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(54) **CONDITIONAL TRACK AND HOLD  
AMPLIFIER**

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**ABSTRACT**

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Example embodiments include an apparatus with a buffer amplifier having an output node. A first switchable unidirectional current path is provided between the output node and a capacitor, the first path allowing current flow from the capacitor to the output node. A second switchable unidirectional current path is provided between the output node and the capacitor, the second path allowing current flow from the output node to the capacitor. Comparator circuitry is provided that operates to open the first path if the capacitor voltage is above an upper threshold and to open the second path if the capacitor voltage is below a lower threshold. The capacitor voltage may be read by an analog-to-digital converter.

