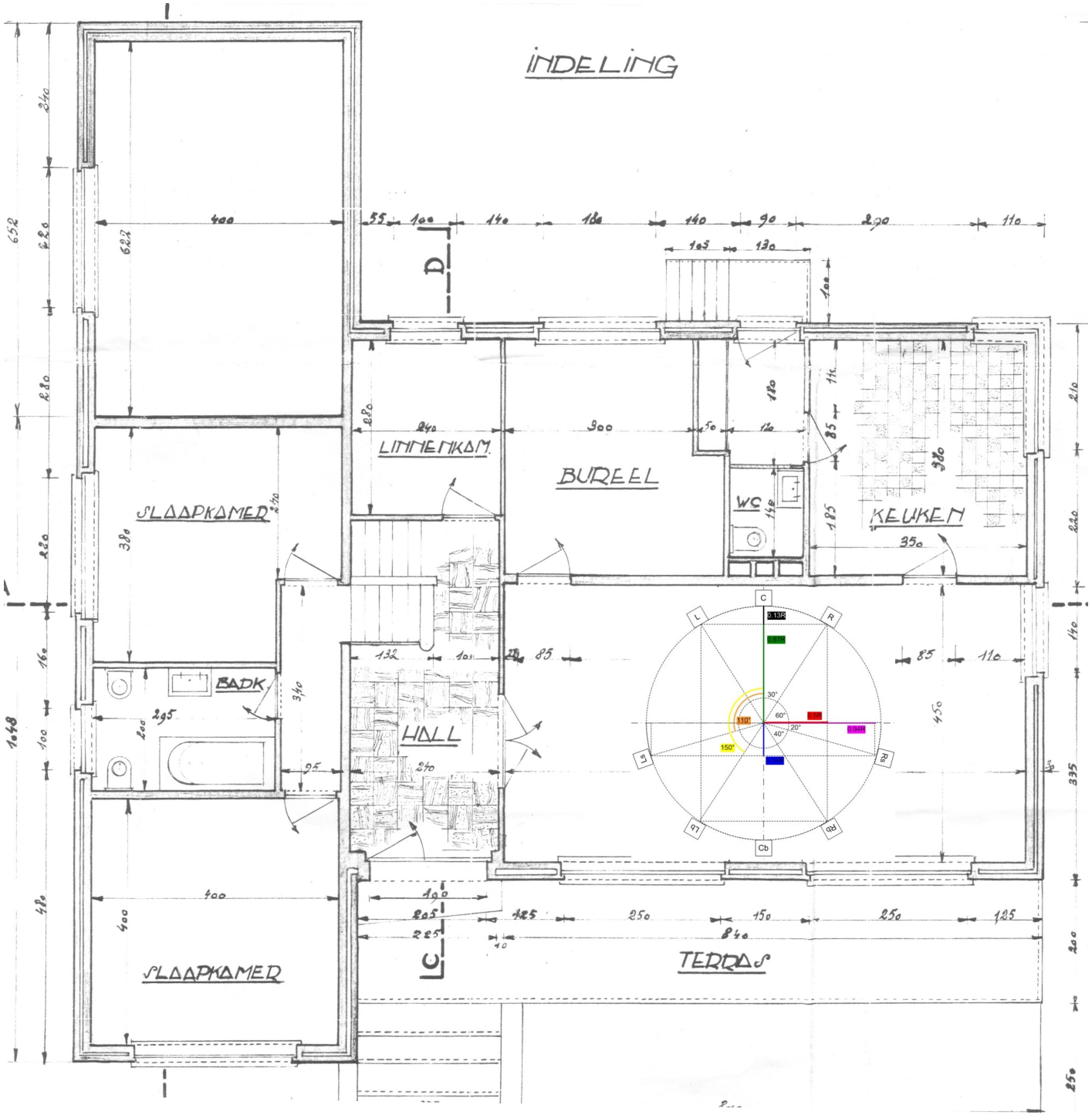
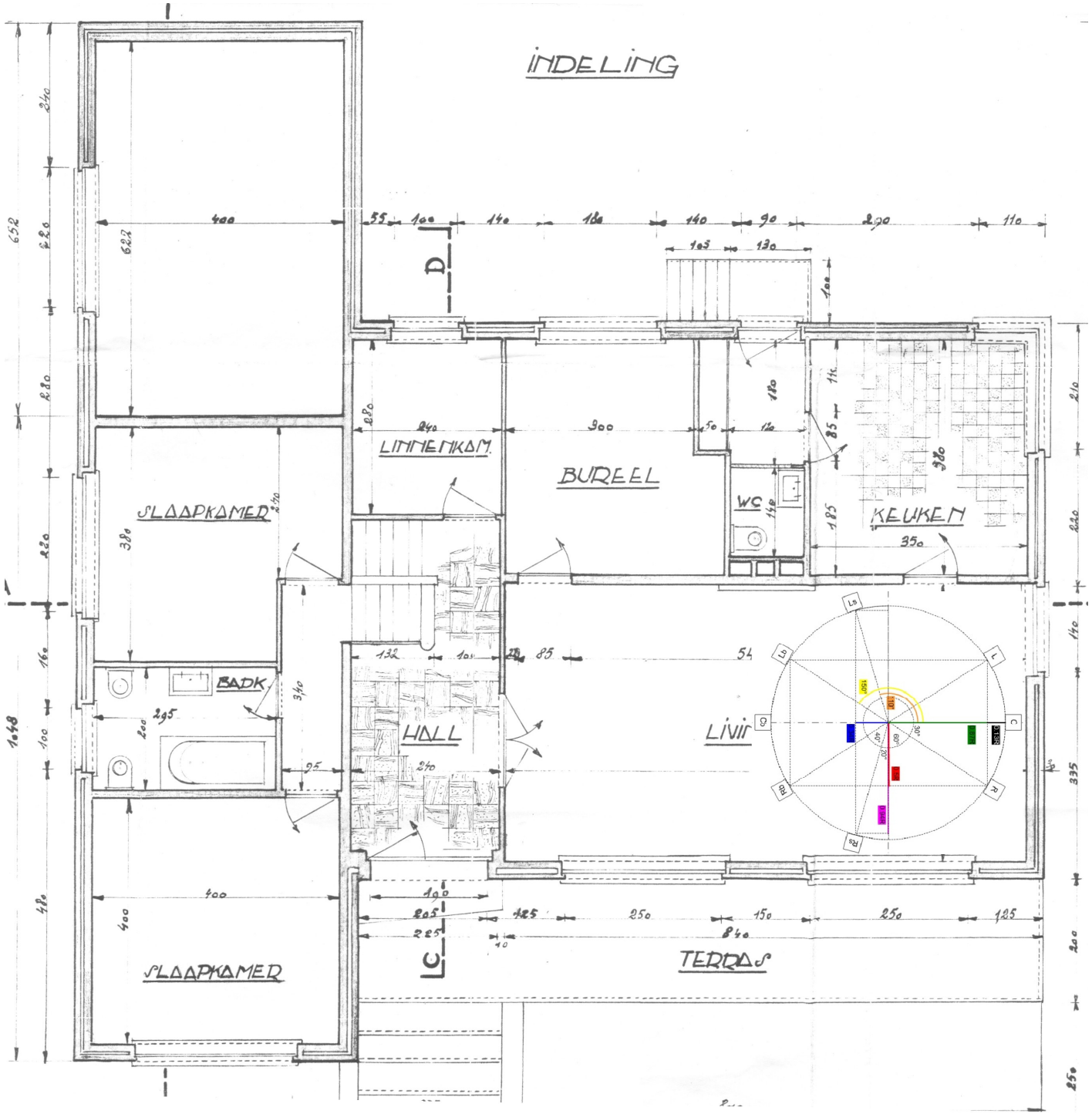


Option1:
Centralized setup

+
acoustical symmetry
works for 5.1/6.1/7.1

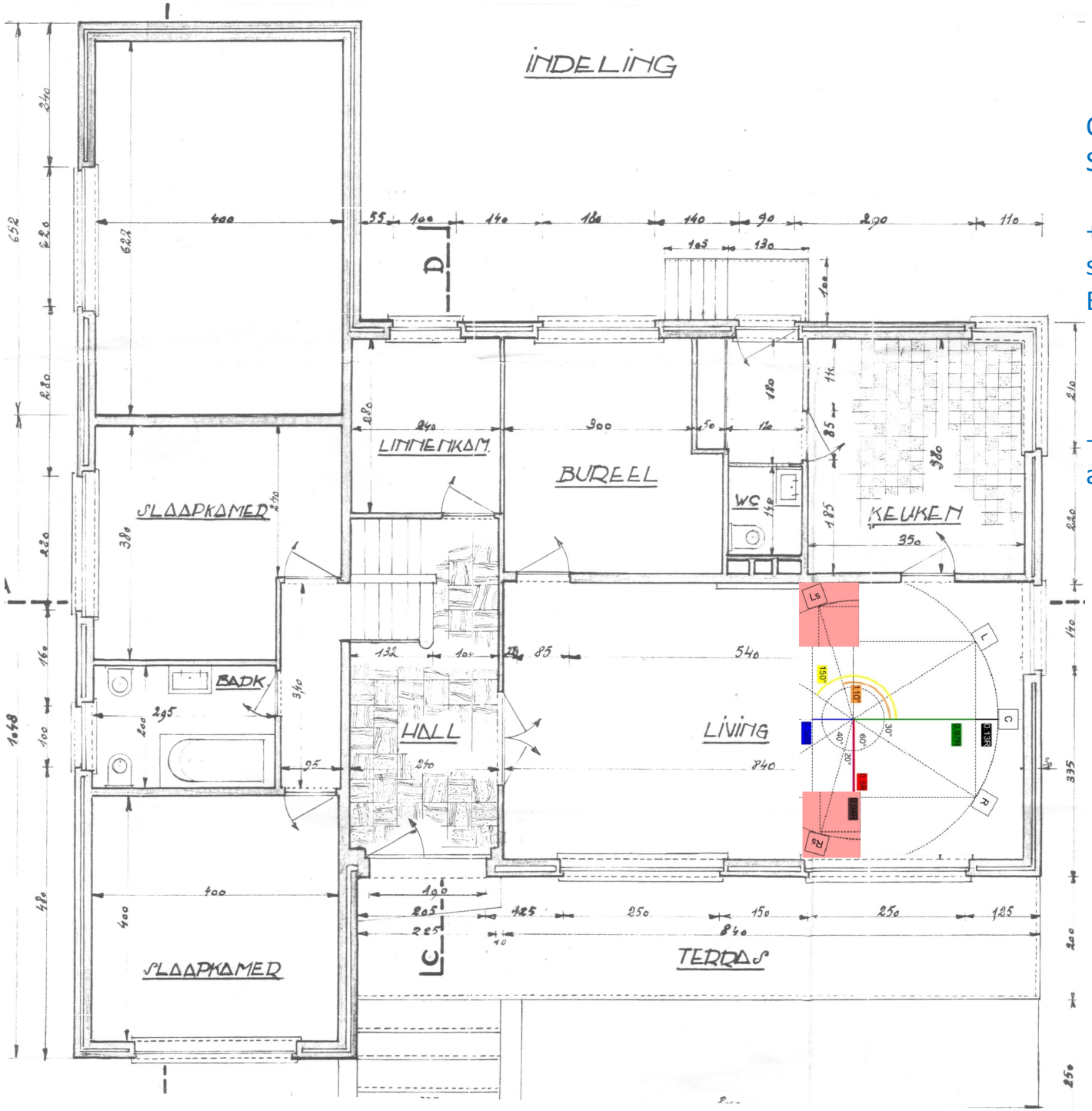
-
screen brightness w/
direct sunlight



Option2:
Side setup

+
stereo reflections w/ longer direction

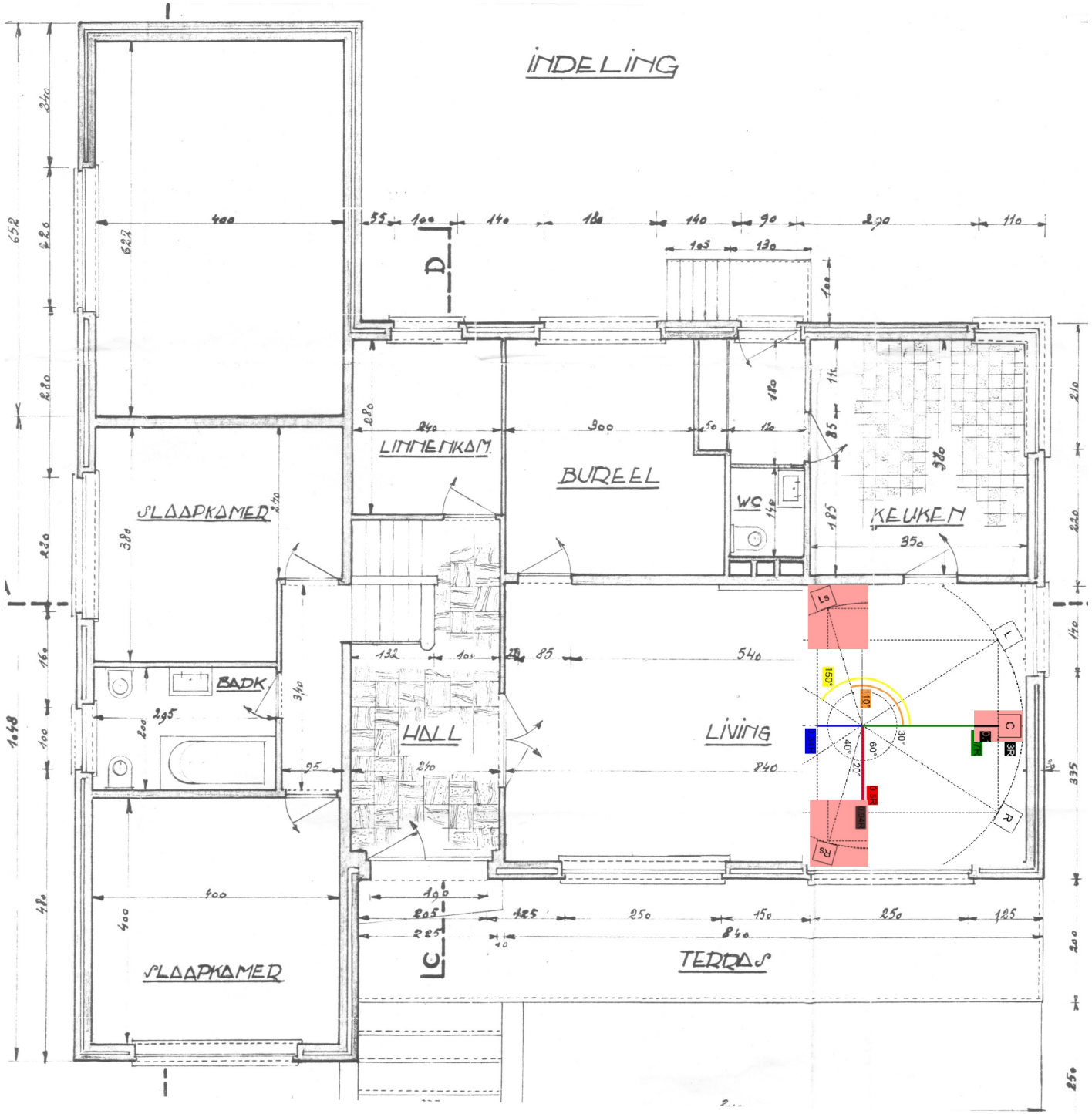
-
acoustical symmetry
small circle / viewing distance



Option3:
Side setup w/ shifted Sb's

+
stereo reflections w/ longer direction
Enlarged circle / viewing distance

-
acoustical symmetry



Option4:
Side setup w/ shifted Sb's & C

+
stereo reflections w/ longer direction
Screen depth

-
acoustical symmetry
Reduced circle / viewing distance
Stereo speaker backspace
Primary reflections issue

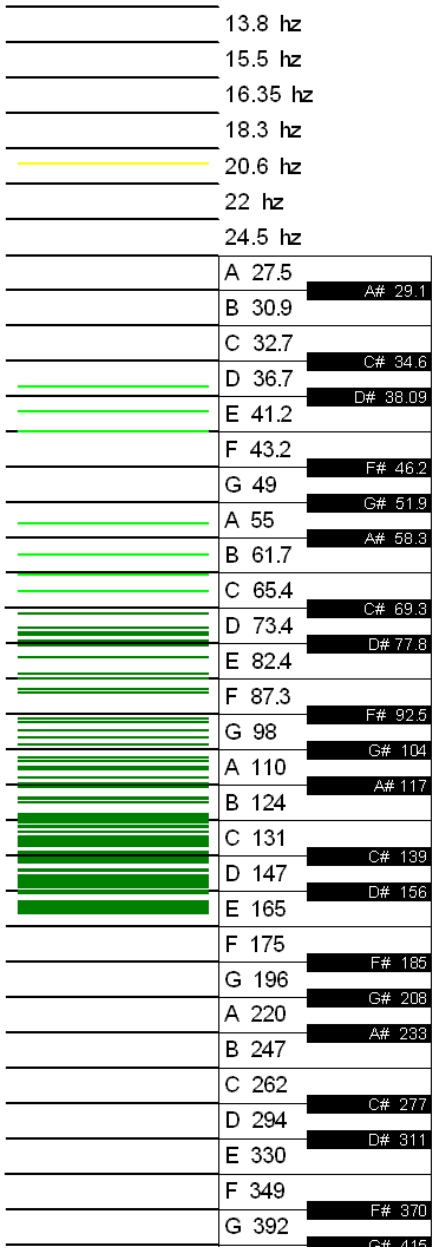
Room Length: 8.4 (feet or meters) (inches)

Room Width: 4.5 (feet or meters) (inches)

Room Height: 2.65 (feet or meters) (inches)

compute imperial (feet/inches) | compute metric (meters) | show options | Convert to Metric | Convert to Imperia

Freq	%	Wavelength, 1/2, 1/4	p,q,r Mode	Group Weighting
20.5 hz		16.8 : 8.4 : 4.2	(1,0,0 Axial)	Start iso, End iso
38.3 hz	46.4%	8.99 : 4.5 : 2.25	(0,1,0 Axial)	Start iso
41.0 hz	6.5%	8.4 : 4.2 : 2.1	(2,0,0 Axial)	
43.4 hz	5.5%	7.94 : 3.97 : 1.98	(1,1,0 Tangential)	End iso
56.1 hz	22.6%	6.14 : 3.07 : 1.53	(2,1,0 Tangential)	Start iso
61.5 hz	8.7%	5.6 : 2.8 : 1.4	(3,0,0 Axial)	
65.0 hz	5.3%	5.3 : 2.65 : 1.32	(0,0,1 Axial)	
68.1 hz	4.5%	5.06 : 2.53 : 1.26	(1,0,1 Tangential)	
72.4 hz	5.9%	4.76 : 2.38 : 1.19	(3,1,0 Tangential)	
75.4 hz	3.9%	4.57 : 2.28 : 1.14	(0,1,1 Tangential)	
76.5 hz	1.4%	4.5 : 2.25 : 1.13	(0,2,0 Axial)	
76.8 hz	0.3%	4.48 : 2.24 : 1.12	(2,0,1 Tangential)	
78.2 hz	1.7%	4.4 : 2.2 : 1.1	(1,1,1 Oblique)	
79.2 hz	1.2%	4.35 : 2.17 : 1.09	(1,2,0 Tangential)	
82.0 hz	3.4%	4.2 : 2.1 : 1.05	(4,0,0 Axial)	
85.8 hz	4.4%	4.01 : 2.01 : 1	(2,1,1 Oblique)	
86.8 hz	1.1%	3.97 : 1.98 : 0.99	(2,2,0 Tangential)	
89.5 hz	3%	3.85 : 1.92 : 0.96	(3,0,1 Tangential)	
90.5 hz	1.1%	3.81 : 1.9 : 0.95	(4,1,0 Tangential)	Near
97.3 hz	6.9%	3.54 : 1.77 : 0.88	(3,1,1 Oblique)	
98.2 hz	0.9%	3.51 : 1.75 : 0.88	(3,2,0 Tangential)	
100.4 hz	2.1%	3.43 : 1.72 : 0.86	(0,2,1 Tangential)	
102.5 hz	2%	3.36 : 1.68 : 0.84	(1,2,1 Oblique)	
102.5 hz	0%	3.36 : 1.68 : 0.84	(5,0,0 Axial)	
104.6 hz	2%	3.29 : 1.65 : 0.82	(4,0,1 Tangential)	
108.5 hz	3.5%	3.17 : 1.59 : 0.79	(2,2,1 Oblique)	
109.4 hz	0.8%	3.15 : 1.57 : 0.79	(5,1,0 Tangential)	
111.4 hz	1.7%	3.09 : 1.55 : 0.77	(4,1,1 Oblique)	
112.2 hz	0.7%	3.07 : 1.53 : 0.77	(4,2,0 Tangential)	
114.8 hz	2.2%	3 : 1.5 : 0.75	(0,3,0 Axial)	
116.6 hz	1.5%	2.95 : 1.48 : 0.74	(1,3,0 Tangential)	
117.7 hz	0.9%	2.93 : 1.46 : 0.73	(3,2,1 Oblique)	
121.4 hz	3%	2.84 : 1.42 : 0.71	(5,0,1 Tangential)	
121.9 hz	0.4%	2.83 : 1.41 : 0.71	(2,3,0 Tangential)	
123.0 hz	0.8%	2.8 : 1.4 : 0.7	(6,0,0 Axial)	
127.3 hz	3.3%	2.71 : 1.35 : 0.68	(5,1,1 Oblique)	
127.9 hz	0.4%	2.69 : 1.35 : 0.67	(5,2,0 Tangential)	
128.8 hz	0.6%	2.67 : 1.34 : 0.67	(6,1,0 Tangential)	
129.6 hz	0.6%	2.66 : 1.33 : 0.66	(4,2,1 Oblique)	
130.0 hz	0.3%	2.65 : 1.32 : 0.66	(0,0,2 Axial)	
130.2 hz	0.1%	2.65 : 1.32 : 0.66	(3,3,0 Tangential)	
131.6 hz	1%	2.62 : 1.31 : 0.65	(1,0,2 Tangential)	
131.9 hz	0.2%	2.61 : 1.31 : 0.65	(0,3,1 Tangential)	
133.5 hz	1.1%	2.58 : 1.29 : 0.64	(1,3,1 Oblique)	
135.5 hz	1.4%	2.54 : 1.27 : 0.64	(0,1,2 Tangential)	
136.3 hz	0.5%	2.53 : 1.26 : 0.63	(2,0,2 Tangential)	
137.0 hz	0.5%	2.51 : 1.26 : 0.63	(1,1,2 Oblique)	
138.1 hz	0.7%	2.49 : 1.25 : 0.62	(2,3,1 Oblique)	
139.1 hz	0.7%	2.48 : 1.24 : 0.62	(6,0,1 Tangential)	
141.1 hz	1.4%	2.44 : 1.22 : 0.61	(4,3,0 Tangential)	
141.6 hz	0.3%	2.43 : 1.22 : 0.61	(2,1,2 Oblique)	
143.5 hz	1.3%	2.4 : 1.2 : 0.6	(5,2,1 Oblique)	
143.5 hz	0%	2.4 : 1.2 : 0.6	(7,0,0 Axial)	
143.8 hz	0.2%	2.4 : 1.2 : 0.6	(3,0,2 Tangential)	
144.3 hz	0.3%	2.39 : 1.19 : 0.6	(6,1,1 Oblique)	
144.9 hz	0.4%	2.38 : 1.19 : 0.59	(6,2,0 Tangential)	



Computed Information:

Room Dimensions: Length=8.4 m, Width=4.5 m, Height=2.65 m

Room Ratio: 1 : 1.69 : 3.17

R. Walker BBC 1996:

- 1.1w / h < 1 / h < ((4.5w / h) - 4): Pass
- 1 < 3h & w < 3h: Fail
- no integer multiple within 5%: Pass

Nearest Known Ratio:

- "23) Origin unknown: meant for long rooms" 1 : 1.25 : 3.2

RT60 (IEC/AEC N 12-A standard): 297 ms

- ±50ms from 200Hz to 3.5kHz = 247 to 347ms
- ±100ms above 3.5kHz = 197 to 397ms
- <+300ms at 63hz = 597ms
- 300<RT60<600ms

RT60 (ITU/EBU Control Room Recommended): 250 ms

- ±50ms from 200Hz to 4kHz = 200 to 300ms
- <+300ms at 63hz = 550ms
- 200<RT60<400ms

Absorbtion to achieve ITU RT60: 693 sabins

Volume: 100 m^3

Surface Area Total: 140 m^2

Surface Area Floor: 37 m^2

Surface Area Ceiling+Floor: 74 m^2

Surface Area Front Wall: 11 m^2

Surface Area Front and Rear Wall: 22 m^2

Surface Area Left Wall: 22 m^2

Surface Area Left and Right Wall: 44 m^2

Surface Area 4 Walls: 66 m^2

Surface Area 4 Walls + floor: 103 m^2

(sabins - front wall - carpet) / Left+Right+Rear wall: 29 %

(sabins - front wall) / Left+Right+Rear wall: 97 %

Schroeder Fc: 94hz

Frequency Regions:

- No modal boost: 1hz to 20hz
- Room Modes dominate: 20hz to 94hz
- Diffraction and Diffusion dominate: 94hz to 376hz
- Specular reflections and ray accoustics prevail: 376hz to 20000hz

Count (20.5-168hz) : Axials=14, Tangentials=56, Obliques=64

Count (20.5-100hz) : Axials=7, Tangentials=11, Obliques=3

Critical Distance (direct = reverberant field): 50m