

ABSTRACTMETHOD AND APPARATUS FOR EXTENDING THE RESOLUTION
OF A SIGMA-DELTA TYPE ANALOG TO DIGITAL CONVERTER

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A sigma-delta technique is used to generate a digital representation of the incoming analog signal amplitude. The integration stage (14,16) of the converter holds an analog error term relative to the ratio of an incoming
10 analog input signal to a reference voltage (V_{ref}). The incoming analog signal is disconnected at the end of the conversion. The error term is monitored through a comparator (15) as charge packets are applied to the input of the integration stage (14,16). The number of charge
15 packets needed to have the error term cross zero is derived from an auxiliary counter (30), and this number provides information which can be used to extend the resolution of the analog to digital converter.

20 Fig. 2