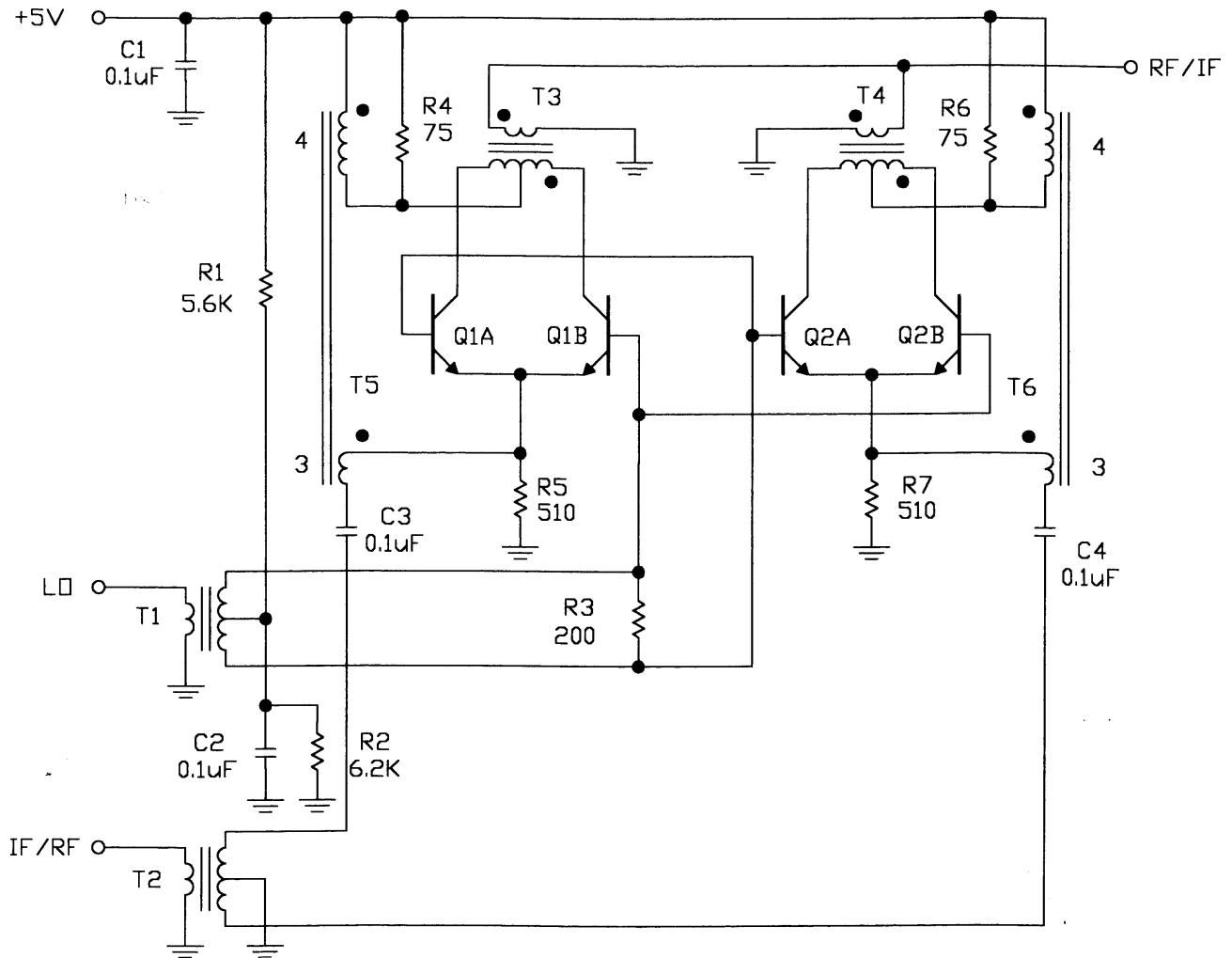


Low Noise Lossless Feedback Mixer



PARTS LIST

- Q1, Q2 - NEC UPA821TF (obsolete) or UPA895TD, or Panasonic XN1531.
- T₁ - T₄ - Mini-Circuits T4-1 (note polarity on T₃ and T₄).
- T₅, T₆ - 3:4 turns #32 AWG magnet wire wound on Fair-Rite 2843-002-402 or similar binocular core.

This invention is protected by US Patents 6,393,267 and 6,400,936. 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 T₁ - T₄ 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.