

Speaker Setup and Channel mapping

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1.0.0 - Mono

TOP VIEW

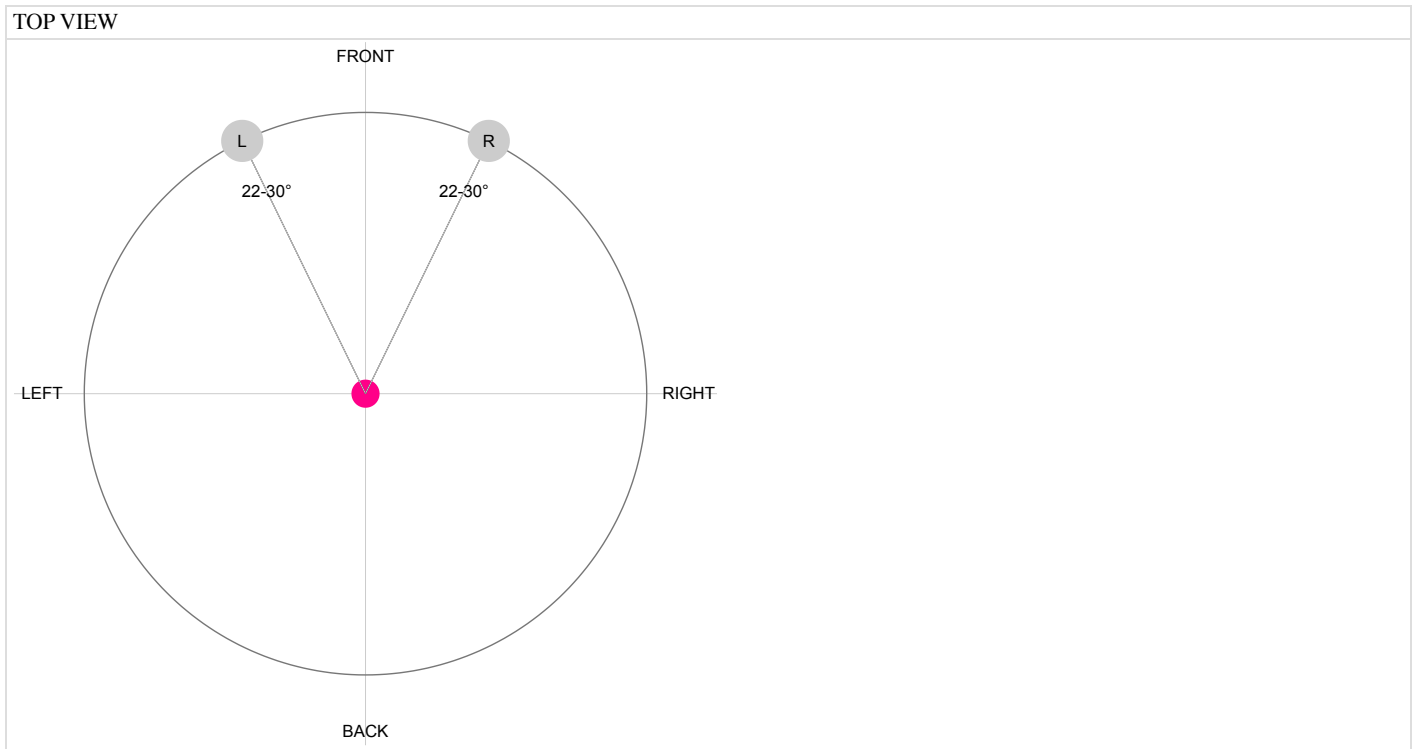


Channels		R °	Z °	Loudness Weighting
M	Center	0°		1.0

Order	ch.1
Mono	M

2.0 - Stereo

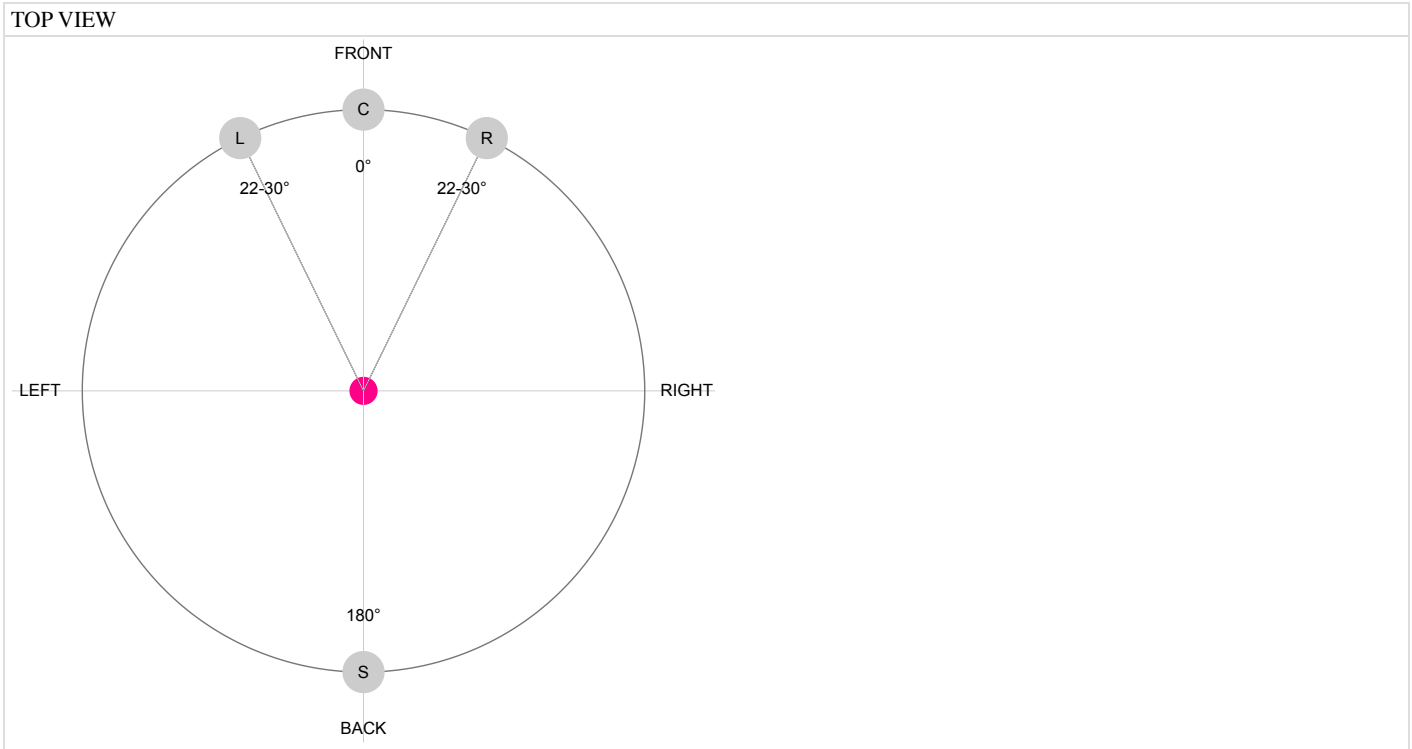
Note that in the official Film standard the center channel should be rendered and left empty. So a stereo interleaved audio file should have 3 channels [L]-[X]-[R].



Channels		R °	Z °	Loudness Weighting
L	Left	22-30 °		1.0
R	Right	22-30 °		1.0

Order	ch.1	ch.2
Film	L	R
Dolby	L	R
SMPTE	L	R
ITU	L	R
Micorsoft	L	R
Steinberg	L	R
SDDS	L	R

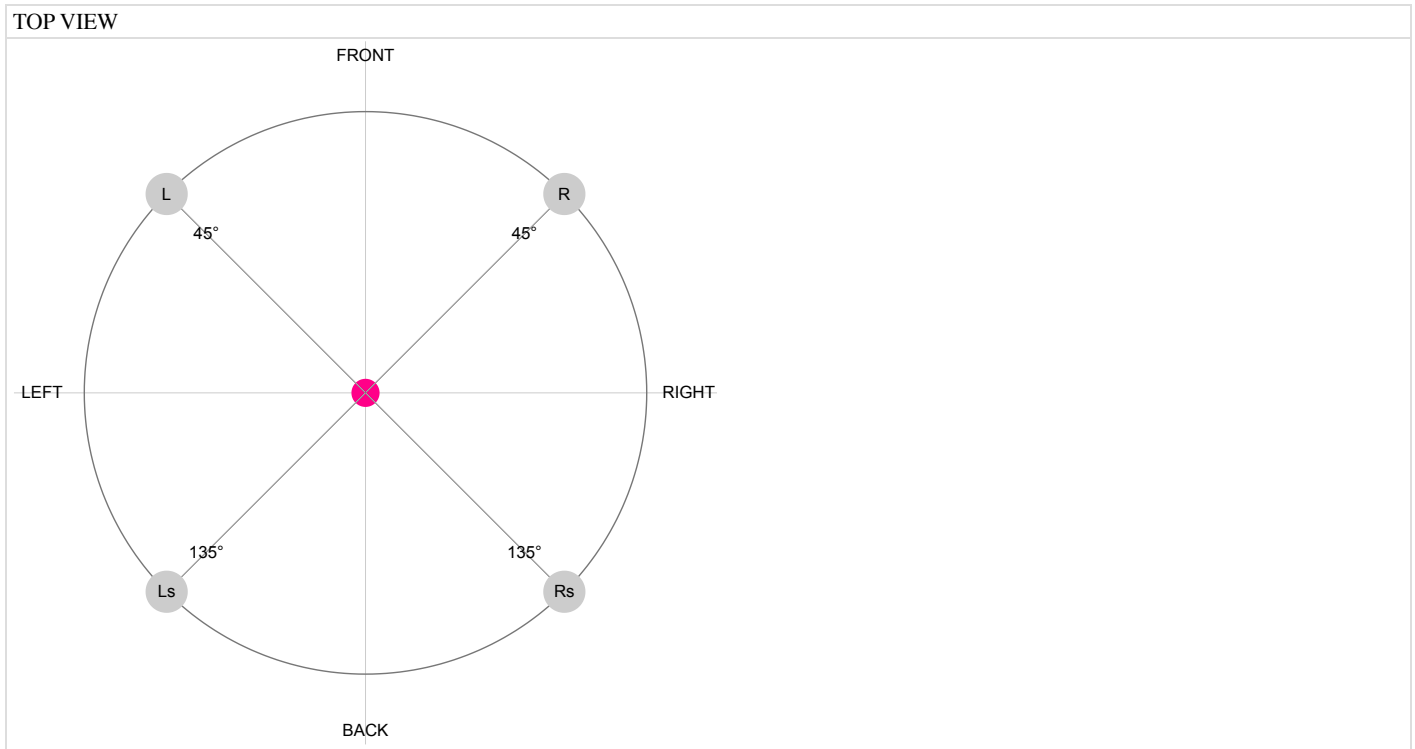
4.0 - LRCS / LCRS



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left		22-30°	1.0
R	Right		22-30°	1.0
S	Center Surround		180°	1.0

Order	ch.1	ch.2	ch.3	ch.4
Dolby	L	R	C	S
SMPTE	L	R	C	S
ITU	L	R	C	S
Micorsoft	L	R	C	S
Steinberg	L	R	C	S

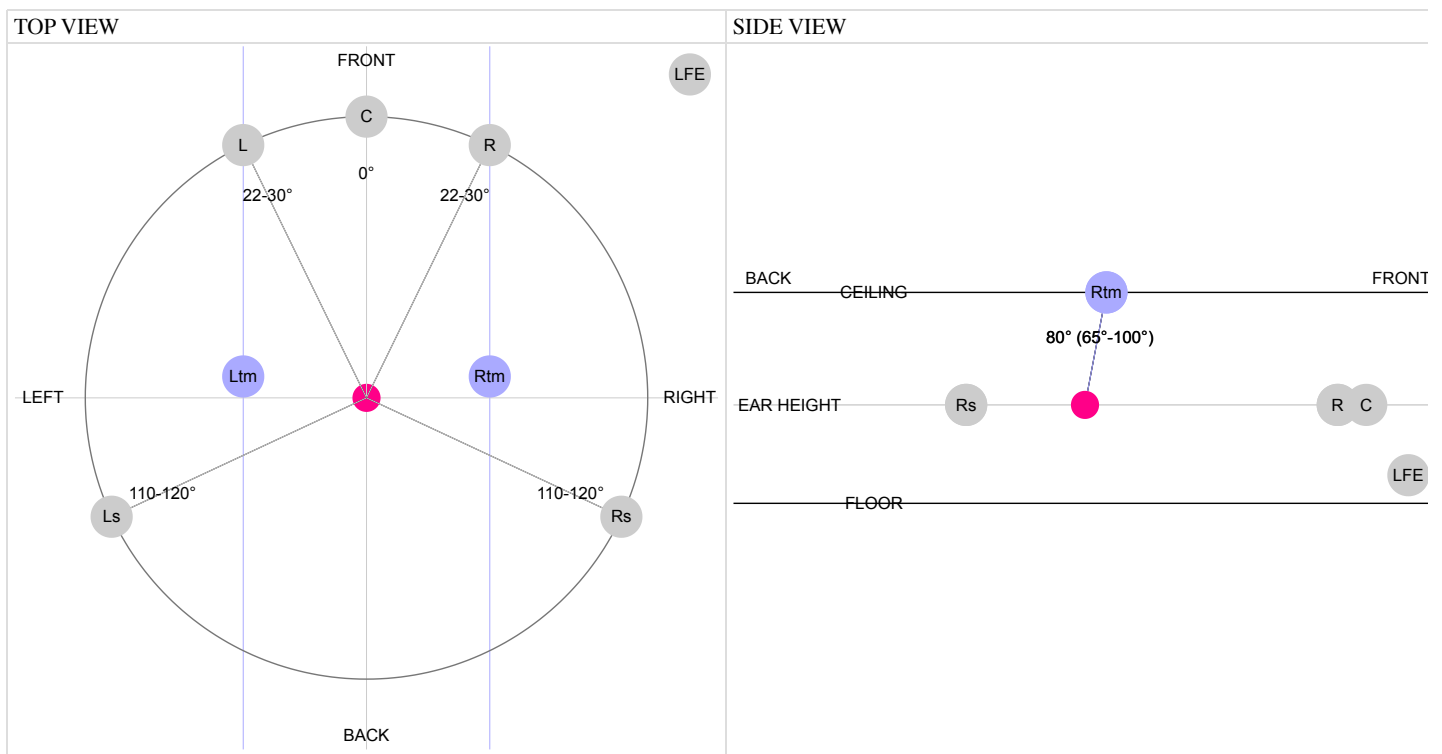
4.0 - Quadraphonic



Channels		R °	Z °	Loudness Weighting
L	Left	45 °		1.0
R	Right	45 °		1.0
Ls	Left Surround	135 °		1.0
Rs	Right Surround	135 °		1.0

Order	ch.1	ch.2	ch.3	ch.4
Film	L	R	Ls	Rs
Dolby	L	R	Ls	Rs
SMPTE	L	R	Ls	Rs
ITU	L	R	Ls	Rs
Micorsoft	L	R	Ls	Rs
Steinberg	L	R	Ls	Rs
SDDS	L	R	Ls	Rs

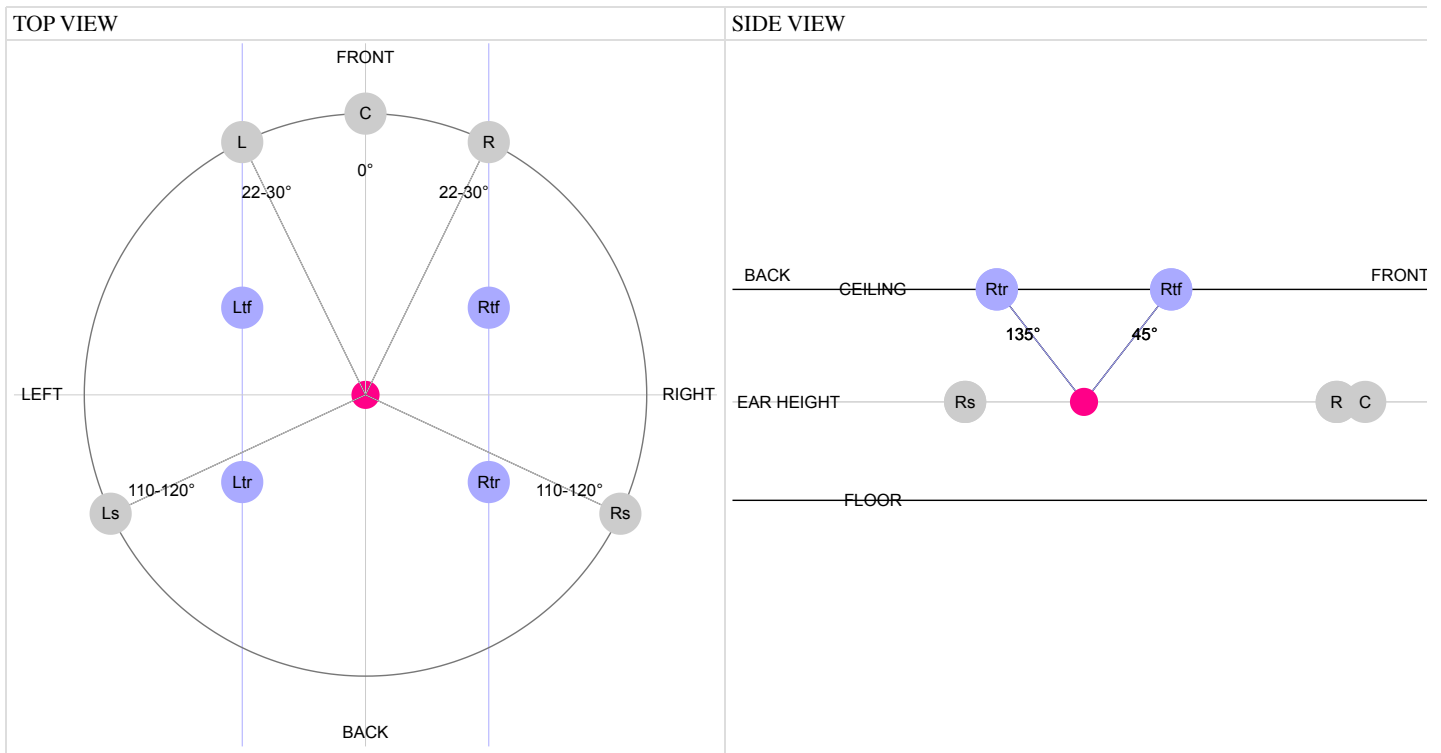
5.0.2 - Surround + Overhead



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left	22-30°		1.0
R	Right	22-30°		1.0
Ltm	Lts Top Middle		80° (65°-100°)	1.0
Rtm	Right Top Middle		80° (65°-100°)	1.0
Ls	Left Surround	110-120°		1.41 (~ +1.5 dB)
Rs	Right Surround	110-120°		1.41 (~ +1.5 dB)
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8
Film	L	C	R	Ls	Rs	LFE	Ltm	Rtm
Dolby	L	R	C	LFE	Ls	Rs	Ltm	Rtm
Micorsoft	L	R	C	LFE	Ls	Rs	Ltm	Rtm
Steinberg	L	R	C	LFE	Ls	Rs	Ltm	Rtm

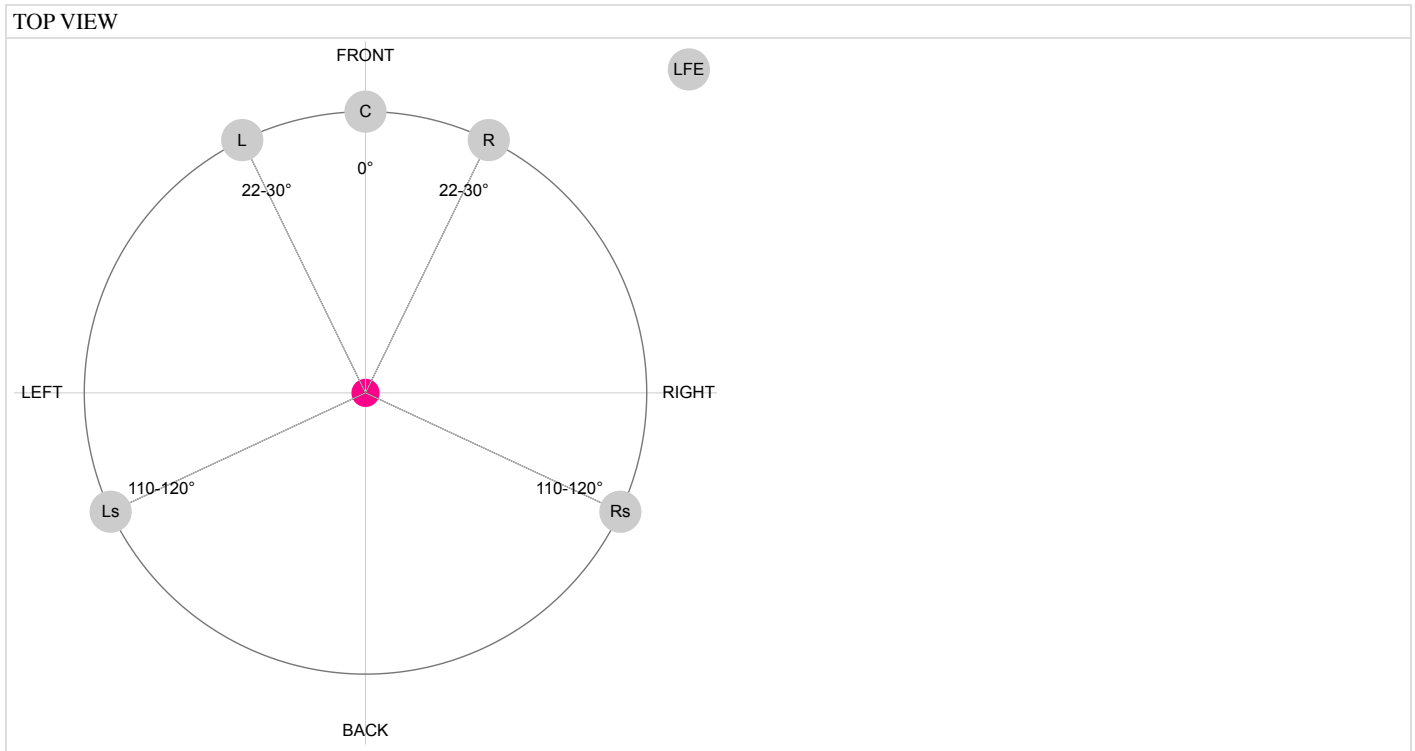
5.0.4 - Surround + Overhead



Channels		R °	Z °	Loudness Weighting
C	Center	0°		1.0
L	Left	22-30°		1.0
R	Right	22-30°		1.0
Ltf	Left Top Front		45°	1.0
Rtf	Right Top Front		45°	1.0
Ls	Left Surround	110-120°		1.41 (~ +1.5 dB)
Rs	Right Surround	110-120°		1.41 (~ +1.5 dB)
Ltr	Left Top Rear		135°	1.0
Rtr	Right Top Rear		135°	1.0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9
Film	L	C	R	Ls	Rs	Ltf	Rtf	Ltr	Rtr
Dolby	L	R	C	Ls	Rs	Ltf	Rtf	Ltr	Rtr
Micorsoft	L	R	C	Ls	Rs	Ltf	Rtf	Ltr	Rtr
Steinberg	L	R	C	Ls	Rs	Ltf	Rtf	Ltr	Rtr

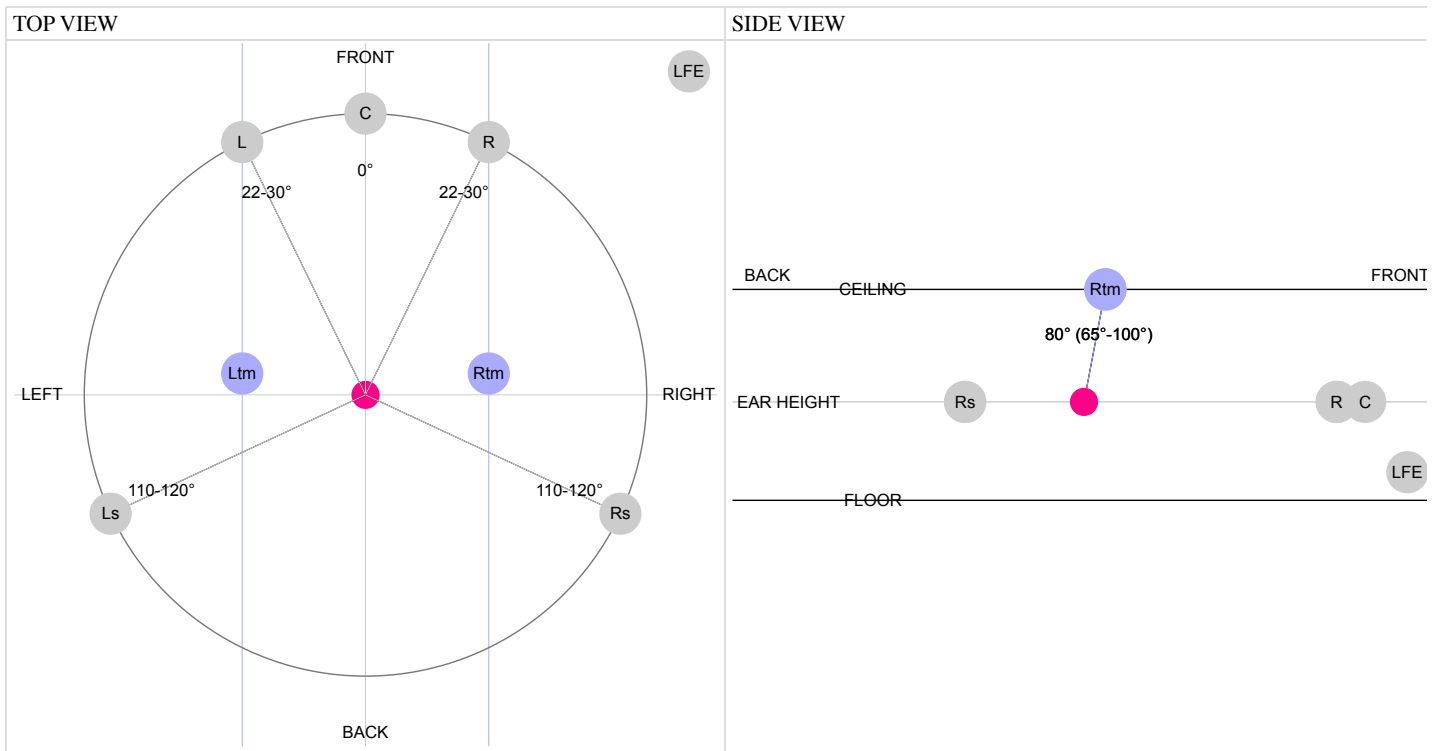
5.1 - Surround (ITU 775)



Channels	R °	Z °	Loudness Weighting
C	Center	0°	1.0
L	Left	22-30°	1.0
R	Right	22-30°	1.0
Ls	Left Surround	110-120°	1.41 (~ +1.5 dB)
Rs	Right Surround	110-120°	1.41 (~ +1.5 dB)
LFE	Low-Frequency Effects		0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6
Film	L	C	R	Ls	Rs	LFE
Dolby	L	R	C	LFE	Ls	Rs
SMPTE	L	R	C	LFE	Ls	Rs
ITU	L	R	C	LFE	Ls	Rs
Micorsoft	L	R	C	LFE	Ls	Rs
Steinberg	L	R	C	LFE	Ls	Rs
SDDS	L	C	R	Ls	Rs	LFE

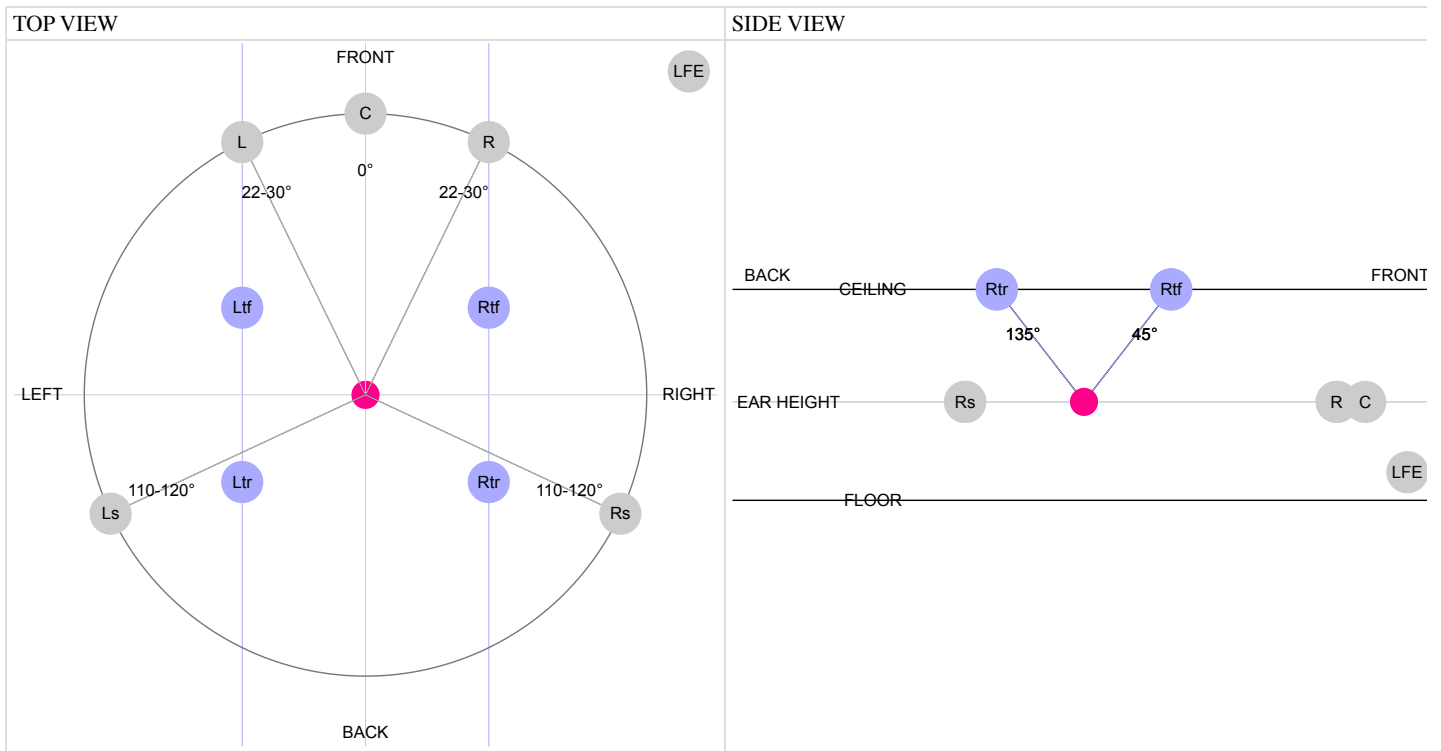
5.1.2 - Surround + Overhead



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left	22-30°		1.0
R	Right	22-30°		1.0
Ltm	Lts Top Middlde		80° (65°-100°)	1.0
Rtm	Right Top Middlde		80° (65°-100°)	1.0
Ls	Left Surround	110-120°		1.41 (~ +1.5 dB)
Rs	Right Surround	110-120°		1.41 (~ +1.5 dB)
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8
Film	L	C	R	Ls	Rs	LFE	Ltm	Rtm
Dolby	L	R	C	LFE	Ls	Rs	Ltm	Rtm
Micorsoft	L	R	C	LFE	Ls	Rs	Ltm	Rtm
Steinberg	L	R	C	LFE	Ls	Rs	Ltm	Rtm

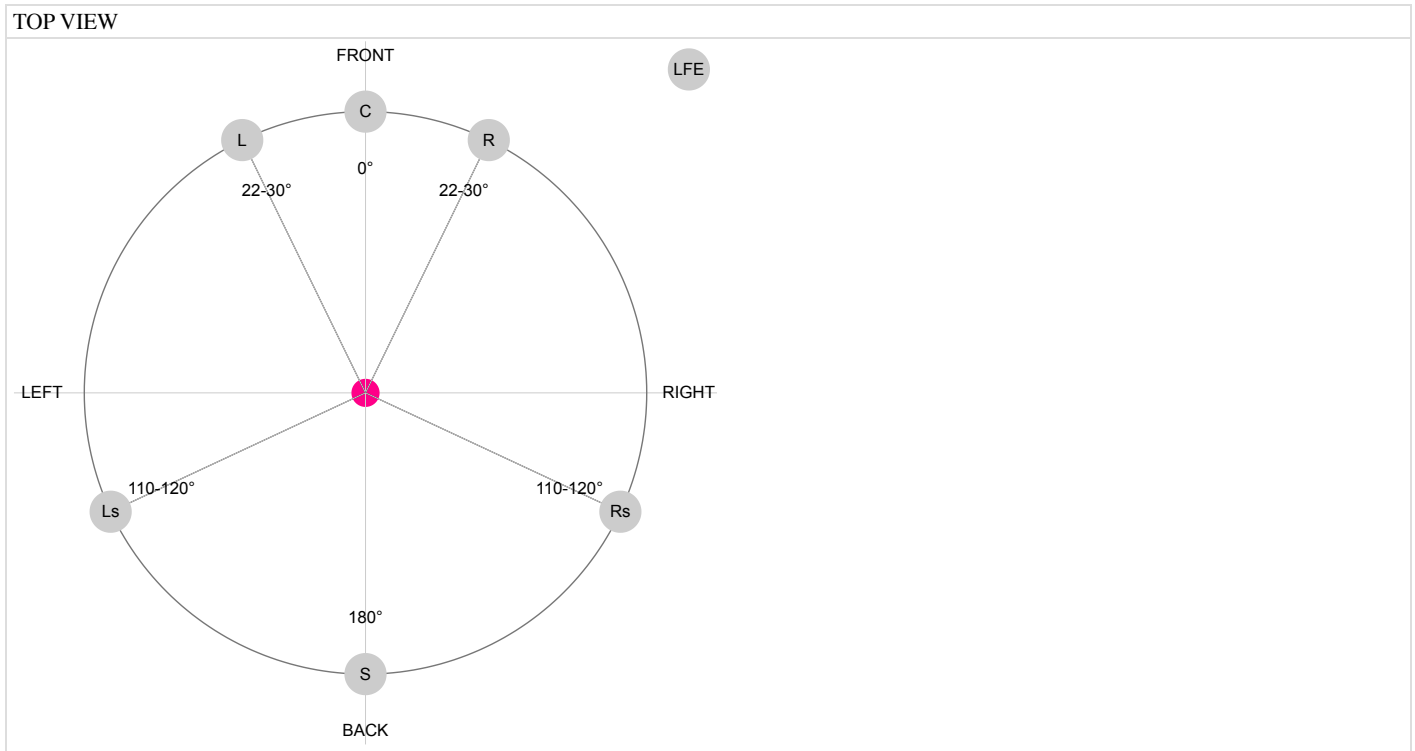
5.1.4 - Surround + Overhead



Channels	R °	Z °	Loudness Weighting
C	Center	0°	1.0
L	Left	22-30°	1.0
R	Right	22-30°	1.0
Ltf	Left Top Front	45°	1.0
Rtf	Right Top Front	45°	1.0
Ls	Left Surround	110-120°	1.41 (~ +1.5 dB)
Rs	Right Surround	110-120°	1.41 (~ +1.5 dB)
Ltr	Left Top Rear	135°	1.0
Rtr	Right Top Rear	135°	1.0
LFE	Low-Frequency Effects		0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10
Film	L	C	R	Ls	Rs	LFE	Ltf	Rtf	Ltr	Rtr
Dolby	L	R	C	LFE	Ls	Rs	Ltf	Rtf	Ltr	Rtr
Micorsoft	L	R	C	LFE	Ls	Rs	Ltf	Rtf	Ltr	Rtr
Steinberg	L	R	C	LFE	Ls	Rs	Ltf	Rtf	Ltr	Rtr

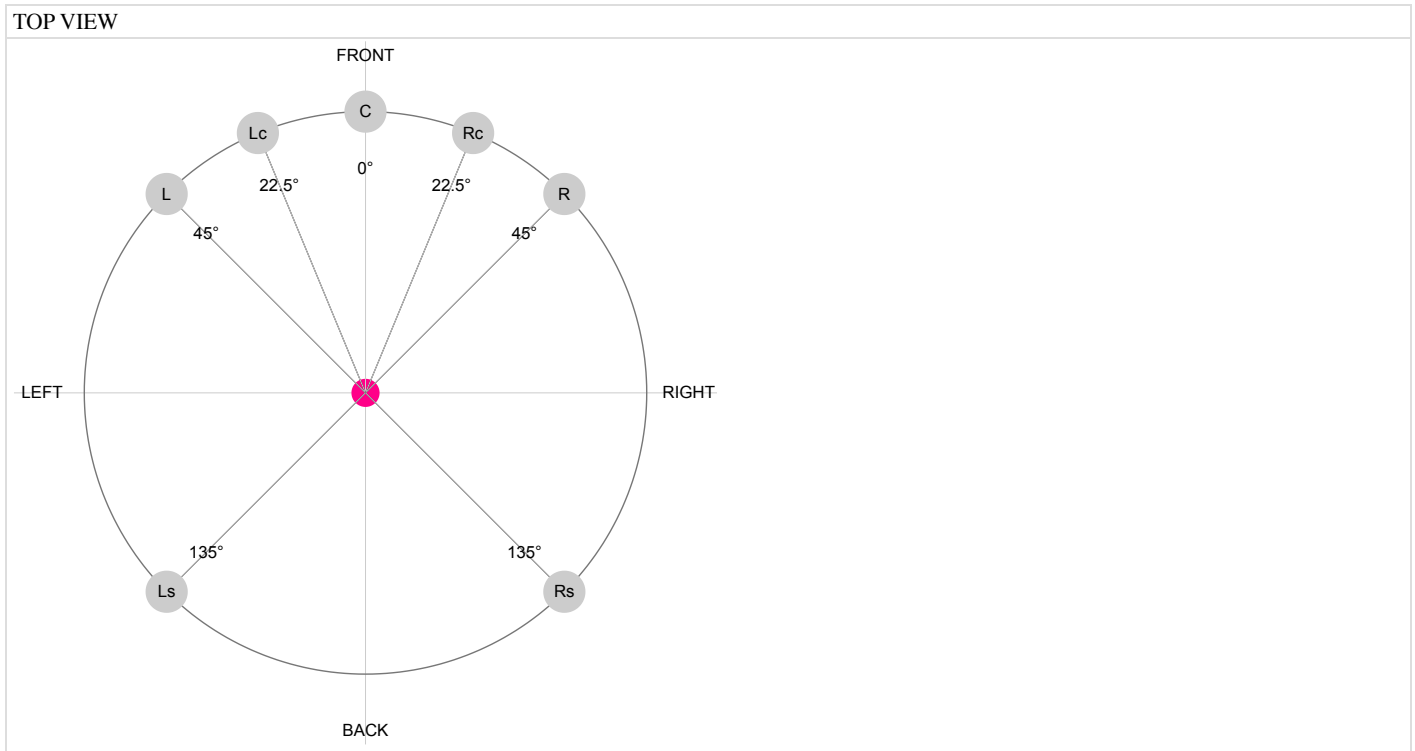
6.1 - Surround Cinematic / Dolby Digital EX & DTS ES



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left		22-30°	1.0
R	Right		22-30°	1.0
Ls	Left Surround		110-120°	1.41 (~ +1.5 dB)
Rs	Right Surround		110-120°	1.41 (~ +1.5 dB)
S	Center Surround		180°	1.0
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7
Dolby	L	R	C	S	LFE	Ls	Rs
SMPTE	L	R	C	S	LFE	Ls	Rs
ITU	L	R	C	S	LFE	Ls	Rs
Micorsoft	L	R	C	S	LFE	Ls	Rs
Steinberg	L	R	C	S	LFE	Ls	Rs

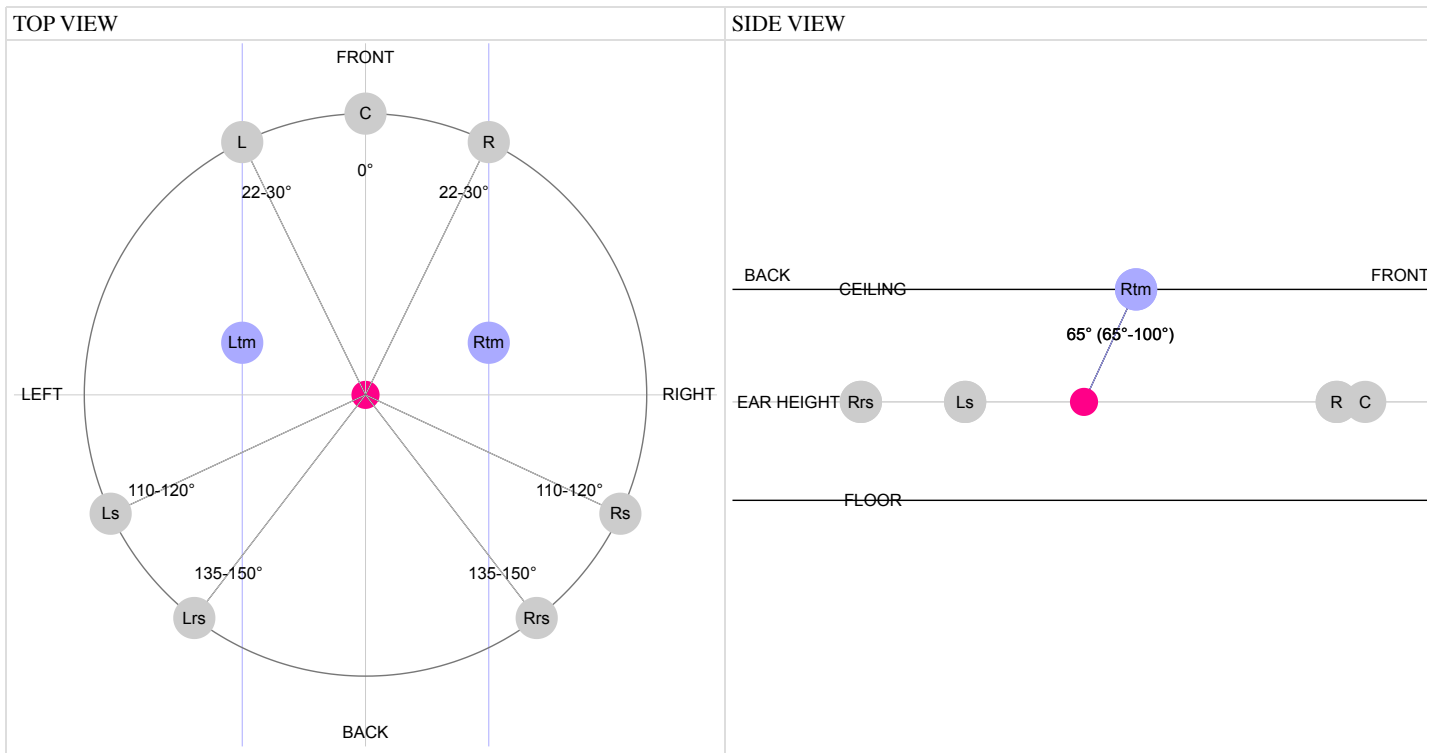
7.0 - Sony Dynamic Digital Sound (SDDS) Surround



Channels		R °	Z °	Loudness Weighting
C	Center		0 °	1.0
Lc	Left Center		22.5 °	1.0
Rc	right Center		22.5 °	1.0
L	Left		45 °	1.0
R	Right		45 °	1.0
Ls	Left Surround		135 °	1.0
Rs	Right Surround		135 °	1.0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7
SDDS	L	Lc	C	Rc	R	Ls	Rs

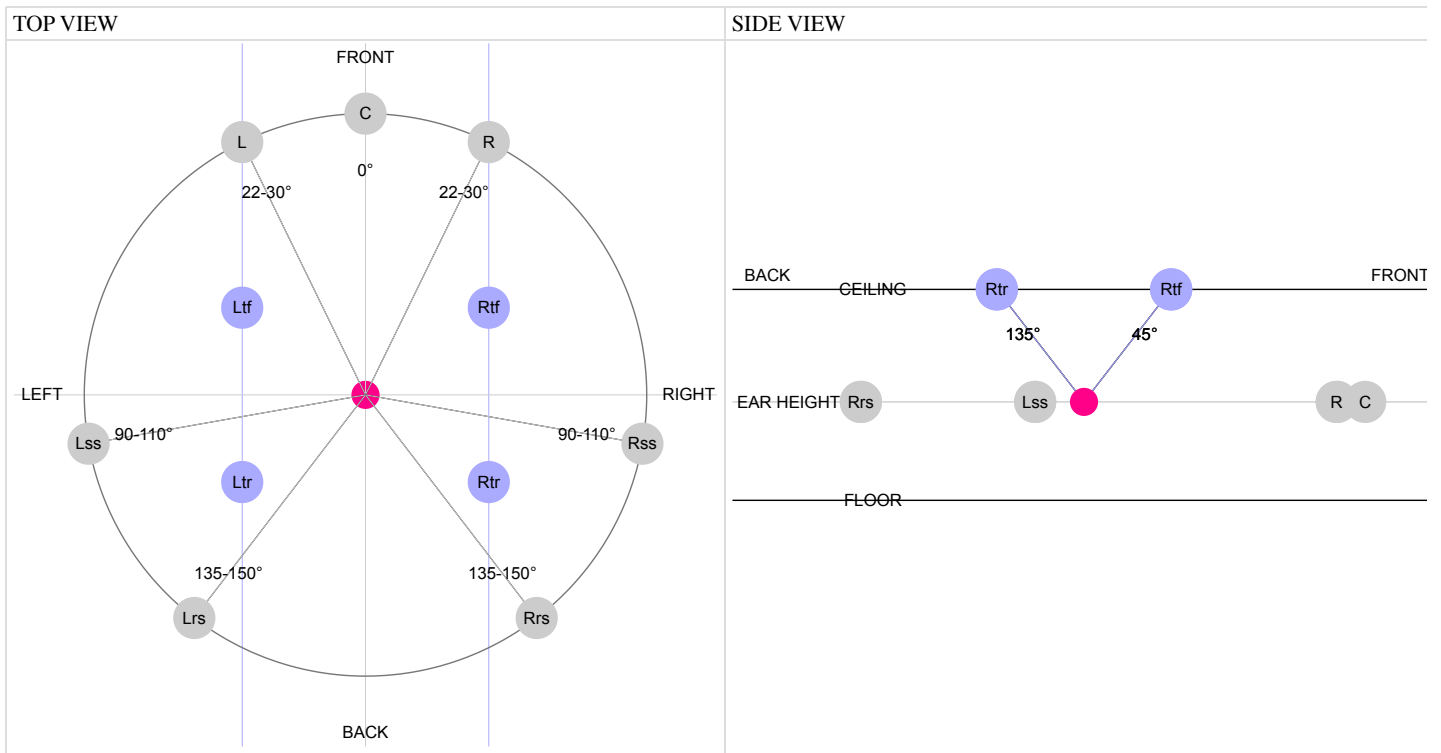
7.0.2 - Surround + Overhead



Channels	R °	Z °	Loudness Weighting
C	Center	0°	1.0
L	Left	22-30°	1.0
R	Right	22-30°	1.0
Ltm	Lts Top Middle	65° (65°-100°)	1.0
Rtm	Right Top Middle	65° (65°-100°)	1.0
Rs	Right Surround	110-120°	1.41 (~ +1.5 dB)
Ls	Left Surround	110-120°	1.41 (~ +1.5 dB)
Lrs	Left Rear Surround	135-150°	1.0
Rrs	Right Rear Surround	135-150°	1.0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9
Dolby	L	R	C	Ls	Rs	Lrs	Rrs	Ltm	Rtm
Micorsoft	L	R	C	Lrs	Rrs	Ls	Rs	Ltm	Rtm
Steinberg	L	R	C	Lrs	Rrs	Ls	Rs	Ltm	Rtm

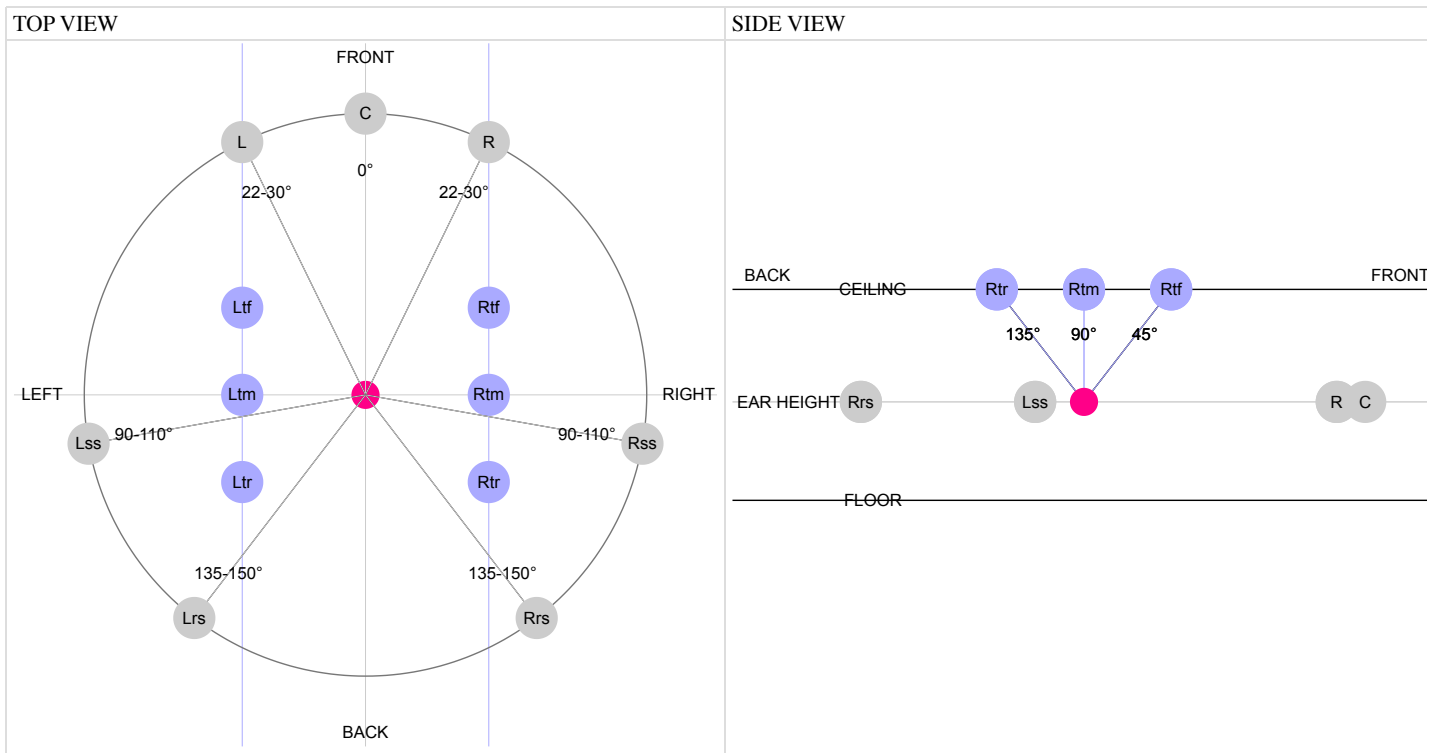
7.0.4 - Surround + Overhead



Channels	R °	Z °	Loudness Weighting
C	Center	0°	1.0
L	Left	22-30°	1.0
R	Right	22-30°	1.0
Ltf	Left Top Front	45°	1.0
Rtf	Right Top Front	45°	1.0
Rss	Right Surround	90-110°	1.41 (~ +1.5 dB)
Lss	Left Surround	90-110°	1.41 (~ +1.5 dB)
Ltr	Left Top Rear	135°	1.0
Rtr	Right Top Rear	135°	1.0
Lrs	Left Rear Surround	135-150°	1.0
Rrs	Right Rear Surround	135-150°	1.0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10	ch.11
Dolby	L	R	C	Lss	Rss	Lrs	Rrs	Ltf	Rtf	Ltr	Rtr
Micorsoft	L	R	C	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr
Steinberg	L	R	C	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr

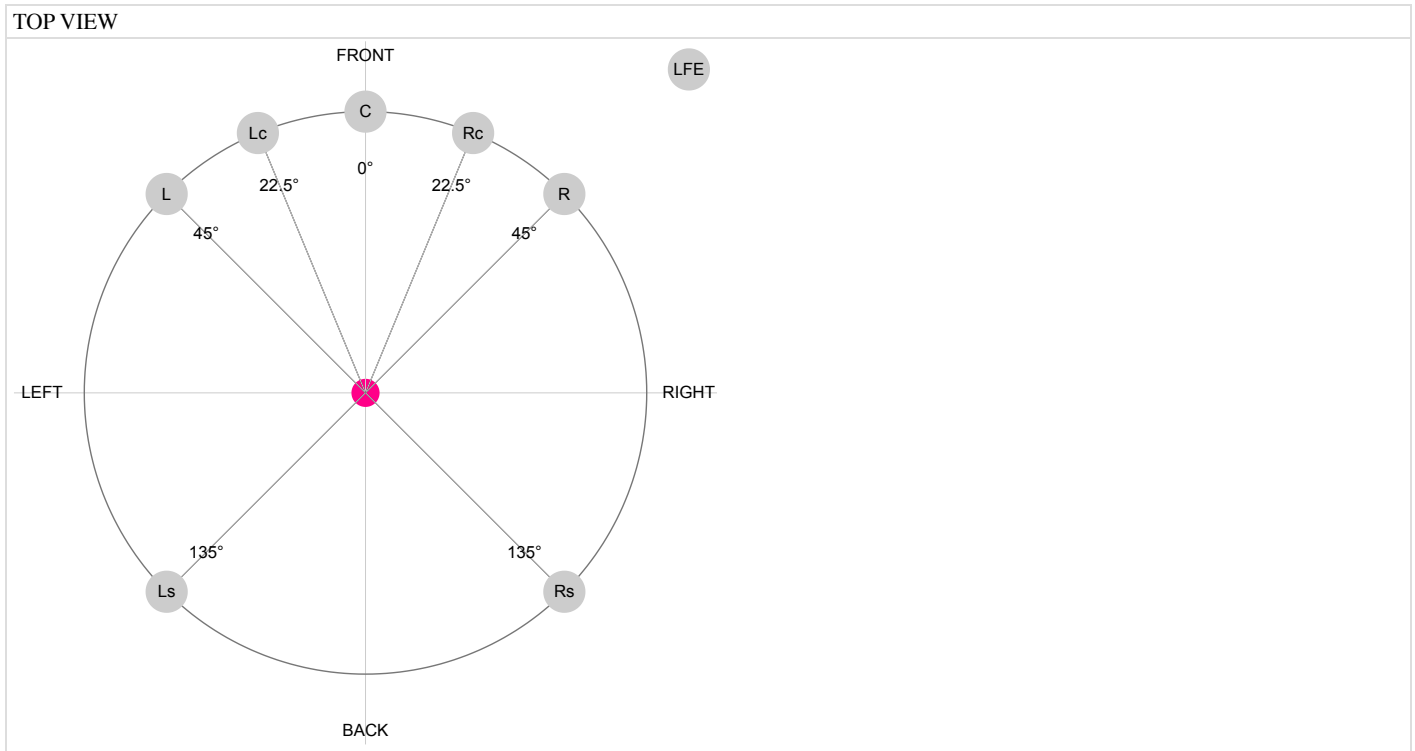
7.1.6 - Surround + Overhead



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left	22-30°		1.0
R	Right	22-30°		1.0
Ltf	Left Top Front		45°	1.0
Rtf	Right Top Front		45°	1.0
Ltm	Lts Top Middle		90°	1.0
Rtm	Right Top Middle		90°	1.0
Rss	Right Surround	90-110°		1.41 (~ +1.5 dB)
Lss	Left Surround	90-110°		1.41 (~ +1.5 dB)
Ltr	Left Top Rear		135°	1.0
Rtr	Right Top Rear		135°	1.0
Lrs	Left Rear Surround	135-150°		1.0
Rrs	Right Rear Surround	135-150°		1.0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10	ch.11	ch.12	ch.13
Dolby	L	R	C	Lss	Rss	Lrs	Rrs	Ltf	Rtf	Ltm	Rtm	Ltr	Rtr
Micorsoft	L	R	C	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr	Ltm	Rtm
Steinberg	L	R	C	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr	Ltm	Rtm

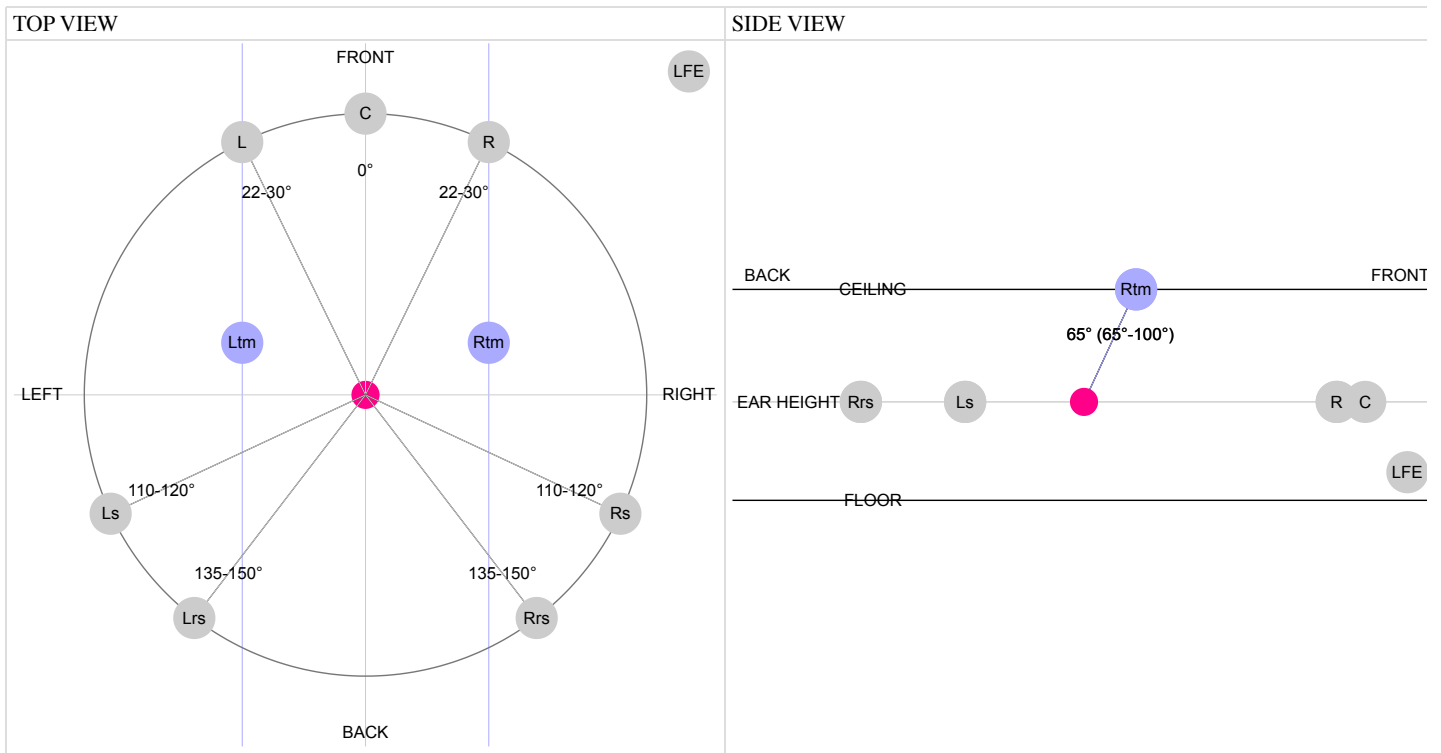
7.1 - Sony Dynamic Digital Sound (SDDS) Surround



Channels		R °	Z °	Loudness Weighting
C	Center		0 °	1.0
Lc	Left Center		22.5 °	1.0
Rc	right Center		22.5 °	1.0
L	Left		45 °	1.0
R	Right		45 °	1.0
Ls	Left Surround		135 °	1.0
Rs	Right Surround		135 °	1.0
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8
SDDS	L	Lc	C	Rc	R	Ls	Rs	LFE

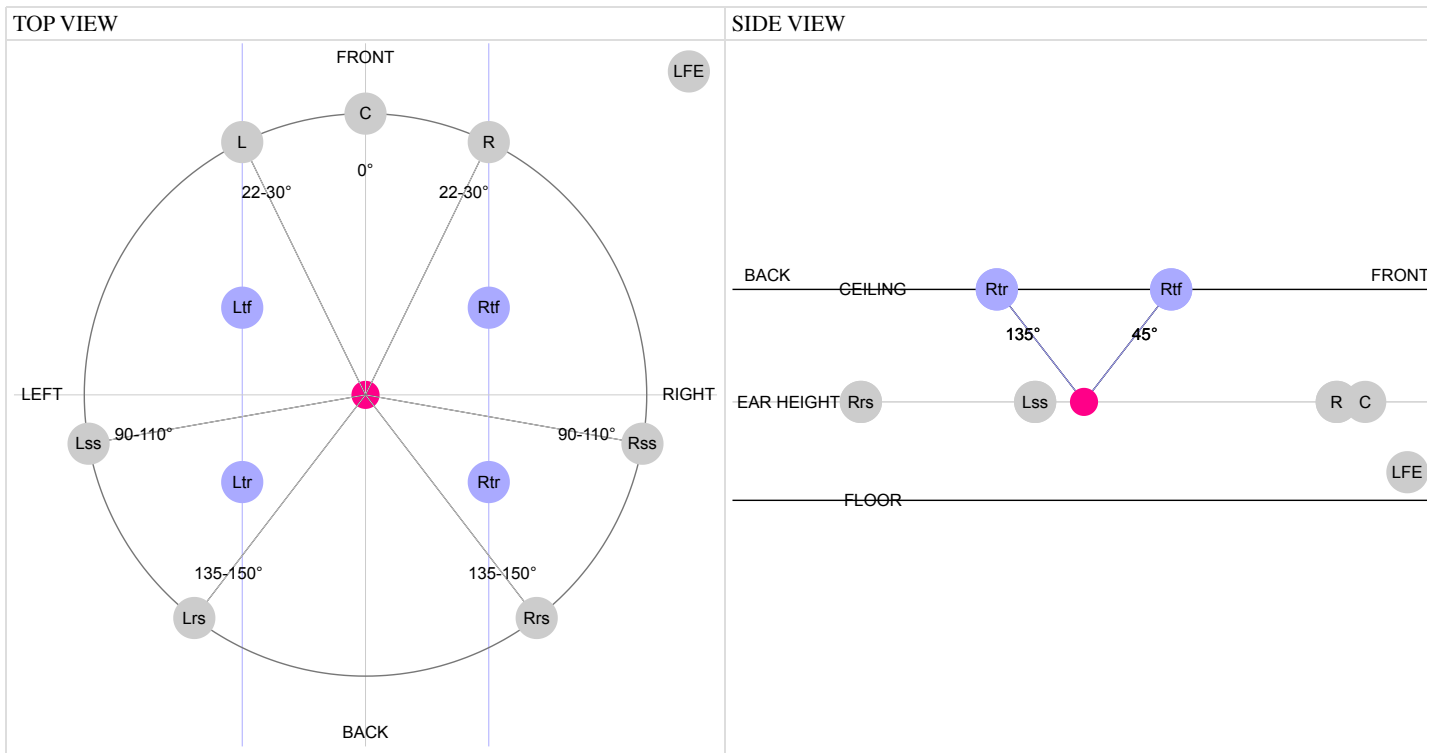
7.1.2 - Surround + Overhead



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left	22-30°		1.0
R	Right	22-30°		1.0
Ltm	Lts Top Middle		65° (65°-100°)	1.0
Rtm	Right Top Middle		65° (65°-100°)	1.0
Rs	Right Surround	110-120°		1.41 (~ +1.5 dB)
Ls	Left Surround	110-120°		1.41 (~ +1.5 dB)
Lrs	Left Rear Surround	135-150°		1.0
Rrs	Right Rear Surround	135-150°		1.0
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10
Dolby	L	R	C	LFE	Ls	Rs	Lrs	Rrs	Ltm	Rtm
Micorsoft	L	R	C	LFE	Lrs	Rrs	Ls	Rs	Ltm	Rtm
Steinberg	L	R	C	LFE	Lrs	Rrs	Ls	Rs	Ltm	Rtm

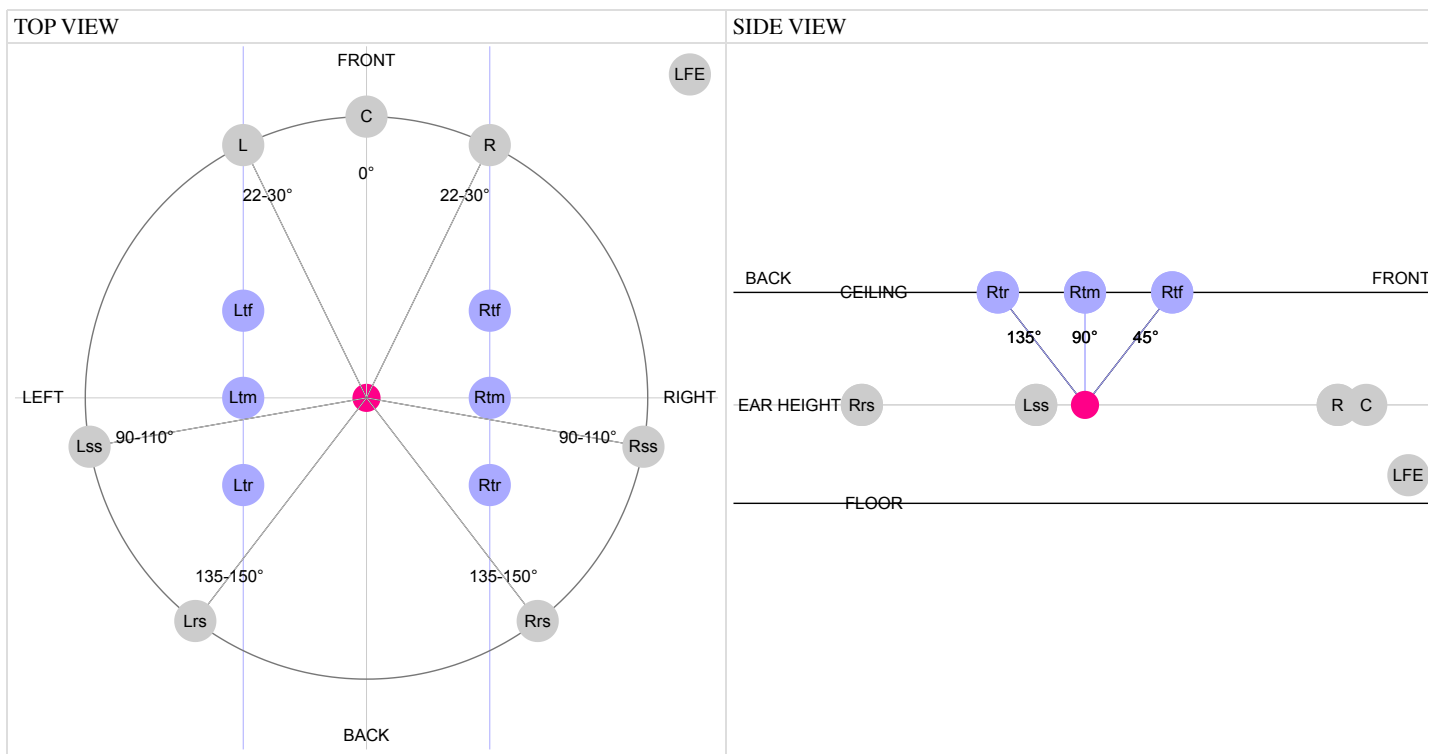
7.1.4 - Surround + Overhead



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left	22-30°		1.0
R	Right	22-30°		1.0
Ltf	Left Top Front		45°	1.0
Rtf	Right Top Front		45°	1.0
Rss	Right Surround	90-110°		1.41 (~ +1.5 dB)
Lss	Left Surround	90-110°		1.41 (~ +1.5 dB)
Ltr	Left Top Rear		135°	1.0
Rtr	Right Top Rear		135°	1.0
Lrs	Left Rear Surround	135-150°		1.0
Rrs	Right Rear Surround	135-150°		1.0
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10	ch.11	ch.12
Dolby	L	R	C	LFE	Lss	Rss	Lrs	Rrs	Ltf	Rtf	Ltr	Rtr
Micorsoft	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr
Steinberg	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr

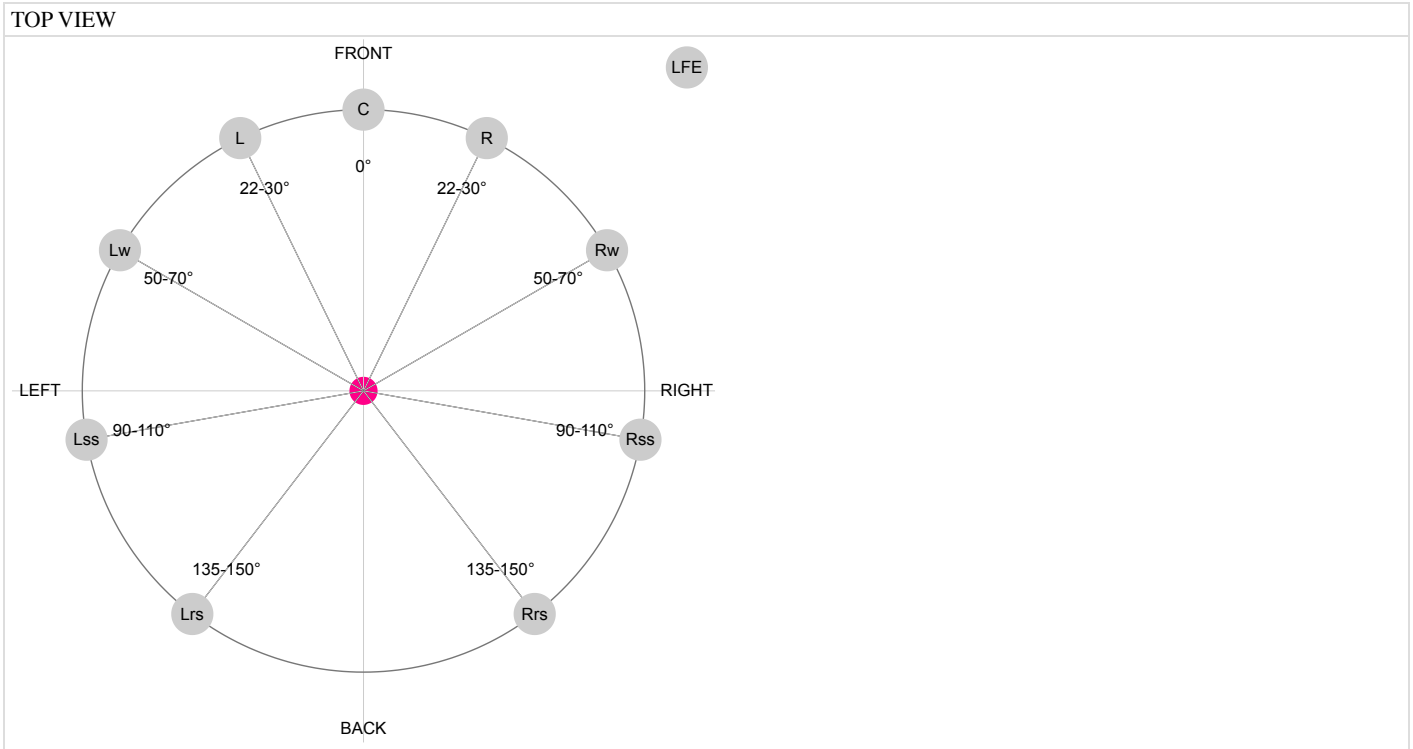
7.1.6 - Surround + Overhead



Channels	R °	Z °	Loudness Weighting
C	Center	0°	1.0
L	Left	22-30°	1.0
R	Right	22-30°	1.0
Ltf	Left Top Front	45°	1.0
Rtf	Right Top Front	45°	1.0
Ltm	Lts Top Middelde	90°	1.0
Rtm	Right Top Middelde	90°	1.0
Rss	Right Surround	90-110°	1.41 (~ +1.5 dB)
Lss	Left Surround	90-110°	1.41 (~ +1.5 dB)
Ltr	Left Top Rear	135°	1.0
Rtr	Right Top Rear	135°	1.0
Lrs	Left Rear Surround	135-150°	1.0
Rrs	Right Rear Surround	135-150°	1.0
LFE	Low-Frequency Effects		0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10	ch.11	ch.12	ch.13	ch.14
Dolby	L	R	C	LFE	Lss	Rss	Lrs	Rrs	Ltf	Rtf	Ltm	Rtm	Ltr	Rtr
Micorsoft	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr	Ltm	Rtm
Steinberg	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr	Ltm	Rtm

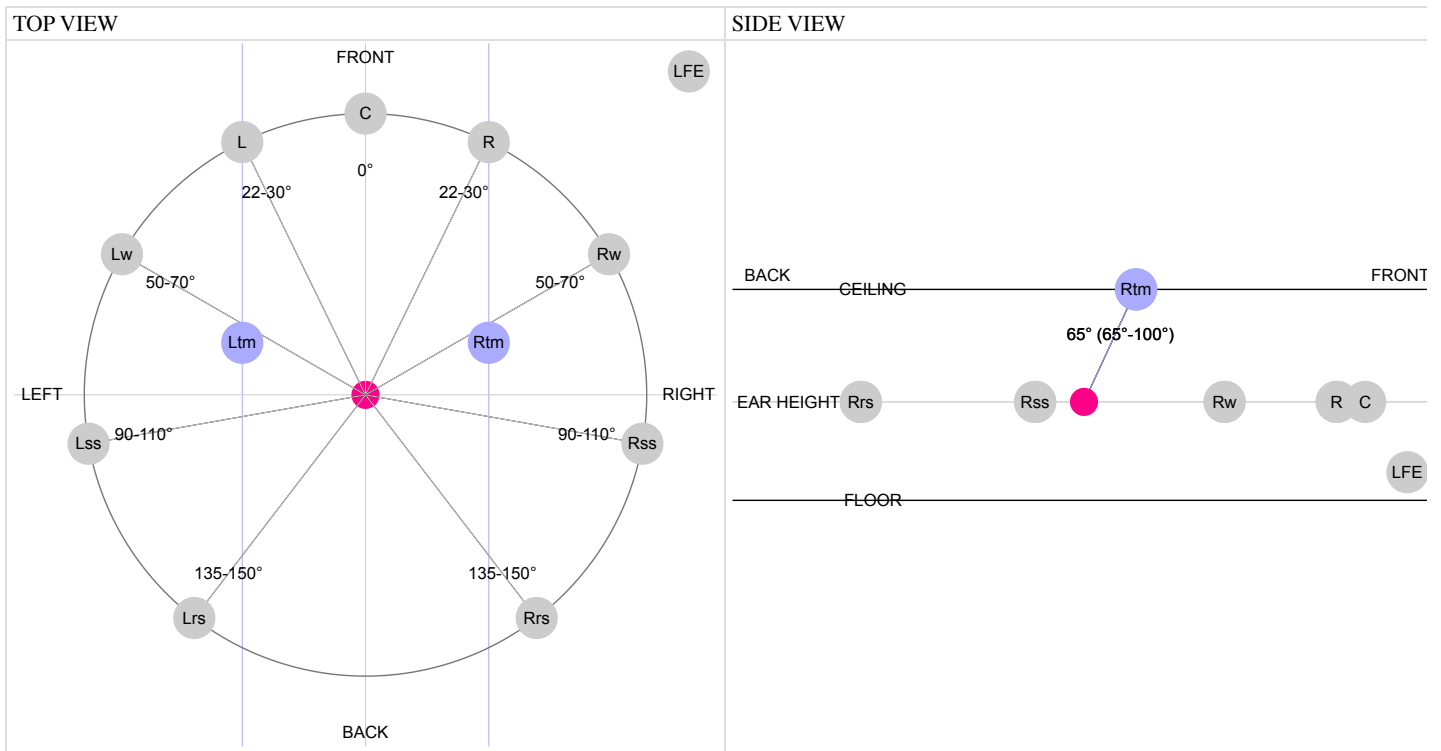
9.1 - Surround



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left		22-30°	1.0
R	Right		22-30°	1.0
Lw	Left Wide		50-70°	1.41 (~ +1.5 dB)
Rw	Right Wide		50-70°	1.41 (~ +1.5 dB)
Lss	Left Surround		90-110°	1.41 (~ +1.5 dB)
Rss	Right Surround		90-110°	1.41 (~ +1.5 dB)
Lrs	Left Rear Surround		135-150°	1.0
Rrs	Right Rear Surround		135-150°	1.0
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10
Dolby	L	R	C	LFE	Lss	Rss	Lrs	Rrs	Lw	Rw
Micorsoft	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Lw	Rw
Steinberg	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Lw	Rw

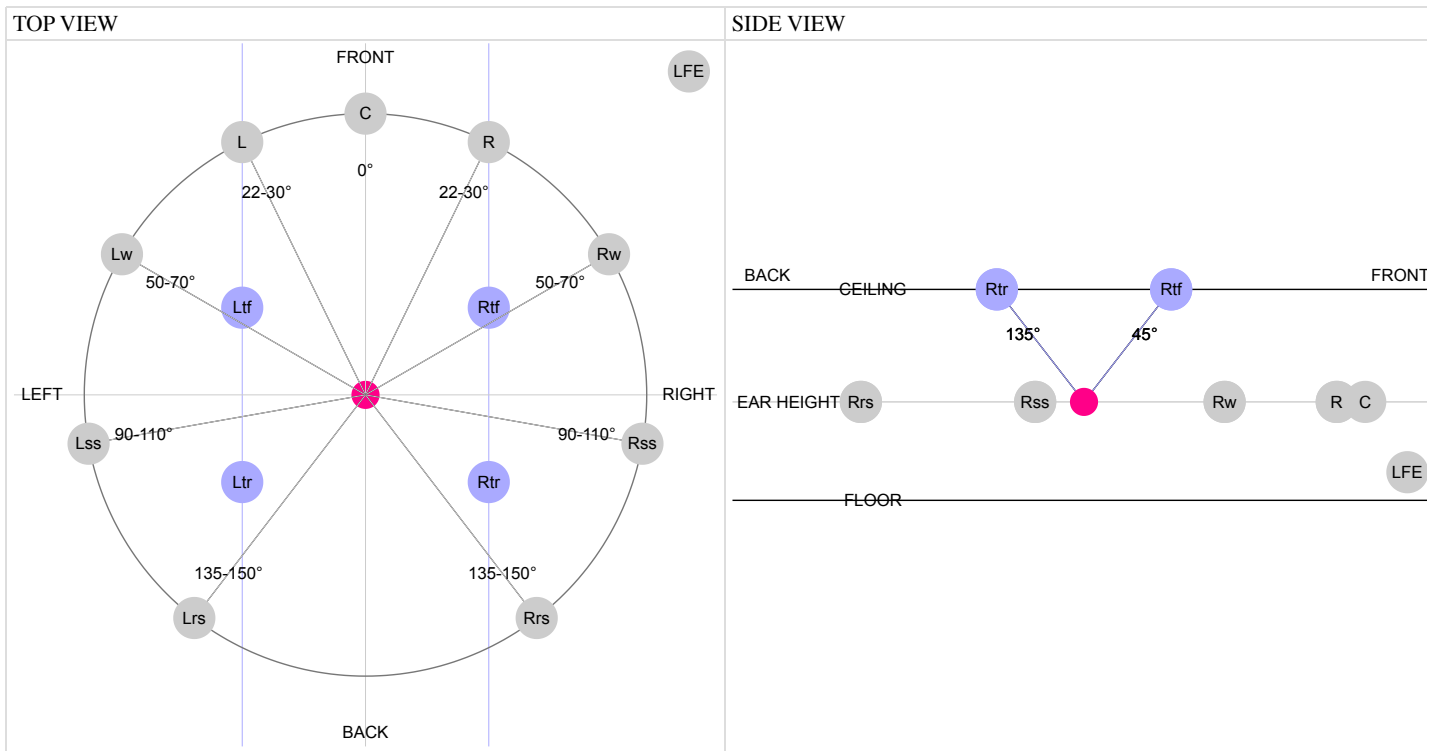
9.1.2 - Surround + Overhead



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left	22-30°		1.0
R	Right	22-30°		1.0
Lw	Left Wide	50-70°		1.41 (~ +1.5 dB)
Rw	Right Wide	50-70°		1.41 (~ +1.5 dB)
Ltm	Lts Top Middelde		65° (65°-100°)	1.0
Rtm	Right Top Middelde		65° (65°-100°)	1.0
Lss	Left Surround	90-110°		1.41 (~ +1.5 dB)
Rss	Right Surround	90-110°		1.41 (~ +1.5 dB)
Lrs	Left Rear Surround	135-150°		1.0
Rrs	Right Rear Surround	135-150°		1.0
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10	ch.11	ch.12
Dolby	L	R	C	LFE	Lss	Rss	Lrs	Rrs	Lw	Rw	Ltm	Rtm
Micorsoft	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltm	Rtm	Lw	Rw
Steinberg	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltm	Rtm	Lw	Rw

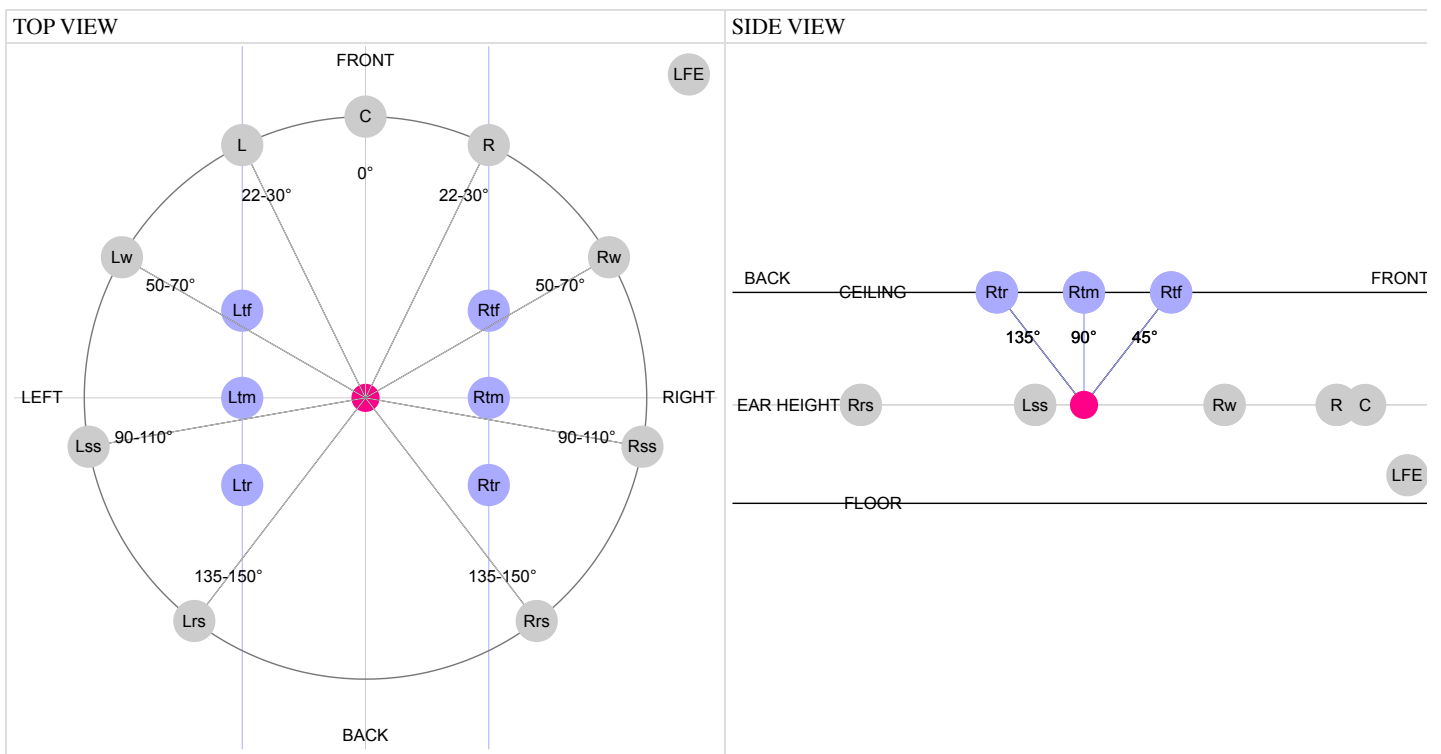
9.1.4 - Surround + Overhead



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left	22-30°		1.0
R	Right	22-30°		1.0
Ltf	Left Top Front		45°	1.0
Rtf	Right Top Front		45°	1.0
Lw	Left Wide	50-70°		1.41 (~ +1.5 dB)
Rw	Right Wide	50-70°		1.41 (~ +1.5 dB)
Lss	Left Surround	90-110°		1.41 (~ +1.5 dB)
Rss	Right Surround	90-110°		1.41 (~ +1.5 dB)
Ltr	Left Top Rear		135°	1.0
Rtr	Right Top Rear		135°	1.0
Lrs	Left Rear Surround	135-150°		1.0
Rrs	Right Rear Surround	135-150°		1.0
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10	ch.11	ch.12	ch.13	ch.14
Dolby	L	R	C	LFE	Lss	Rss	Lrs	Rrs	Lw	Rw	Ltf	Rtf	Ltr	Rtr
Micorsoft	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr	Lw	Rw
Steinberg	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr	Lw	Rw

9.1.6 - Surround + Overhead



Channels		R °	Z °	Loudness Weighting
C	Center		0°	1.0
L	Left	22-30°		1.0
R	Right	22-30°		1.0
Ltf	Left Top Front		45°	1.0
Rtf	Right Top Front		45°	1.0
Lw	Left Wide	50-70°		1.41 (~ +1.5 dB)
Rw	Right Wide	50-70°		1.41 (~ +1.5 dB)
Ltm	Lts Top Middle		90°	1.0
Rtm	Right Top Middle		90°	1.0
Rss	Right Surround	90-110°		1.41 (~ +1.5 dB)
Lss	Left Surround	90-110°		1.41 (~ +1.5 dB)
Ltr	Left Top Rear		135°	1.0
Rtr	Right Top Rear		135°	1.0
Lrs	Left Rear Surround	135-150°		1.0
Rrs	Right Rear Surround	135-150°		1.0
LFE	Low-Frequency Effects			0

Order	ch.1	ch.2	ch.3	ch.4	ch.5	ch.6	ch.7	ch.8	ch.9	ch.10	ch.11	ch.12	ch.13	ch.14	ch.15	ch.16
Dolby	L	R	C	LFE	Lss	Rss	Lrs	Rrs	Lw	Rw	Ltf	Rtf	Ltm	Rtm	Ltr	Rtr
Micorsoft	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr	Ltm	Rtm	Lw	Rw
Steinberg	L	R	C	LFE	Lrs	Rrs	Lss	Rss	Ltf	Rtf	Ltr	Rtr	Ltm	Rtm	Lw	Rw