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(54) **Title**: VIDEO ENCODING BY FILTER SELECTION

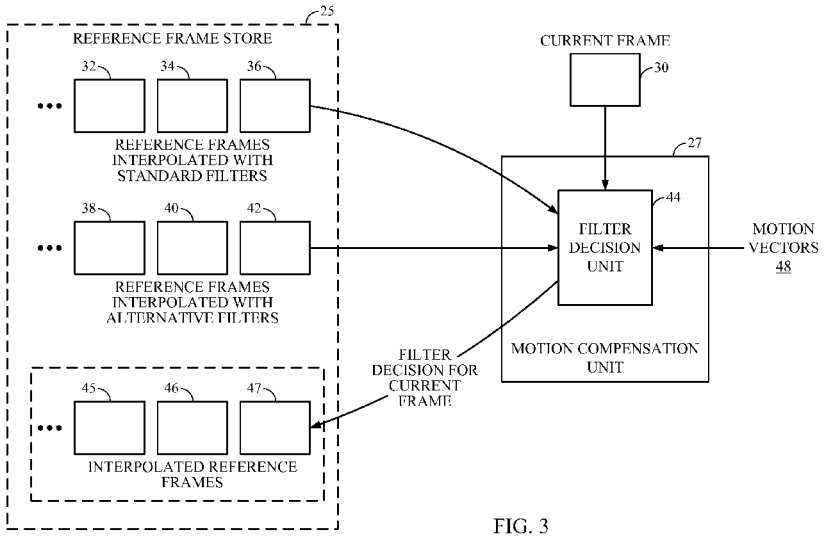


FIG. 3

(57) **Abstract**: A method and a device are described for selecting between multiple available filters in an encoder to provide a frame having a low error and distortion rate. For each full and sub pixel position, determining whether to use an alternative filter over the default filter during interpolation by estimating the rate distortion gain of using each filter and signaling to the decoder the optimal filter(s) applied to each full and sub-pixel position. In one embodiment, identifying a reference frame and a current frame, interpolating the reference frame using a default filter to create a default interpolated frame, interpolating the reference frame using an alternative filter to create an alternative interpolated frame, determining for each sub-pixel position whether to use the default filter or the alternative filter based on a minimal cost to generate a final reference frame.

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