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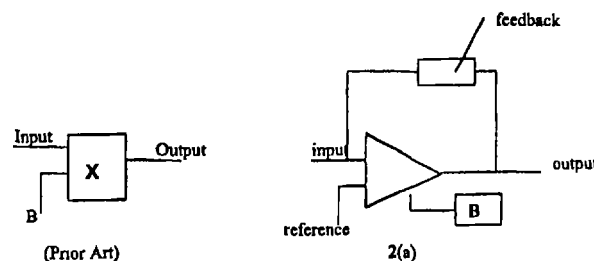
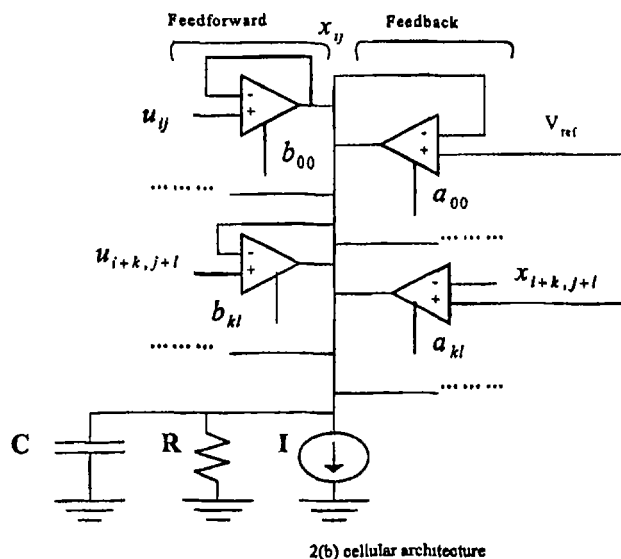


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(54) Title: TWO ARCHITECTURES FOR INTEGRATED REALIZATION OF SENSING AND PROCESSING IN A SINGLE DEVICE

(57) Abstract

An integrated sensing device comprising an array of sensor processor cells capable of being arranged into a detection array. Each sensor processor cell comprises a sensing medium; at least one transconductance amplifier configured for feedforward template multiplication; at least one transconductance amplifier configured for feedback template weights; a plurality of local dynamic memory cells; a data bus for data transfer; and a local logic unit. The array of sensor processor cells, by responding to data control signals, is capable of transforming, reshaping, and modulating the original sensed image into varied representations which include (and extend) traditional spatial and temporal processing transformations.



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