LoudSpeaker Cable Distances Yr.2008

AWG	4 Ohm Speaker			8 Ohm Speaker			70V Speaker*		
	Power (%) / Loss (dB)								
	11% 0.5	21% 1	50% 3	11% 0.5	21% 1	50% 3	11% 0.5	21% 1	50% 3
8	*180*	*370*	*1250*	*360*	*740*	*2495*	*8780*	*18000*	*61000*
10	*115*	*235*	*795*	*230*	*470*	*1585*	*5590*	*11495*	*38870*
12	*70*	*150*	*500*	*145*	*295*	*1000*	*3520*	*7245*	*24500*
14	*45*	*95*	*315*	*90*	*185*	*630*	*2220*	*4565*	*15430*
16	*30*	*60*	*195*	*55*	*115*	*395*	*1385*	*2855*	*9650*
18	*20*	*35*	*125*	*35*	*75*	*250*	*875*	*1795*	*6070*
20	*10*	*25*	*80*	*25*	*45*	*155*	*555*	*1140*	*3850*
22	*5*	*15*	*50*	*15*	*30*	*100*	*345*	*705*	*2390*
24	*5*	*10*	*30*	*10*	*20*	*60*	*220*	*450*	*1515*

* 70 volt line drive systems, while considered a potential for Hi-Fi performance, follow the same cable loss physics as the higher current (lower impedance) system. For the sake of this calculation, a 25 watt 70 volt system (196 Ohms) was used.

COMMERCIAL SPEAKER CABLES (Loadspeakers)
NON-PLENUM CABLES LISTED BELOW

NON PLENUM P.N.		DESCRIPTION
224		*2 cond. 18 Awg. Unshld*
225		*2 cond. 16 Awg. Unshld*
226		*2 cond. 14 Awg. Unshld*
227		*2 cond. 12 Awg. Unshld*

244		*4 cond. 18 Awg. Unshld*
245		*4 cond. 16 Awg. Unshld*
246		*4 cond. 14 Awg. Unshld*
248		*4 cond. 12 Awg. Unshld*

C210		*2 cond. 10 Awg. Unshld Direct Burial*
HA210		*2 cond. 10 Awg. Unshld CL2 Rated*
C208		*2 cond. 8 Awg. Unshld*

Plenum Next Page

PLENUM CABLES LISTED BELOW		
PLENUM P.N.		**DESCRIPTION**
25224B		*2 cond. 18 Awg. Unshld Plenum*
25225B		*2 cond. 16 Awg. Unshld Plenum*
25226B		*2 cond. 14 Awg. Unshld Plenum*
25227B		*2 cond. 12 Awg. Unshld Plenum*
25246B		*4 cond. 14 Awg. Unshld Plenum*
25248B		*4 cond. 12 Awg. Unshld Plenum*
25210		*2 cond. 10 Awg. Unshld Plenum*

RESIDENTIAL SPEAKER CABLES NON-PLENUM CABLES LISTED BELOW		
NON PLENUM P.N.		**DESCRIPTION**
HA225		*2 cond. 16 Awg. Unshld*
HA226		*2 cond. 14 Awg. Unshld*
HA227		*2 cond. 12 Awg. Unshld*
HA245		*4 cond. 16 Awg. Unshld*
HA246		*4 cond. 14 Awg. Unshld*

AWG	DCR/ft	DCR round trip
8	0.000662	0.001324
10	0.00104	0.00208
12	0.00165	0.0033
14	0.00262	0.00524
16	0.00419	0.00838
18	0.00666	0.01332
20	0.0105	0.021
22	0.0169	0.0338
24	0.0267	0.0534

$R_{speaker}$	4	8	196
	R_{cable} factor		
0.5	0.05925373	0.05925373	0.05925373
1	0.12201845	0.12201845	0.12201845
3	0.41253754	0.41253754	0.41253754

10^(-Rs/-20)-1

To Find the cable distance 4 * factor (.0593)/ loop Res (.00524) 12Awg

Example: 12 AWG with a 4 ohm load with a .5dB Speaker Resistance.

4* .0593 /.00524= 45ft.