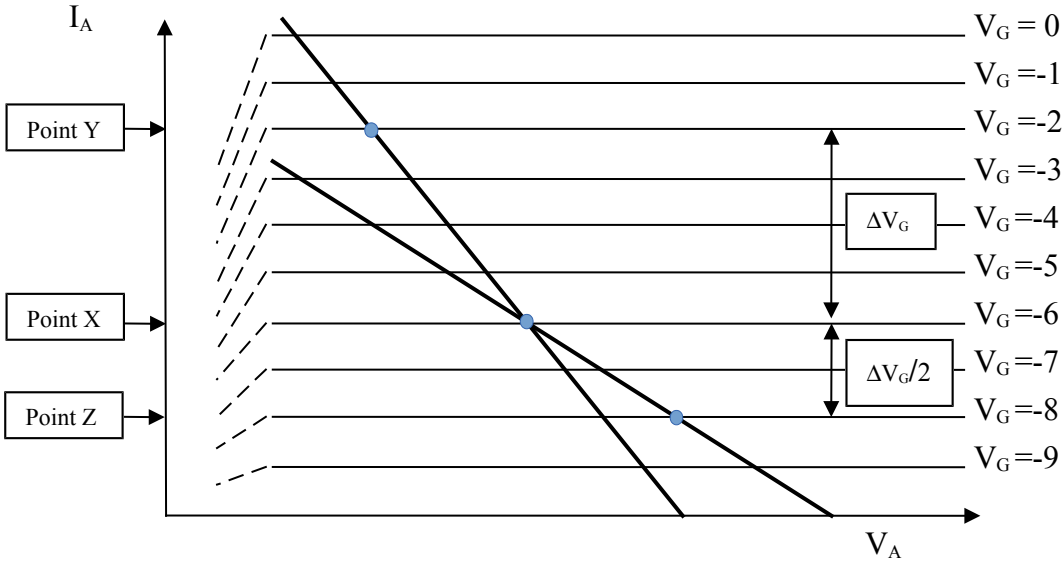


**Distortion in Class AB (diagram)**

The following diagram represents the characteristics of an ideal pentode, operating as one of a push-pull pair. The load lines shown are for class AB operation.



Consider variations around point X (the transition point between class A and class B). To double the loudspeaker current, the anode current of this valve must go up to point Y, requiring a change of control grid voltage  $\Delta V_G$ . However, to reduce the loudspeaker current to zero it is only necessary to take the anode current of this valve down to point Z (the quiescent point) requiring a change on the grid of only  $\Delta V_G/2$ . This demonstrates that there is a nonlinear relationship between loudspeaker current and the input signal voltage on the control grid.