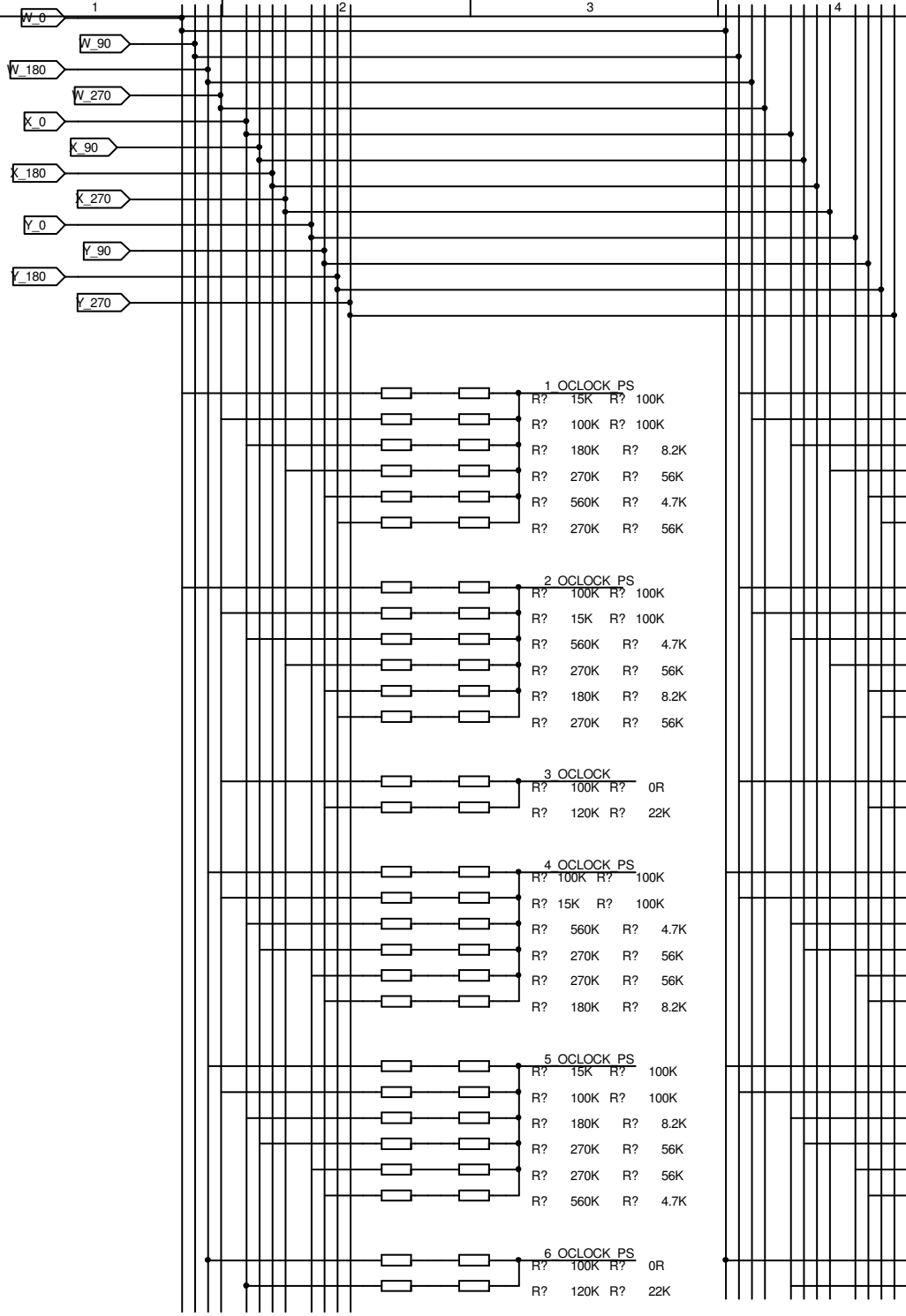
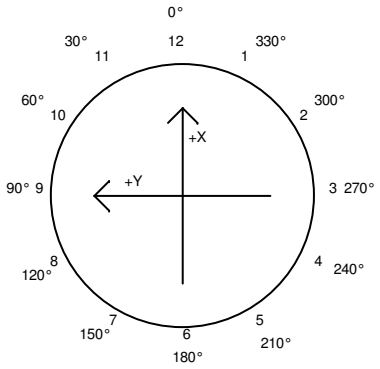


Planar Ambisonic Angles and Coordinates

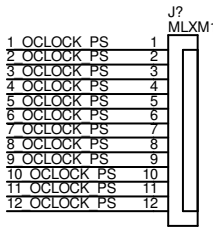
Centre Front

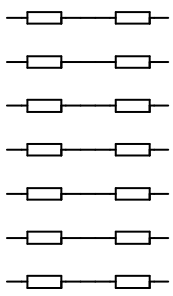


Special Phase Shifted Coefficients Summing

Clock Position	Equation With Adds
1_OCLOCK	0.500(W270) + 0.866(W0) + 0.530(X0) + 0.306(X270) + 0.306(Y180) + 0.177(Y90)
2_OCLOCK	0.866(W270) + 0.5(W0) + 0.306(X270) + 0.177(X0) + 0.530(Y90) + 0.306(Y180)
3_OCLOCK	1W(270) + 0.707Y(90)
4_OCLOCK	0.500(W180) + 0.866(W270) + 0.177(X0) + 0.306(X90) + 0.306(Y0) + 0.530(Y90)
5_OCLOCK	0.866 (W180) + 0.5(W270) + 0.530(X0) + 0.306(X90) + 0.306(Y0) + 0.177(Y90)
6_OCLOCK	1W(180) + 0.707X(0)
7_OCLOCK	0.500(W90) + 0.866(W180) + 0.306(X270) + 0.530(X0) +0.177(Y90) + 0.306(Y180)
8_OCLOCK	0.866(W90) + 0.5(W180) + 0.306(X270) + 0.177(X0) + 0.530(Y90) + 0.306(Y180)
9_OCLOCK	1W(90) + 0.707(Y90)
10_OCLOCK	0.500(W0) + 0.866(W90) + 0.177(X0) + 0.306(X90) + 0.306(Y0) + 0.530(Y90)
11_OCLOCK	0.866W(0) + 0.500W(90) + 0.530(X0) + 0.306X(90) + 0.306Y(0) + 0.177(Y90)
12_OCLOCK	1W(0) + 0.707X(0)

The values for X and y might look smaller than usual,
but that's because we haven't multipled W by root 2
at the input in order to save an op-amp stage.
(you might have expected 1, 0.87 and 0.5 values for 0°, 30° and 60°)





For 0.177 use 560K and 4.7K
R? 560K R? 4.7K

For 0.306 use 270K and 56K
R? 270K R? 56K

For 0.500 use 100K and 100K
R? 100K R? 100K

For 0.530 use 180K and 8.2K
R? 180K R? 8.2K

For 0.707 use 120K and 22K
R? 120K R? 22K

For 0.866 use 100K and 15K
R? 100K R? 15K

For 1.000 use 100K and 100R
R? 100K R? 100R

Using two resistors for all reserves a place for other matrix values

DESIGNAmbisonic Clock Outputs Decoder			
FILE: ambi_clock_decoder01-03.sch SHEET: Phase Shift Coeffs			
CREATED: 15/02/06	MOD: 22/02/2006		
SHEET:3 OF 5	REV: 1.0	SIZE: A3	