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# United States Patent [19]

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Ueno et al.

[45] Date of Patent: **Sep. 22, 1992**

[54] APPARATUS FOR ENCODING/DECODING VIDEO SIGNALS TO IMPROVE QUALITY OF A SPECIFIC REGION

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[21] Appl. No.: **673,416**

[22] Filed: **Mar. 22, 1991**

[30] Foreign Application Priority Data

Mar. 26, 1990 [JP] Japan ..... 2-73275  
Jun. 29, 1990 [JP] Japan ..... 2-173077

[51] Int. Cl.<sup>5</sup> ..... **G06K 9/36**

[52] U.S. Cl. .... **382/56; 358/135; 358/136**

[58] Field of Search ..... 382/48, 50, 56; 358/133, 135, 136, 105

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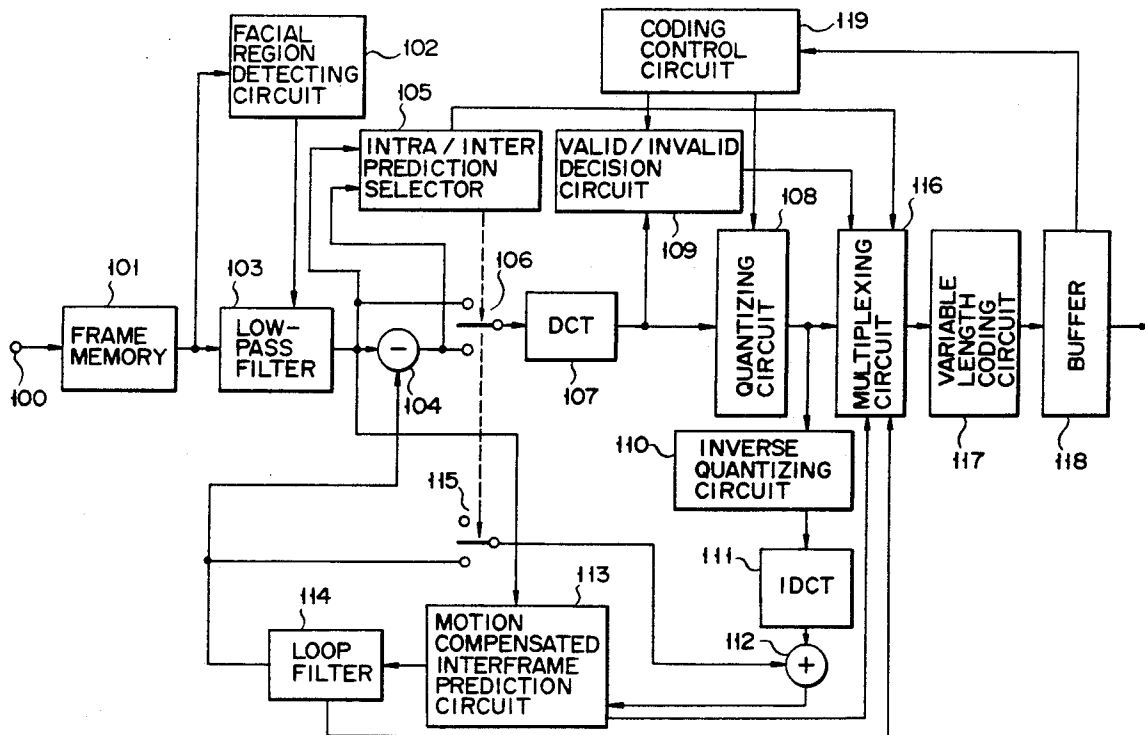
Primary Examiner—Jose Couso

Attorney, Agent, or Firm—Oblon, Spivak, McClelland, Maier & Neustadt

### [57] ABSTRACT

An image encoding apparatus comprises a region detecting circuit for detecting a specific region from input image signals and outputting the region specifying signal for discriminating the specific region from other regions, a low-pass filter for selectively filtering and outputting the image signals of regions other than the specific region in the input image signals, and an encoding circuit for encoding the image signal output from the low-pass filter.

19 Claims, 13 Drawing Sheets



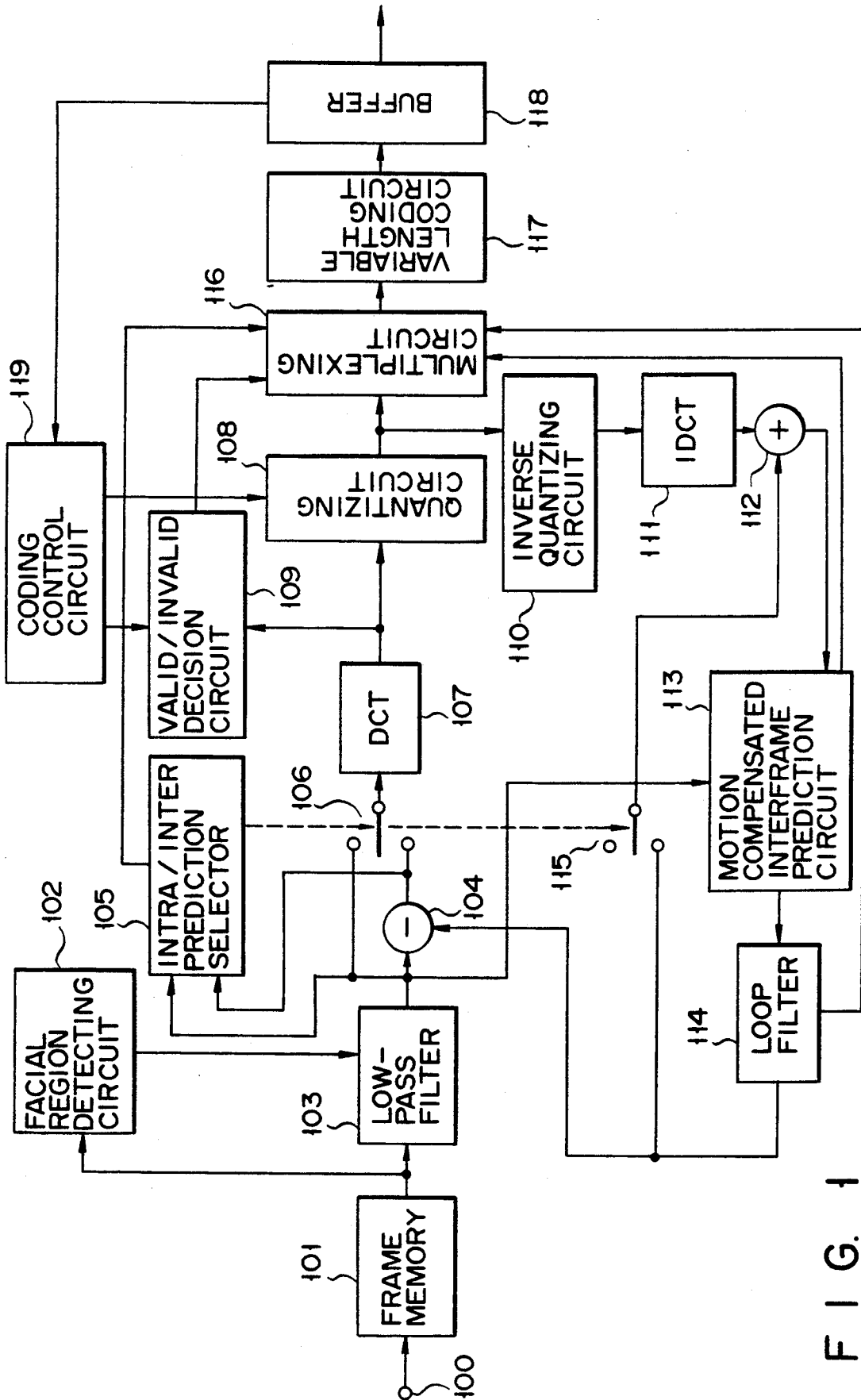


FIG. 1

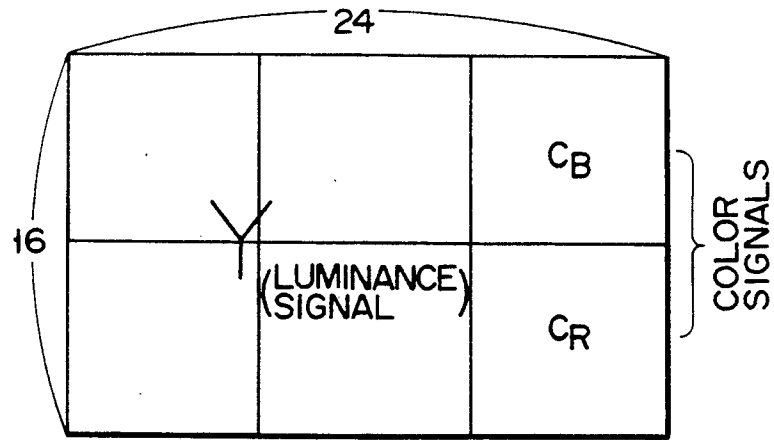


FIG. 2B

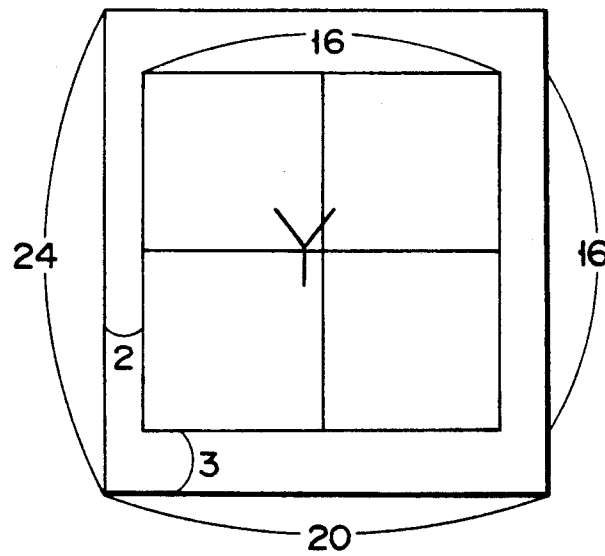


FIG. 2C

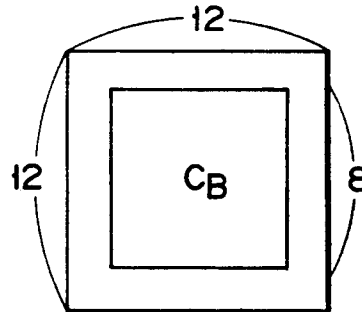
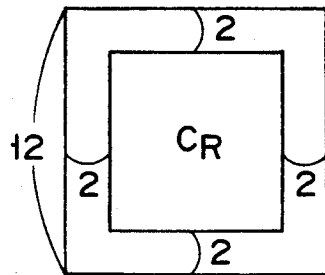


FIG. 2D



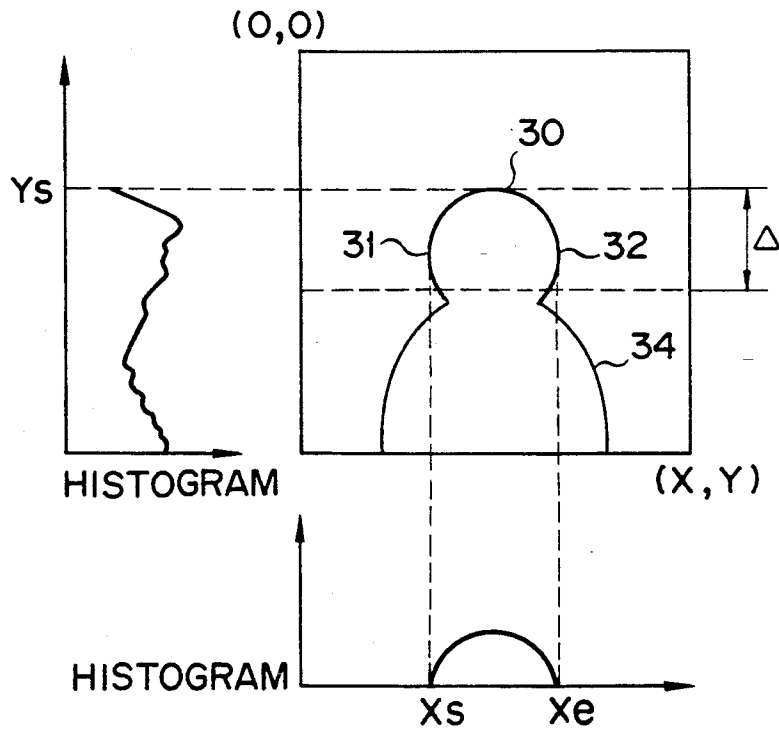


FIG. 3

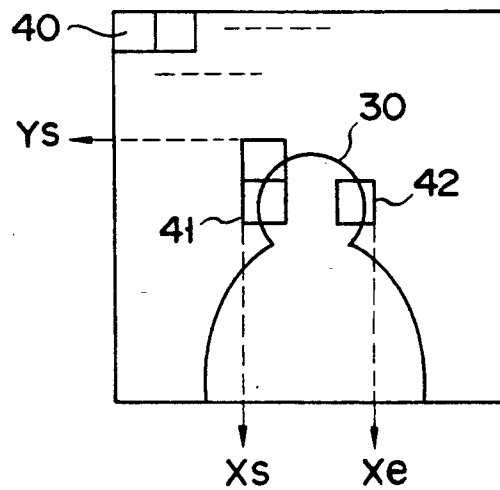
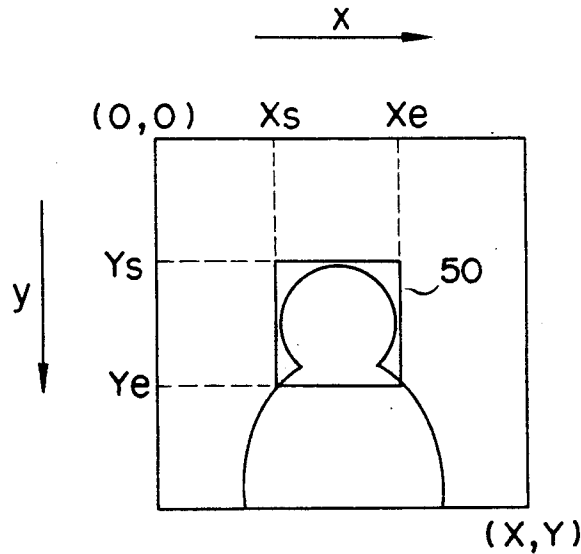


FIG. 4



FRAME DIFFERENCE  
IMAGE

FIG. 5

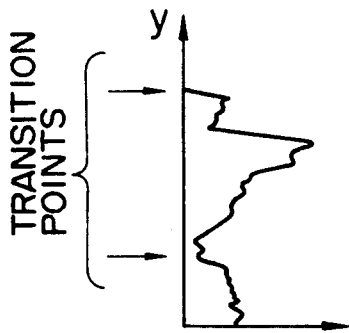


FIG. 7C

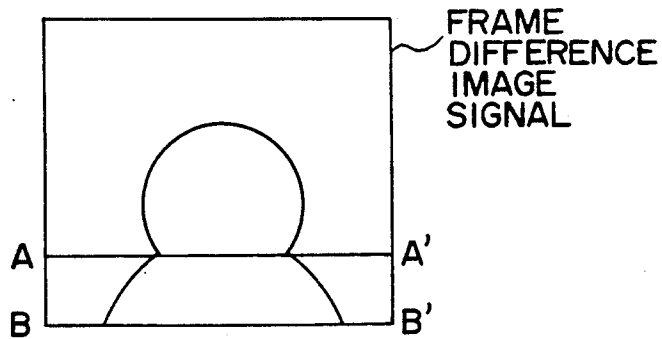


FIG. 7A

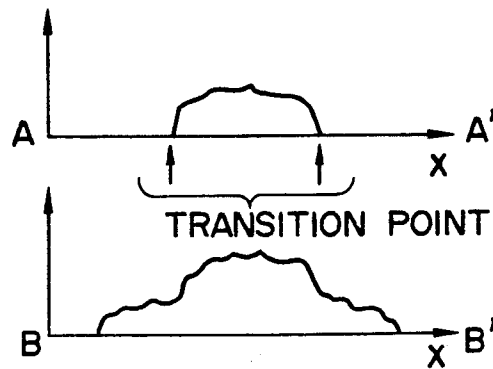


FIG. 7B

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