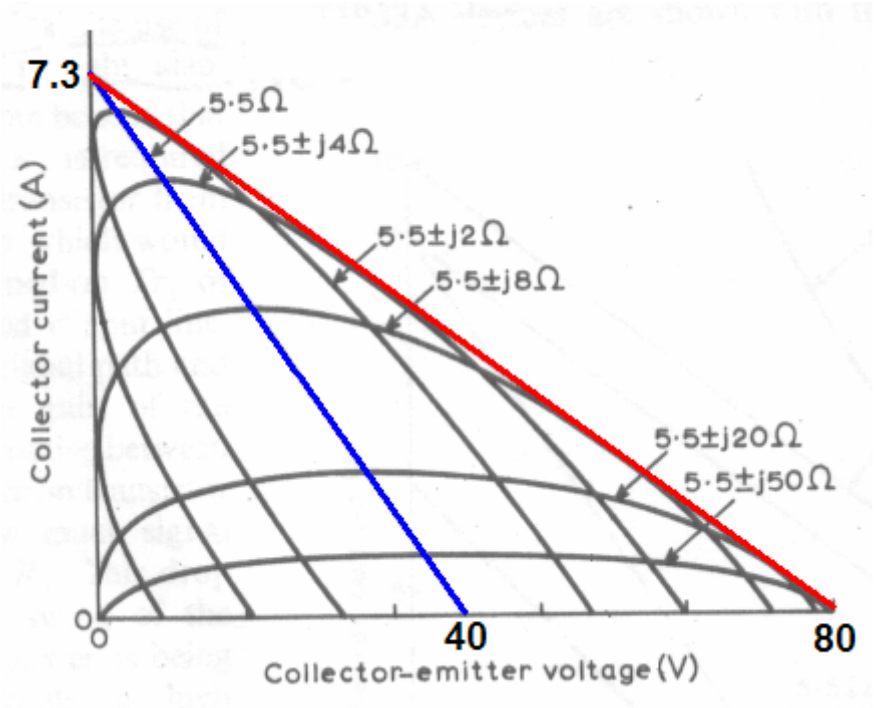

Fig. 3. Characteristic elliptical curves produced by 5.5Ω resistor in series with an arbitrary reactance; an ideal complimentary emitter follower (operating from ±40V rails) is assumed.

Clearly this approach is only applicable if the loudspeaker system's input *resistance* is known; typically only the system's nominal input *impedance* is provided by loudspeaker manufacturers. Unfortunately this caveat is notably absent from D. Self's book (***Audio Power Amplifier Design Handbook***).

However, if, for example, the impedance of a given loudspeaker system is known to be $\mathbf{4\Omega\angle -60°}$ at **1KHz**, then this impedance may be trivially converted to rectangular form to determine the system's resistance:

$$4\Omega\angle -60° = 4\{\cos(-60°) + j\sin(-60°)\} = 2\Omega - j3.4641$$

The system's input resistance is **2Ω**, and, therefore, all possible combinations of the system's input impedance in the range $\mathbf{2\Omega \pm j\infty}$ (**fig. 4**) are delimited by the red locus.