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(54) **DIGITAL-TO-ANALOG CONVERSION APPARATUS AND METHOD HAVING SIGNAL CALIBRATION MECHANISM**

(71) Applicant: **REALTEK SEMICONDUCTOR CORPORATION**, HSINCHU (TW)

(72) Inventors: **HSUAN-TING HO**, HSINCHU (TW); **SHIH-HSIUNG HUANG**, HSINCHU (TW); **LIANG-WEI HUANG**, HSINCHU (TW)

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(57) **ABSTRACT**

The present invention discloses a DAC method having signal calibration mechanism. A first conversion circuit generates a first analog signal according to an input digital signal. A second conversion circuit generates a second analog signal according to the input digital signal and a pseudo-noise digital signal. An echo transmission circuit processes a signal on an echo path to generate an echo signal. A first and a second calibration circuits generate a first and a second calibration signals. A calibration parameter calculation circuit performs calculation according to a difference between the echo signal and a sum of the first and the second calibration signals and related path information to generate a first and a second offsets. The first and the second calibration circuits converge first and second response coefficients and update a first and a second codeword offset tables according to the first and the second offsets.