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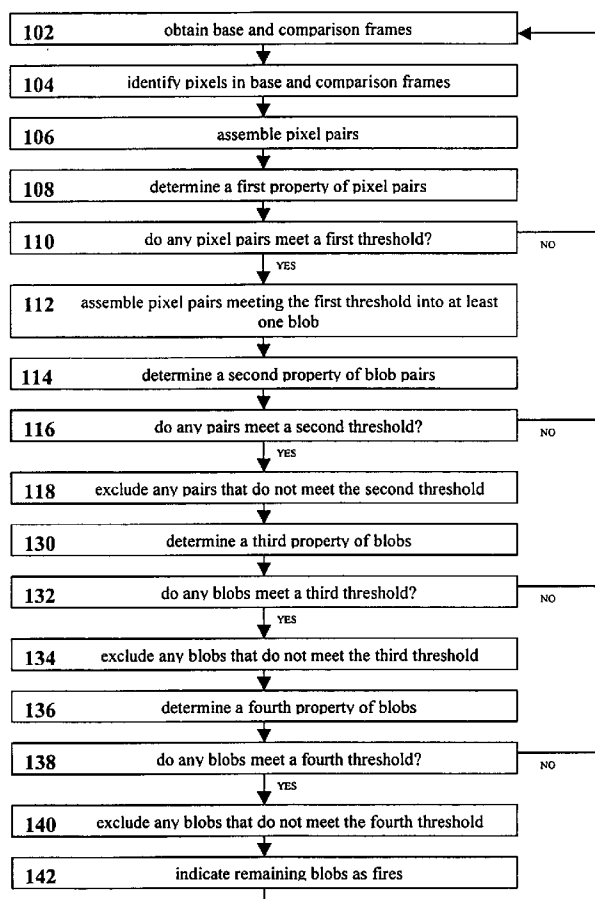
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- (71) Applicant: **DETECTOR ELECTRONICS CORPORATION** [US/US]; 6901 110th Street West, Minneapolis, MN 55438 (US).
- (72) Inventors: **KING, John, D.**; 1861 Gluek Lane, Roseville, MN 55113 (US). **JUNCK, Paul, M.**; 11050 Stanley Road, Bloomington, MN 55437 (US).
- (74) Agent: **BRUESS, Steven, C.**; Merchant & Could P.C., P.O. Box 2903, Minneapolis, MN 55402-0903 (US).
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(54) Title: METHOD AND APPARATUS OF DETECTING FIRE BY FLAME IMAGING



(57) Abstract: An apparatus and a method for performing first and second imaging processes contemporaneously, in particular where one of the processes is detecting fires based on images of the flames. The apparatus includes an image sensor for producing a video image, a frame grabber for capturing first frames and second frames, a processor for processing the data within the frames, and an output device. The apparatus may also include an adjustment mechanism for adjusting the image settings of the image sensor between settings suitable for flame imaging and non-flame imaging, and a control mechanism for controlling the image settings of the image sensor. In the method at least to first frames are obtained, and a plurality of second frames are obtained. The first and second frames are used for first and second processes. The first and second processes are contemporaneous, so that they are carried out within the same time period without interfering with one another. When the first process is flame detection, individual pairs of pixels having a property such as intensity that meets a first threshold are identified within the first frames, and are assembled into blobs. Additional properties of the pixel pairs and the blobs overall are evaluated in relation with additional thresholds. Blobs or pixels that do not meet the thresholds are excluded. Any blobs remaining after all evaluations are considered fires.

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