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(19) **United States**(12) **Patent Application Publication**
CLARA et al.(10) **Pub. No.: US 2022/0416800 A1**(43) **Pub. Date: Dec. 29, 2022**(54) **APPARATUS FOR ANALOG-TO-DIGITAL
CONVERSION, SYSTEMS FOR
ANALOG-TO-DIGITAL CONVERSION AND
METHOD FOR ANALOG-TO-DIGITAL
CONVERSION**(52) **U.S. Cl.**CPC *H03M 1/121* (2013.01); *H03M 1/38*
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ABSTRACT(72) Inventors: **Martin CLARA**, Santa Clara, CA
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An apparatus for analog-to-digital conversion is provided. The apparatus includes a first analog-to-digital converter (ADC) configured to receive an input signal and convert the input signal to a sequence of M-bit digital values. The apparatus further includes a second ADC including a plurality of time-interleaved sub-ADCs each being configured to receive the input signal and at least one M-bit digital value of the sequence of M-bit digital values. Further, each of the plurality of time-interleaved sub-ADCs is configured to convert the input signal to a respective sequence of B-bit digital values using the at least one M-bit digital value of the sequence of M-bit digital values. M and B are integers with $M < B$.

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