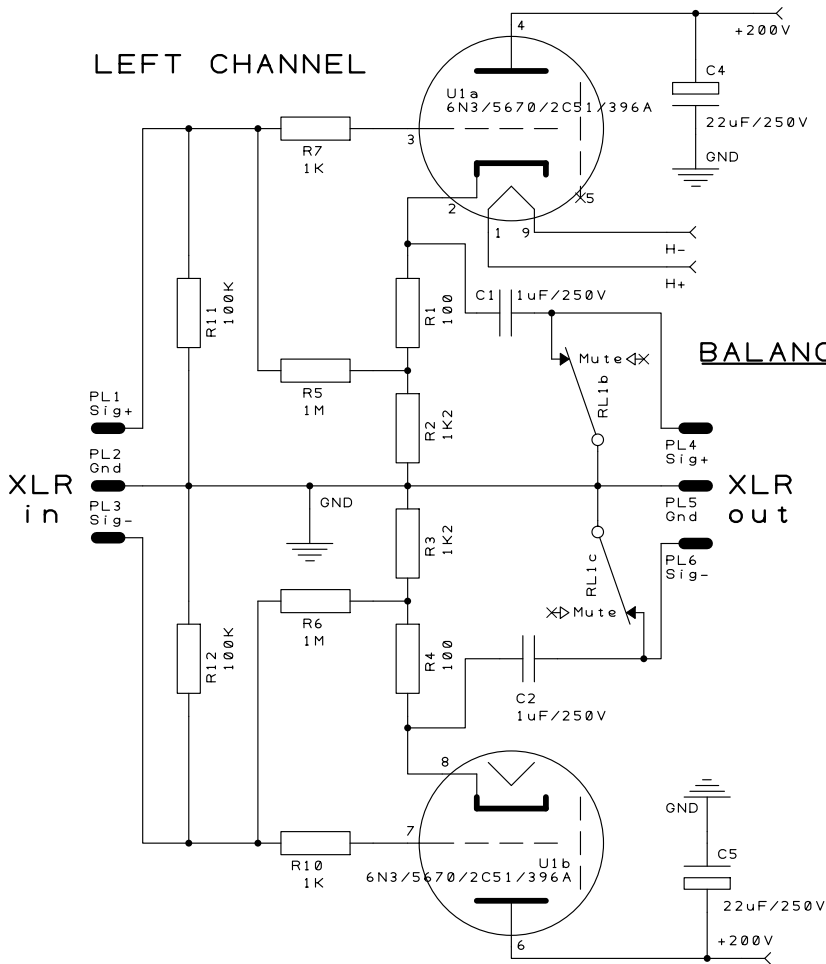BALANCED TUBE BUFFER