CARDAS AUDIO

Speaker cable Selection Guide

This article was kindly donated by George Cardas

There are many reasons for differences in speaker cables. Some, like microphonics, are hard to quantify in lay terms. Others, like AC resistance and loop inductance, are easier to see. For comparison, I have chosen our top of the line speaker cable - Golden Cross - and our entry level cable - Crosslink. I have also taken three common but extreme examples - RS 28 gauge "speaker cable", RS "Mega Cable" and a Pep Boys 8awg jumper cable - to illustrate how high-end cables reduce both resistance and inductance to increase timely signal transfer and reduce inductance related distortion.

Resistance and Inductance

	Cable AC loop resistance in ohms 100~	1k	10k	Cable AC loop inductance in u henrys
Golden Cross	.018	.018	.019	.36
Crosslink	.046	.046	.048	1.1
Pep Boys 8g	.014	.0153	.0206	2.5
RS 28spk	458	.500	.500	2.4
RS Mega	.084	.084	.087	2.6

All samples are 10ft in length.

The main objective of a speaker cable is to achieve maximum current transfer with minimum distortion. The main elements involved are resistance and inductance. The problem is achieving low inductance and low resistance, because as you make conductors larger the resistance goes down but the inductance time delayed information and low level distortion go up. As you can see from the information below, keeping a low and constant resistance and inductance is a strong point of our high-end speaker cables.

Resistance and its relationship to inductance and capacitance ("Q" factor) is one key to interconnect performance as well. Lower resistance, high "Q" conductors are desirable.

"Q" factor

	10K AC resistance ohms	Q 10k
Freebie	.52	.45
Golden Cross	.022	3.9
Cross	.03	4.3