

## BALANCED DOUBLE-FOLDED CASCODE OPERATIONAL AMPLIFIER

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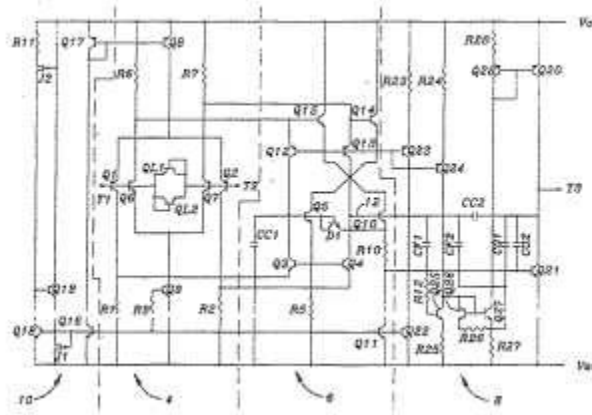
**Cited documents:**

 US4406990 (A)

 US5294893 (A)

### Abstract of WO 9636108 (A1)

A double-folded cascode operational amplifier capable of operating with rail-to-rail common mode inputs includes two differential transistor pairs (Q1, Q2, Q6, Q7) of opposite conductivity, with an associated current source and input resistor pair for each pair of input transistors. Its gain stage (6) includes two interconnected pairs of folded cascode gain transistors (Q3, Q4, Q12, Q13) that are connected to the two pairs of input resistors so that a change in the differential input signal produces a corresponding change in the gain stage output via the resistors. An output stage (8) includes transistor-resistor circuitry to bias a pair of output transistors (Q20, Q21) in opposite directions and produce a net amplifier output at their junction. The gain transistor voltages are balanced by a voltage shifting circuit to inhibit input voltage offsets.



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