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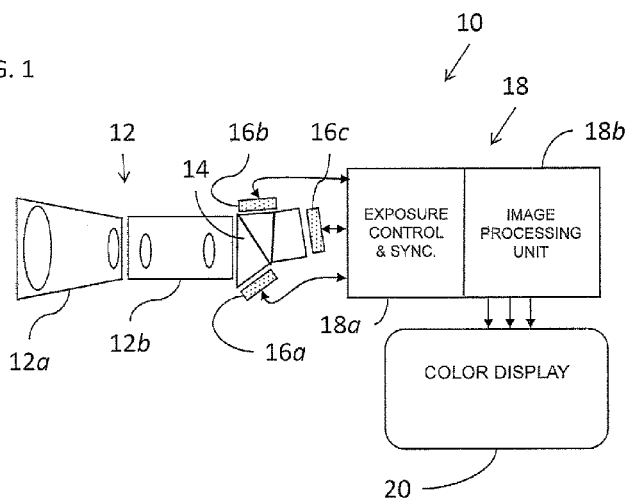
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FIG. 1



(57) Abstract: A multi-spectral video camera and corresponding method have an optical arrangement for collecting light, a light splitting prism for splitting the light into a number of spatially separated channels of distinct spectral ranges, and a corresponding number of image sensor arrays. An electronic control and processing system receives sensed pixel data from each of image sensor arrays, analyzes the pixel data separately for each of the image sensor arrays to determine an exposure parameter for each of the sensor arrays, and actuates each of the sensor arrays to capture a subsequent image frame with an effective exposure individually set for each sensor array in accordance with the corresponding exposure parameter. The camera also preferably performs independent contrast enhancement corrections for each spectral channel of the camera.