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(54) **BIAS UNIT ELEMENT WITH BINARY WEIGHTED CHARGE TRANSFER CAPACITORS**

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(57) **ABSTRACT**

A Bias Unit Element (UE) has a digital input and sign input, and comprises a positive Bias UE and a negative Bias UE, each comprising groups of NAND gates generating an output and a complementary output, each of which are coupled to differential charge transfer lines through binary weighted charge transfer capacitors to a differential charge transfer bus comprising a positive charge transfer line and a negative charge transfer line. The sign input enables the positive Bias UE when the sign bit is positive and enables the negative Bias UE when the sign bit is negative.

BIAS UE—Negative