

Abstract

DIGITAL INFRARED COMMUNICATIONS SYSTEM WITH EDGE DETECTION

A low-cost, low-power infrared digital communications system (101) overcomes the problem of infrared noise from interior lighting without using either a
5 high-power infrared source or upmodulation of the source. The system includes an infrared collector which uses a non-directional concentrator to concentrate the infrared radiation and a circuit (110) which detects the digital infrared signal in the noise by detecting the edges of the digital infrared signal (109). Devices in the
10 system need not be aimed at each other, but need only be in line of sight of each other. The preferred embodiment employs the digital infrared signals to communicate between a set of digital devices and a breaker box connected to the telephone network.

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