19 = -0.000185796	Hex: $E000 E03F 03F8 FFF8 FFFF FFFF

Amplitude: 0.994564   Distortion: 0.18%   Transitions: 10   Jitter: -17.3%   Mat: [[0 2][15 1][16 3][27 5][37 8][49 13][64 16][80 16]]
%110000000000000011110000000111110000011111110001111111111111110011111111111111111111
H3 = 0	H5 = -0.0012428	H7 = 0.000460905	H9 = 0	H11 = 0.00034733
H13 = -0.000416063	H15 = 0	H17 = -0.000344566	H19 = -0.00105039	Hex: $C001 E01F 07F8 7FFC FFFF FFFF

Amplitude: 0.982839   Distortion: 0.23%   Transitions: 10   Jitter: -54.9%   Mat: [[0 3][15 1][16 2][26 6][38 8][49 12][64 16][80 16]]
%111000000000000011100000000111110000011111111000111111111111111111111111111111111111
H3 = 0	H5 = -5.58317e-05	H7 = -0.00146219	H9 = 0	H11 = 0.00113277
H13 = -0.000982078	H15 = 0	H17 = 0.000928574	H19 = -0.000204059	Hex: $E001 C03F 03FC 7FF8 FFFF FFFF

Amplitude: 0.992346   Distortion: 0.179% Transitions: 10   Jitter: -24.4%   Mat: [[0 2][14 2][16 2][27 5][37 9][50 12][64 16][80 16]]
%110000000000000111000000000111110000011111111100011111111111111111111111111111111111
H3 = 0	H5 = -0.000687627	H7 = 0.000189031	H9 = 0	H11 = 0.00114267
H13 = 0.000284643	H15 = 0	H17 = -0.000552739	H19 = -0.00100291	Hex: $C003 C01F 07FC 3FFF FFFF FFFF

Amplitude: 0.993712   Distortion: 0.196% Transitions: 10   Jitter: -20.1%   Mat: [[0 2][14 2][16 1][25 7][39 8][50 12][64 16][80 16]]
%110000000000000111000000001111110000001111111000111111111111111111111111111111111111
H3 = 0	H5 = -0.000600481	H7 = 0.000988709	H9 = 0	H11 = -0.000358174
H13 = -0.00130174	H15 = 0	H17 = 0.000829694	H19 = 0.000153147	Hex: $C003 807F 01FE 3FFC FFFF FFFF

Amplitude: 0.990138   Distortion: 0.245% Transitions: 10   Jitter: -31.5%   Mat: [[0 2][13 3][16 1][27 5][37 10][51 11][64 16][80 16]]
%110000000000011100000000000111110000011111111110001111111111111111111111111111111111
H3 = 0	H5 = -0.000278164	H7 = -0.000232957	H9 = 0	H11 = 0.00198101
H13 = 0.000949365	H15 = 0	H17 = -0.000619177	H19 = -0.000814524	Hex: $C007 801F 07FE 1FFC FFFF FFFF

Amplitude: 0.99206   Distortion: 0.144% Transitions: 10   Jitter: -25.4%   Mat: [[0 2][13 3][16 0][25 7][39 9][51 11][64 16][80 16]]
%110000000000011100000000011111110000001111111110011111111111111111111111111111111111
H3 = 0	H5 = -0.000349623	H7 = 0.000618472	H9 = 0	H11 = 0.000280136
H13 = -0.00082362	H15 = 0	H17 = 0.000837751	H19 = 0.000349778	Hex: $C007 007F 01FF 1FFC FFFF FFFF

bits - trans - harms - filt - level

SUMMARY: This delta-friendly sequence has been optimized for very high efficiency, having a maximum of only sixteen transitions per quarter. A second order filter is recommended.

Level: **24 of 32**

Bits in word: **384**

Bits in quarter: **96**

Controlled harmonics: **2 through 22nd**

Filter: **2nd order Butterworth**, F = 2.0

Maximum transitions: **16**

Graph max distortion: **0.52%**

Report max distortion: **0.26%**

Verify zero third: **no**

Delta friendly: **yes**

TOTAL DISTORTION 2H TO 22H / AMPLITUDE
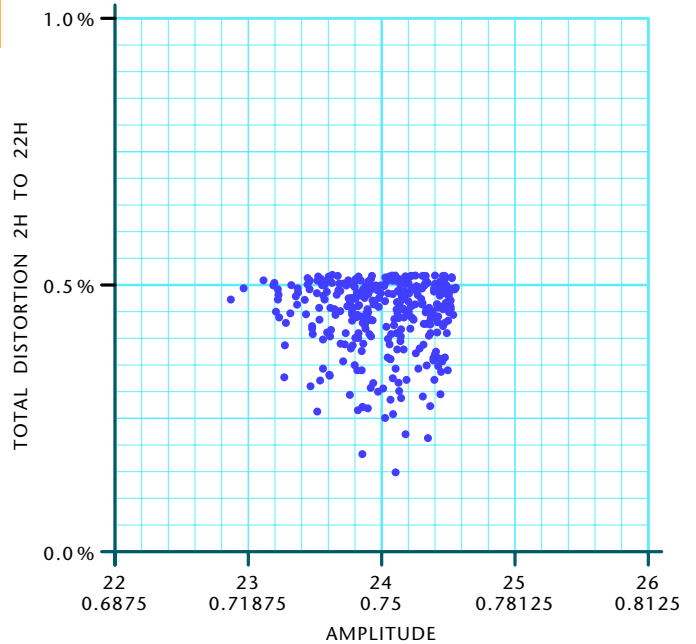
Amplitude: 0.743986   Distortion: 0.183% Transitions: 14 Jitter: -14.4%   Mat: [[2 2][14 0][18 3][27 3][37 6][50 10][66 12][82 12]]
%001100000000000001110000001110000001111110000001111111111000001111111111110000111111111100
H3 = 0   H5 = 0.000430052   H7 = 0.00107947   H9 = 0   H11 = 0.000252982
H13 = -0.00100243   H15 = 0   H17 = 0.000757726   H19 = -0.000616898 Hex: $3000 381C 07E0 3FF0 3FFC 3FFC

Amplitude: 0.757472   Distortion: 0.22% Transitions: 14 Jitter: 17.9%   Mat: [[2 1][13 0][17 3][27 3][37 7][51 10][66 11][81 13]]
%001000000000000001110000000111000000011111100000011111111100000111111111110000111111111111100
H3 = 0   H5 = -0.00179294   H7 = -8.05578e-05   H9 = 0   H11 = -0.000224471
H13 = -0.000429833   H15 = 0   H17 = -0.00102966   H19 = -0.000571943 Hex: $2000 701C 07F0 1FF8 3FF8 7FFC

Amplitude: 0.753601   Distortion: 0.258% Transitions: 16 Jitter: 8.6%   Mat: [[2 1][12 1][17 2][27 3][37 8][52 9][66 11][81 13]]
%001000000000010000110000000111000000111111110000001111111111100001111111111110000111111111100
H3 = 0   H5 = -0.000696109   H7 = -0.000867917   H9 = 0   H11 = 0.00157484
H13 = 0.00105108   H15 = 0   H17 = -0.00131859   H19 = -0.000331638 Hex: $2008 601C 07F8 0FF8 3FF8 7FFC

Amplitude: 0.754409   Distortion: 0.149% Transitions: 16 Jitter: 10.5%   Mat: [[2 1][12 1][17 1][25 5][39 7][52 9][66 11][81 13]]
%001000000000010000100000011110000000001111110000001111111000001111111110000111111111111100
H3 = 0   H5 = -0.000326736   H7 = 0.000172117   H9 = 0   H11 = -0.000170801
H13 = -0.000802051   H15 = 0   H17 = 0.00036881   H19 = 0.00113187   Hex: $2008 407C 01FC 0FF8 3FF8 7FFC

Amplitude: 0.751113   Distortion: 0.251% Transitions: 14 Jitter: 2.6%   Mat: [[2 1][11 2][17 0][25 5][39 8][53 8][66 11][81 13]]
%001000000001100000000001111100000000011111110000001111111100000111111111110000111111111111100
H3 = 0   H5 = 0.000183168   H7 = -0.000933632   H9 = 0   H11 = 0.00146044
H13 = 0.000326628   H15 = 0   H17 = 0.000522966   H19 = 0.00170585   Hex: $2018 007C 01FE 07F8 3FF8 7FFC

Amplitude: 0.764509   Distortion: 0.213% Transitions: 14 Jitter: 34.8%   Mat: [[2 0][11 1][16 2][26 4][38 8][53 9][66 10][80 14]]
%000000000001000011000000011110000000111111100000011111111000011111111100001111111111111100
H3 = 0   H5 = 0.00026402   H7 = 0.000203639   H9 = 0   H11 = 0.000248888
H13 = 0.000521544   H15 = 0   H17 = -0.0018863   H19 = 0.000752898 Hex: $0010 C03C 03FC 07FC 3FF0 FFFC

SUMMARY: This delta-friendly sequence has been optimized for very high efficiency, having a maximum of only sixteen transitions per quarter. A second order filter is recommended.

Level: **16 of 32**

Bits in word: **384**

Bits in quarter: **96**

Controlled harmonics: **2 through 22nd**

Filter: **2nd order Butterworth, F = 2.0**

Maximum transitions: **16**

Graph max distortion: **0.8%**

Report max distortion: **0.4%**

Verify zero third: **no**

Delta friendly: **yes**
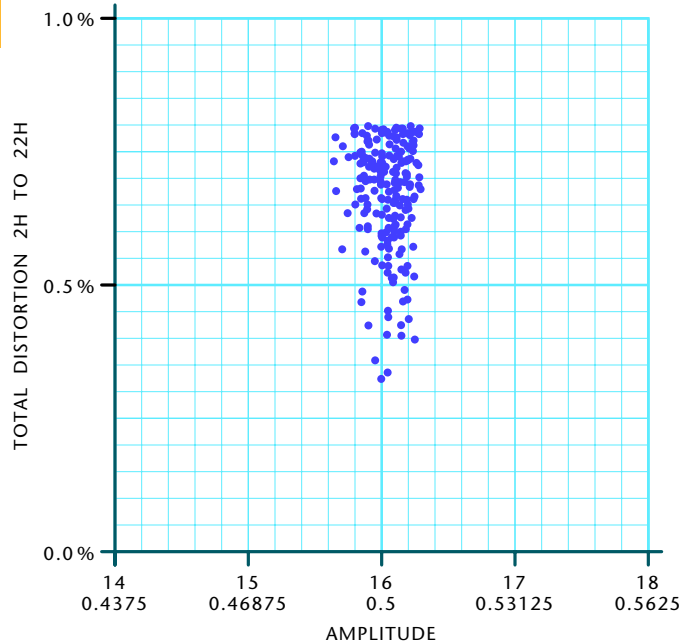
Amplitude: 0.502842   Distortion: 0.336% Transitions: 12 Jitter: 4.5%   Mat: [[4 1][12 0][20 3][28 0][36 5][52 7][68 8][84 8]]
%000010000000000000000111000000000000011111000000000001111111000000001111111000000001111111110000

H3 = 0	H5 = -0.002077	H7 = 0.00200594	H9 = 0	H11 = 9.55198e-06
H13 = -0.000209657	H15 = 0	H17 = -0.000416134	H19 = -0.0016693	Hex: $0800 0E00 0F80 0FE0 0FF0 0FF0

Amplitude: 0.497002   Distortion: 0.359% Transitions: 16 Jitter: -4.7%   Mat: [[4 1][11 1][20 1][26 2][38 5][53 6][68 8][84 8]]
%000010000001000000001000011000000000011111000000000011111000000000111111110000000011111111110000

H3 = 0	H5 = 0.00169166	H7 = 0.00188853	H9 = 0	H11 = 0.00217038
H13 = 0.00131559	H15 = 0	H17 = 0.000284595	H19 = -7.93804e-05	Hex: $0810 0830 03E0 07E0 0FF0 0FF0

Amplitude: 0.499834   Distortion: 0.324% Transitions: 14 Jitter: -0.2%   Mat: [[4 1][11 1][20 0][25 3][39 5][53 6][68 8][84 8]]
%000010000001000000000000011100000000011111000000000111111110000000011111110000000011111111110000

H3 = 0	H5 = -0.0017509	H7 = 0.000172024	H9 = 0	H11 = 0.00205628
H13 = 0.00072452	H15 = 0	H17 = 0.00131129	H19 = 0.000977383	Hex: $0810 0070 01F0 07E0 0FF0 0FF0

Amplitude: 0.515492   Distortion: 0.398% Transitions: 12 Jitter: 24.7%   Mat: [[4 0][11 0][19 2][26 2][38 5][53 7][68 7][83 9]]
%000000000000000000001100000110000000001111100000000001111110000000001111110000000011111111110000

|				
H3 = 0	H5 = -0.00174632	H7 = -0.00148525	H9 = 0	H11 = -0.00210948
H13 = -0.00136562	H15 = 0	H17 = -0.00206141	H19 = 0.000193285	Hex: $0000 1830 03E0 07F0 0FE0 1FF0

bits - trans - harms - filt - level

SUMMARY: This delta-friendly sequence has been optimized for very high efficiency, having a maximum of only sixteen transitions per quarter. A second order filter is recommended.

Level: **10 of 32**

Bits in word: **384**

Bits in quarter: **96**

Controlled harmonics: **2 through 22nd**

Filter: **2nd order Butterworth, F = 2.0**

Maximum transitions: **16**

Graph max distortion: **0.8%**

Report max distortion: **0.6%**

Verify zero third: **no**

Delta friendly: **yes**
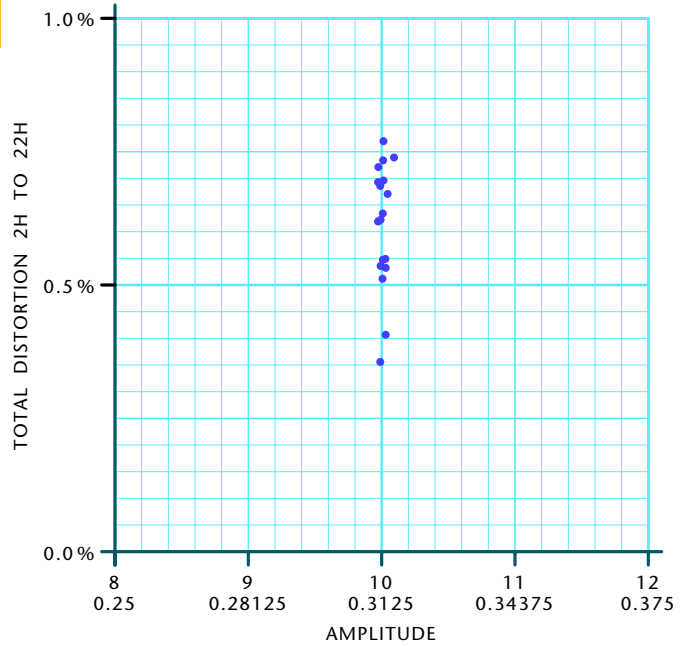
Amplitude: 0.311513   Distortion: 0.356%   Transitions: 14   Jitter: -0.9%   Mat: [[5 1][10 0][22 1][26 1][38 3][54 4][69 5][86 5]]
%000001000000000000000001000100000000000001110000000000000111100000000000011111000000000001111100000

H3 = 0	H5 = -0.000197506	H7 = 0.00136239	H9 = 0	H11 = -0.00170554
H13 = 0.00260368	H15 = 0	H17 = 0.00105505	H19 = 5.84731e-05	Hex: $0400 0220 0380 03C0 07C0 03E0

Amplitude: 0.313216   Distortion: 0.512%   Transitions: 12   Jitter: 0.7%   Mat: [[5 1][10 0][22 0][25 2][39 3][54 4][69 5][86 5]]
%000001000000000000000000011000000000000111000000000001111000000000000111100000000000011111100000

H3 = 0	H5 = -0.0037317	H7 = -0.000596084	H9 = 0	H11 = -0.00143124
H13 = 0.0023663	H15 = 0	H17 = 0.00183597	H19 = 0.00096877	Hex: $0400 0060 01C0 03C0 07C0 03E0

Amplitude: 0.315326   Distortion: 0.549%   Transitions: 12   Jitter: 2.8%   Mat: [[5 0][9 1][22 0][25 2][39 3][55 4][69 5][86 5]]
%000000000100000000000000011000000000000111000000000001111100000000000001111100000000001111100000

H3 = 0	H5 = -0.001232	H7 = 0.00340072	H9 = 0	H11 = -0.00221571
H13 = 0.00342015	H15 = 0	H17 = 0.000382042	H19 = 0.00061513	Hex: $0040 0060 01C0 01E0 07C0 03E0

Amplitude: 0.311621   Distortion: 0.536%   Transitions: 14   Jitter: -0.8%   Mat: [[6 1][11 0][21 1][25 1][39 3][53 4][70 5][85 5]]
%000000100000000000000100010000000000000111000000000011110000000000011110000000000011111000000

H3 = 0	H5 = 0.000593383	H7 = 0.00151921	H9 = 0	H11 = 0.00447877
H13 = -0.00215642	H15 = 0	H17 = 0.00117978	H19 = 0.000203354	Hex: $0200 0440 01C0 0780 03E0 07C0

Amplitude: 0.315445   Distortion: 0.532%   Transitions: 12   Jitter: 2.9%   Mat: [[6 0][10 1][21 0][24 2][40 3][54 4][70 5][85 5]]
%000000000010000000000011000000000000011100000000000111000000000000111110000000000011111000000

H3 = 0	H5 = -0.00066334	H7 = 0.00367089	H9 = 0	H11 = 0.00308965
H13 = -0.00207132	H15 = 0	H17 = 0.000577557	H19 = 0.000504559	Hex: $0020 00C0 00E0 03C0 03E0 07C0

Amplitude: 0.313364   Distortion: 0.547%   Transitions: 12   Jitter: 0.8%   Mat: [[6 1][11 0][22 0][25 2][39 3][53 4][70 5][86 5]]
%000000100000000000000011000000000011100000000001110000000001111000000000011111000000000001111100000

H3 = 0	H5 = 0.0015547	H7 = -0.0037364	H9 = 0	H11 = 0.00182825
H13 = 4.78001e-05	H15 = 0	H17 = 0.00319782	H19 = -3.1352e-05	Hex: $0200 0060 01C0 0780 03E0 03E0

Amplitude: 0.315488   Distortion: 0.407%   Transitions: 12   Jitter: 2.9%   Mat: [[6 0][10 1][22 0][25 2][39 3][54 4][70 5][86 5]]
%000000000010000000000011000000000011100000000001110000000000111100000000000111110000000000001111100000

H3 = 0	H5 = 0.00357284	H7 = 9.43619e-05	H9 = 0	H11 = 0.000580203
H13 = 0.000678429	H15 = 0	H17 = 0.001558	H19 = -0.00080044	Hex: $0020 0060 01C0 03C0 03E0 03E0

THREE PHASE MAGIC SINEWAVES

384D-16-22-2-00

bits - trans - harms - filt - level

SUMMARY: This delta-friendly sequence has been optimized for very high efficiency, having a maximum of only sixteen transitions per quarter. A second order filter is recommended.

Level: **0 of 32**

Bits in word: **384**

Bits in quarter: **96**

Controlled harmonics: **2 through 22nd**

Filter: **2nd order Butterworth, F = 2.0**

Maximum transitions: **16**

Graph max distortion: **1.0%**

Report max distortion: **1.0%**

Verify zero third: **no**

Delta friendly: **yes**

TOTAL DISTORTION 2H TO 22H

AMPLITUDE

	-2	-1	0	1	2
	-0.0625	-0.03125	0.0	0.03125	0.0625

Amplitude: 0   Distortion: 0.0%   Transitions: 0   Jitter: 0.0%   Mat: [[0 0][0 0][0 0][0 0][0 0][0 0][0 0]]
%000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000

H3 = 0	H5 = 0	H7 = 0	H9 = 0	H11 = 0
H13 = 0	H15 = 0	H17 = 0	H19 = 0	Hex: $0000 0000 0000 0000 0000 0000