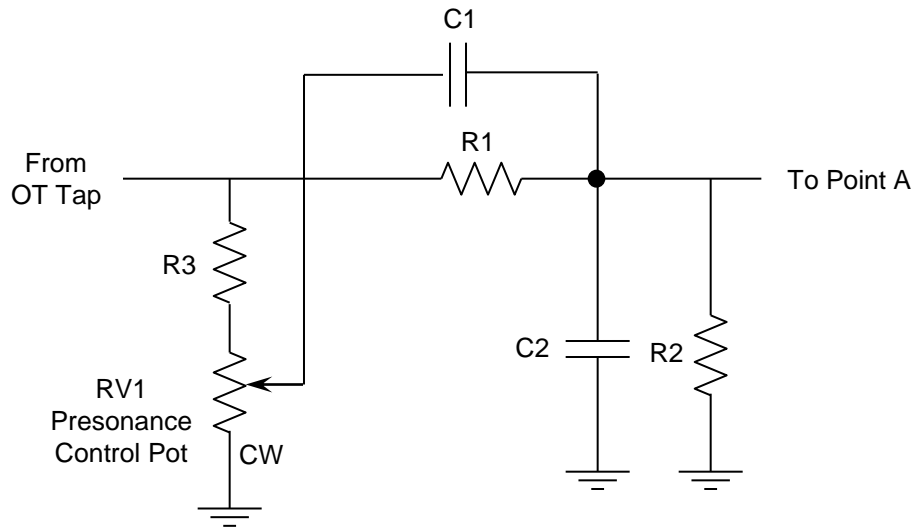


“Presonance” Control for NFB

Martin P Manning January, 2012

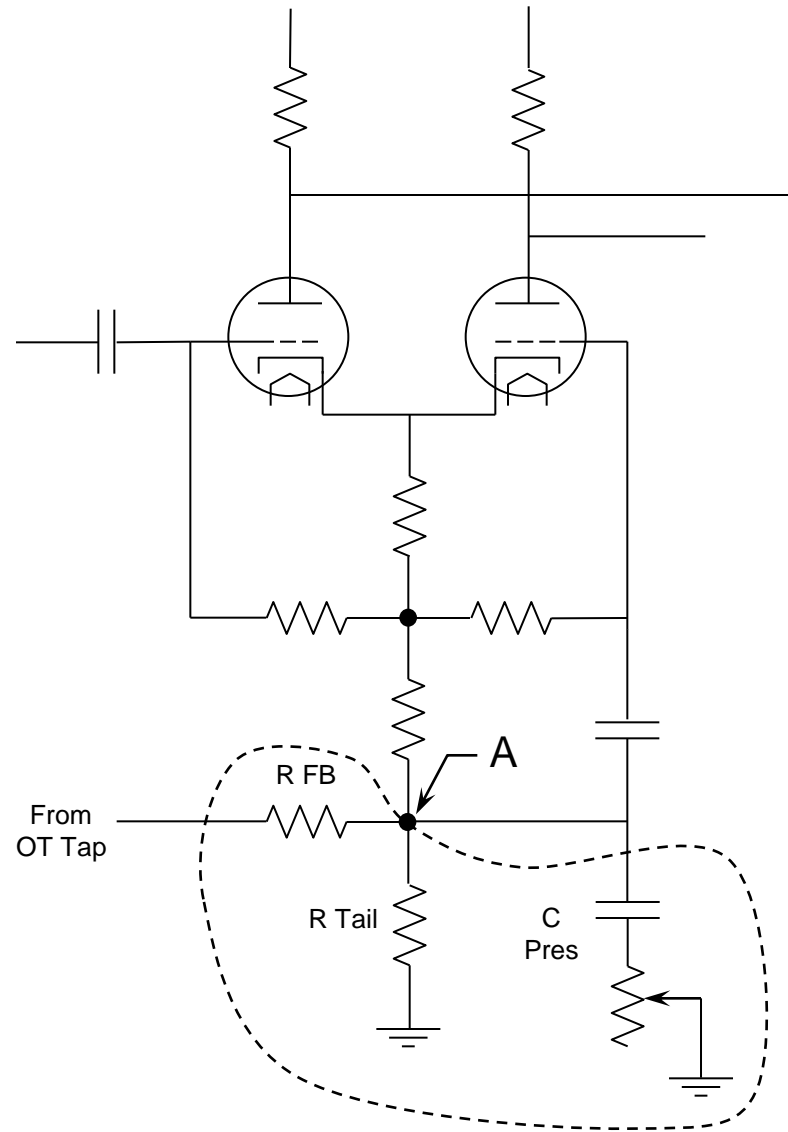
Rev. 1, March 2012

Presonance control replaces existing FB and presence NW at right. Choosing component values as described replicates original “Presence” function (CW rotation from 50%) and adds “Resonance” function emphasizing bass (CCW rotation from 50%).



“Presonance” Control

- R1 = R FB
- R2 = R Tail
- R3 = 2 * R Tail
- $C1 = C \text{ Pres} * (1 - (R \text{ FB} / R \text{ Tail}) / 40)$
- $C2 = C \text{ Pres} * (R \text{ FB} / R \text{ Tail}) / 40$
- (with the intent that $C1 + C2 = C \text{ Pres}$)
- RV1 = 2 * R Tail to 4 * R Tail , 10% Audio Taper



Typical Feedback and Presence Control on long-tailed pair phase inverter.

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Example:

Original circuit $R_{FB} = 100k$, $R_{Tail} = 4k7$, and $C_{Pres} = 0.1\mu F$

