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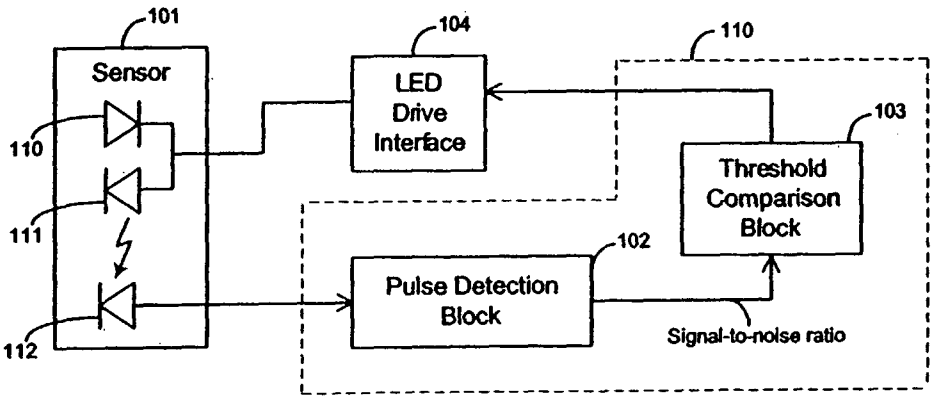
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(54) Title: TECHNIQUES FOR DETECTING HEART PULSES AND REDUCING POWER CONSUMPTION IN SENSORS



(57) Abstract: Low power techniques for sensing cardiac pulses in a signal from a sensor (101) are provided. A pulse detection block (102) senses the sensor signal and determines its signal-to-noise ratio. After comparing the signal-to-noise ratio to a threshold, the drive current of light emitting elements in the sensor is dynamically adjusted to reduce power consumption while maintaining the signal-to-noise ratio at an adequate level. The signal component of the sensor signal can be measured by identifying systolic transitions. The systolic transitions are detected using a maximum and minimum derivative averaging scheme. The moving minimum (301) and the moving maximum (304) are compared to the scaled sum (312, 313) of the moving minimum and moving maximum to identify the systolic transitions. Once the signal component has been identified, the signal component is compared to a noise component to calculate the signal-to-noise ratio.

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