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[54] ADAPTIVE CODING AND DECODING OF FRAMES AND FIELDS OF VIDEO

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[58] **Field of Search** 358/133, 135, 136, 138, 358/105

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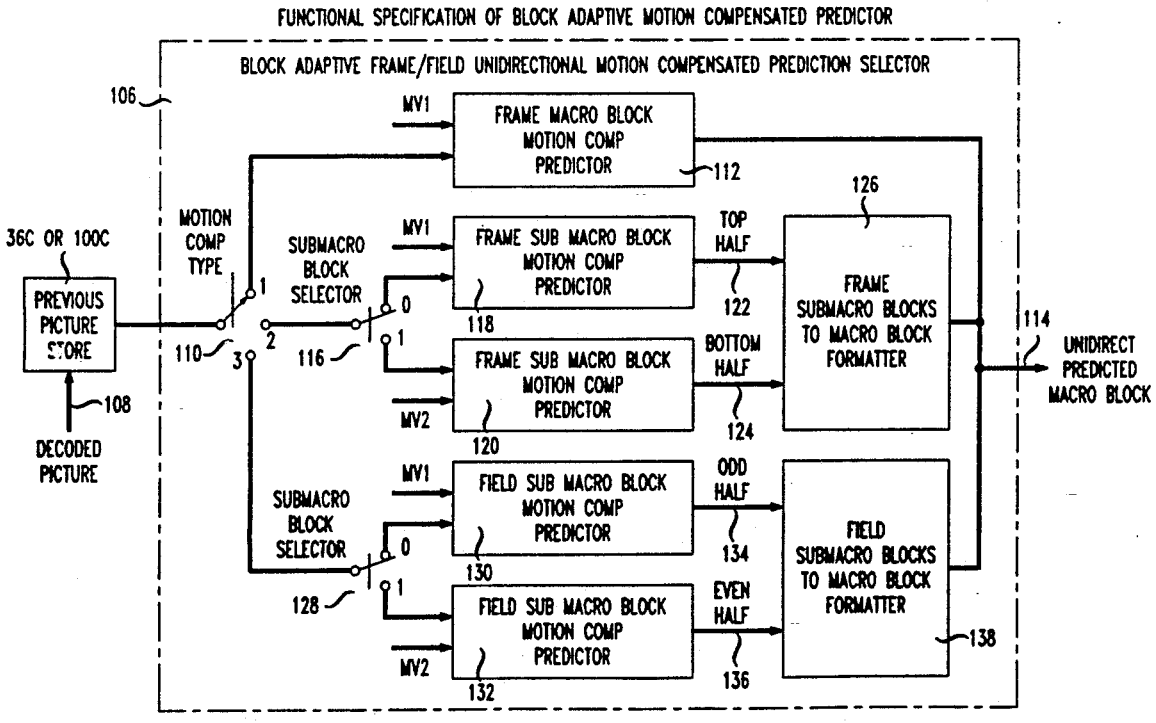
[57] **ABSTRACT**

Improved compression of digital signals relating to high resolution video images is accomplished by an adaptive and selective coding of digital signals relating to frames and fields of the video images. Digital video input signals are analyzed and a coding type signal is produced in response to this analysis. This coding type signal may be used to adaptively control the operation of one or more types of circuitry which are used to compress digital video signals so that less bits, and slower bit rates, may be used to transmit high resolution video images without undue loss of quality. For example, the coding type signal may be used to improve motion compensated estimation techniques, quantization of transform coefficients, scanning of video data, and variable word length encoding of the data. The improved compression of digital video signals is useful for video conferencing applications and high definition television, among other things.

33 Claims, 20 Drawing Sheets