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Parkhurst et al.(10) **Pub. No.: US 2022/0407480 A1**(43) **Pub. Date: Dec. 22, 2022**(54) **SPLIT MILLER COMPENSATION IN
TWO-STAGE DIFFERENTIAL AMPLIFIERS**(52) **U.S. Cl.**
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Hernandez, Richardson, TX (US)(21) Appl. No.: **17/350,817**(22) Filed: **Jun. 17, 2021****Publication Classification**(51) **Int. Cl.**
H03F 3/45 (2006.01)(57) **ABSTRACT**

A two-stage differential amplifier with cross-coupled compensation capacitors. The differential amplifier includes first amplifier circuitry receiving a differential input voltage and presenting first and second intermediate outputs. The amplifier further includes a second amplifier stage with a first leg having an input coupled to the second intermediate output of the first amplifier circuitry, and a second leg having an input coupled to the first intermediate output of the first amplifier circuitry. A compensation capacitor is provided for each leg of the second amplifier stage, each coupled between the output of that amplifier leg and its input. A first cross-coupled capacitor is coupled between the output of the first amplifier leg to the input of the second amplifier leg, and a second cross-coupled capacitor is coupled between the output of the second amplifier leg and the input of the first amplifier leg.

