

Heading	Item	Designing Guideline	
Size		Small	Medium
Display		CRT-36 inches	Perforated screen -140 inches
Room	Floor area (m ²)	50 ± 20	100 ± 30
	Room volume (m ³)	> 80	> 200
	Room shape	Non-rectangular	
	Dimensional ratios	Not simple integral number (H:W:L=1:1.59 ± 0.7:2.52 ± 0.28. etc. are desirable)	
	Room height (m)	3.0 ~ 4.0	4.0 ~ 6.0
Interior finish		Uniform absorbent/diffusively reflective treatment to avoid strong reflections from specific directions	
Acoustical properties	Reverberation time (s)	0.2 ± 0.1 (500Hz)	0.3 ± 0.1 (500Hz)
	Mean absorption coefficient	0.4 ~ 0.6 (500Hz)	
	Reverberation characteristics	See Fig.1	See Fig.1
	Static transfer frequency response	± 3dB(one octave band) between 125Hz and 4kHz Less than 2 band within ± 4dB	
	Echo time pattern	Avoid early strong reflections not to lower the frequency response of the direct sound	
	Early reflections		
	Interaural cross-correlation	Not specified (Under consideration)	
	Distribution of the SPL	Not specified (Under consideration)	
Noise	Air conditioning noise	< NC-15(NR-17)	
	Equipment/ Background noise	< NC-20(NR-22) The noise of projector should be reduced	

Loudspeaker arrangement			
L/R	Setting	Built-in	
	Axis direction(Reference Point)	Mixing position or zero to one meter rear of it	
	Distance(L-R) (m)	3.0 ~ 4.0	5.0 ~ 8.0
	Height (m) * 1	1.5 ~ 2.0	
	Distance to the reference point	All the distance from L/C/R/S loudspeakers to the reference point would be desired to be equal	
	Subtended Angle against the center line of the room (degree)	30	30
C	Setting	Built-in	
	Axis direction(Reference Point)	Mixing position or zero to one meter rear of it	
	Height (m) * 1	The same height as the L/R is desirable	Center of the screen
	Distance to the reference point	All the distance from L/C/R/S loudspeakers to the reference point would be desired to be equal	
Heading	Item	Designing Guideline	
Size		Small	Medium
S(Ls/Rs)	Number	2	4
	Setting	Built-in is desirable but directly on the wall is acceptable because of the room shape etc.	
	Axis direction(Reference Point)	Mixing position or zero to one meter rear of it	
	Height (m) * 1	Same or higher than the L/R is desirable window:L/C/RX0.9~1.1 window:L/C/RX1.1~1.5max	
	Distance to the reference point	All the distance from L/C/R/S loudspeakers to the reference point would be desired to be equal	
	Subtended Angle against the center line of the room (degree)	120 ± 10	More than 110 uniform degrees) (dispersed in
Monitoring level		85 ± 2dB(C weighted)/ch (Pink Noise) at -18dB DFS for large loudspeaker	
		80 ± 2db(C weighted)/ch (Pink Noise) at -18dB DFS for medium loudspeaker	
		78 ± 2db(C weighted)/ch (Pink Noise) at -18dB DFS for small loudspeaker	

Monitor Loudspeaker			
Maximum sound pressure level ^{* 2}	L/C/R	> 117dB	> 120dB
	Number of surround loudspeakers	2 > 114dB	————
		4 > 111dB	> 114dB
		8 > 108dB	> 111dB
Amplitude versus frequency response	L/C/R	See Fig.2	
Effective frequency range ^{* 3}	L/C/R	40Hz ~ 20kHz	
	S	Same as L/C/R At least 80Hz ~ 20kHz	
Non-linear distortion ^{* 4}	L/C/R	< 3% for 40Hz ~ 250Hz, < 1% for 250Hz ~ 16kHz	
	S	Same as L/C/R At least < 3% for 80Hz ~ 250Hz, < 1% for 250Hz ~ 16kHz	
Transient fidelity	L/C/R/S	The decay time to the level of 1/e (approximately 0.37) from the original level should be less than 5/f (where f is frequency)	
Phase,Group delay ^{* 5, 6}	L/C/R/S	Either of them would desirably be indicated	
Directivity index	L/C/R/S	Not specified	
Directivity response pattern	L/C/R/S	Not specified	
Impedance	L/C/R/S	> 3.2Ω	
Deviation of frequency response	L/C/R/S	< 1.5dB for 100Hz ~ 10kHz Peak/dip narrower than 1/3 oct. shall be neglected.	
Efficiency ^{* 7}	L/C/R/S	Should be indicated	

Note:

* 1 Height of loudspeakers : Height of acoustical center of the loudspeaker from the floor level at mixing position.

* 2 Maximum sound pressure level = (Rated output sound pressure level) + (Maximum input level)

* 3 Effective frequency range : Frequency range not more than 10dB below.

* 4 Absolute sound level is measured at 1m from the loudspeaker.

* 5 Directivity index of the front loudspeakers depends on the program/soft.

* 6 Difference of over all impressions caused by the directivity index of the rear loudspeakers is rather small.

* 7 Efficiency is indicated by the rated output sound pressure level at (1m,1w).