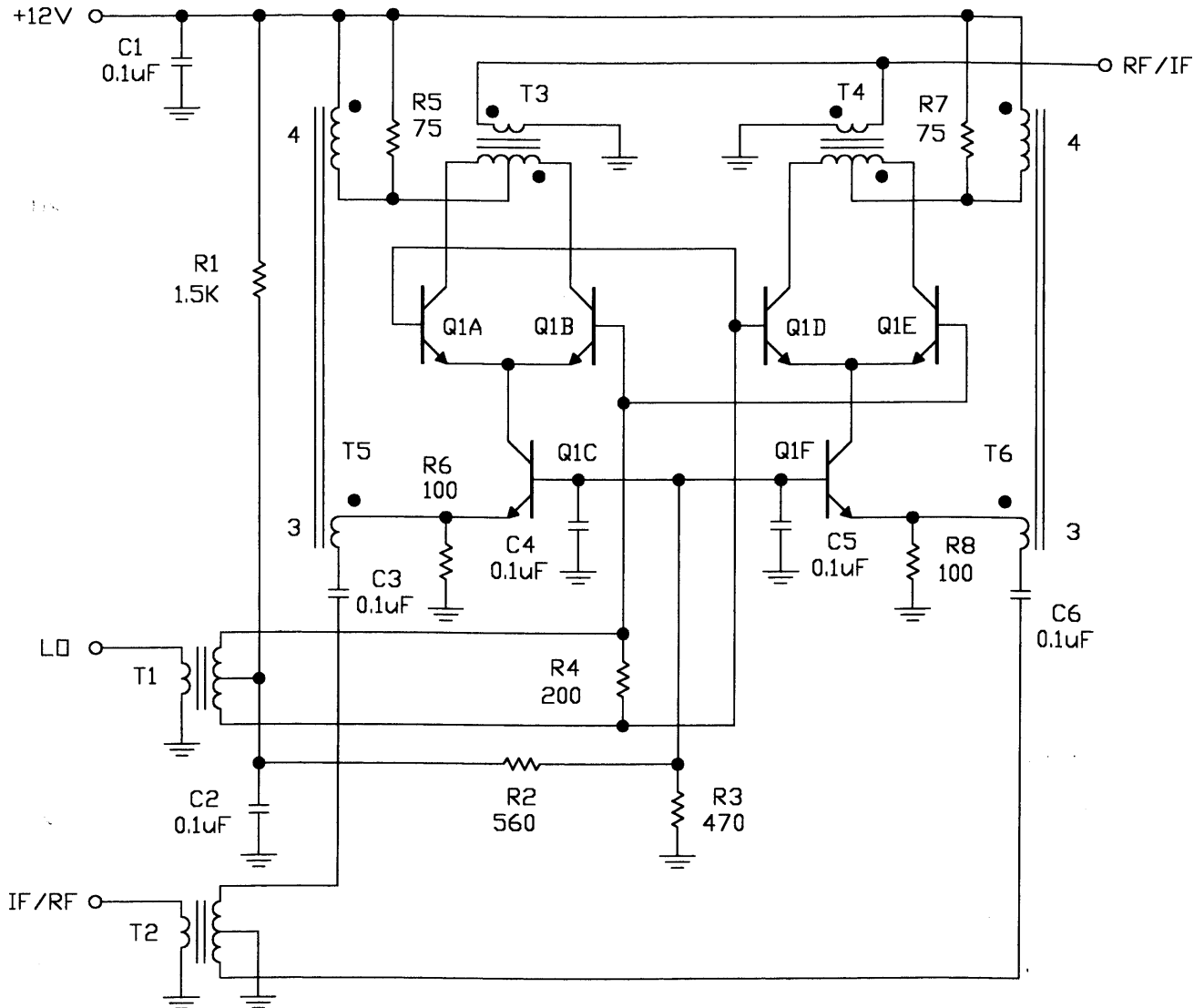


# Lossless Feedback Mixer



## PARTS LIST

- Q1 - CA3054 or CA3102 array (presently made by Intersil, previously made by Harris and RCA)
- T<sub>1</sub> - T<sub>4</sub> - Mini-Circuits T4-1 (note polarity on T<sub>3</sub> and T<sub>4</sub>)
- T<sub>5</sub>, T<sub>6</sub> - 3:4 turns #32 AWG magnet wire wound on Fair-Rite 2843-002-402 or similar binocular core.

This invention is protected by US Patent 6,393,267. Licensing for commercial purposes is available.

## CONSTRUCTION NOTES

1. Keep all leads short. This is a high-performance circuit and stray inductances can cause instability.
2. Transformers T<sub>1</sub> - T<sub>4</sub> may be easily made by twisting three pieces of magnet wire (#32 or smaller) together and threading 4 turns through a small binocular core such as Fair-Rite 2843-002-402. Windings ratio is 1:1:1.
3. Circuit is intended for operation from 2-60MHz.
4. LO level is 0dBm.