

**United States Patent** [19]

[11] **Patent Number:** **5,477,264**

**Sarbadhikari et al.**

[45] **Date of Patent:** **Dec. 19, 1995**

[54] **ELECTRONIC IMAGING SYSTEM USING A REMOVABLE SOFTWARE-ENHANCED STORAGE DEVICE**

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[75] **Inventors:** **Kamal K. Sarbadhikari**, Penfield;  
**John R. Fredlund**; **Kenneth A. Parulski**, both of Rochester, all of N.Y.

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USSN 988,517 filed Dec. 10, 1992, Entitled "Electronic Camera with Memory Card Interface to a Computer", Kenneth A. Parulski et al.

USSN 085,519 filed Jun. 30, 1993, Entitled "Apparatus and Method for Adaptively Interpolating a Full Color Image Utilizing Chrominance Gradients", Claude A. Laroche et al. Personal Computer Memory Card International Association (PCMCIA) "PC Card Standard", Release 2.0, Sep. 1991.

[73] **Assignee:** **Eastman Kodak Company**, Rochester, N.Y.

[21] **Appl. No.:** **219,608**

[22] **Filed:** **Mar. 29, 1994**

[51] **Int. Cl.<sup>6</sup>** ..... **H04N 5/76**

[52] **U.S. Cl.** ..... **348/231; 348/233; 348/552**

[58] **Field of Search** ..... **348/222, 231, 348/232, 233, 552; 358/909.1, 906; 258/903, 909; H04N 5/76; 5/907, 5/92**

*Primary Examiner*—James J. Groody  
*Assistant Examiner*—Sherrie Hsia  
*Attorney, Agent, or Firm*—David M. Woods

[57] **ABSTRACT**

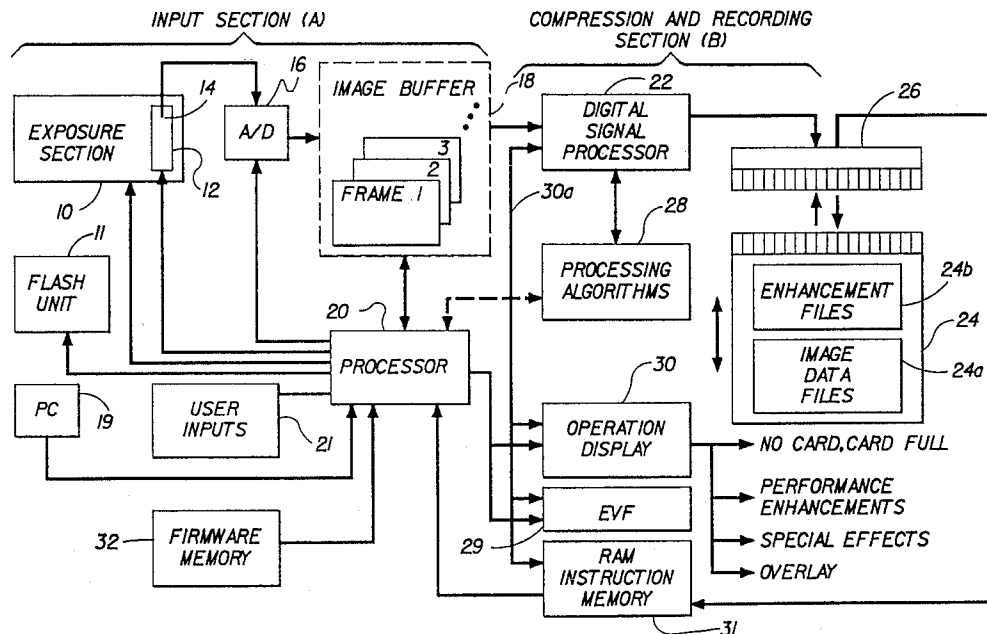
An electronic imaging system includes a digital electronic camera for capturing and storing images in a removable storage device, which is also preloaded with enhancement files for effecting the operation of the system. The camera includes an optical section for establishing the optical parameters of image capture, an image sensing section for electrically capturing the image, and a signal processing section for operating upon the electrically captured image prior to storage. The several sections of the camera are coordinated and controlled by a programmable processor, which is capable of receiving the enhancement files preloaded into the storage device. These files may contain software for updating the operating code of the camera, for modifying the electrically captured image in selected ways, for modifying camera in special situations, or for communicating non-captured image-like data, such as text and image overlays, to the camera.

[56] **References Cited**

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**47 Claims, 11 Drawing Sheets**



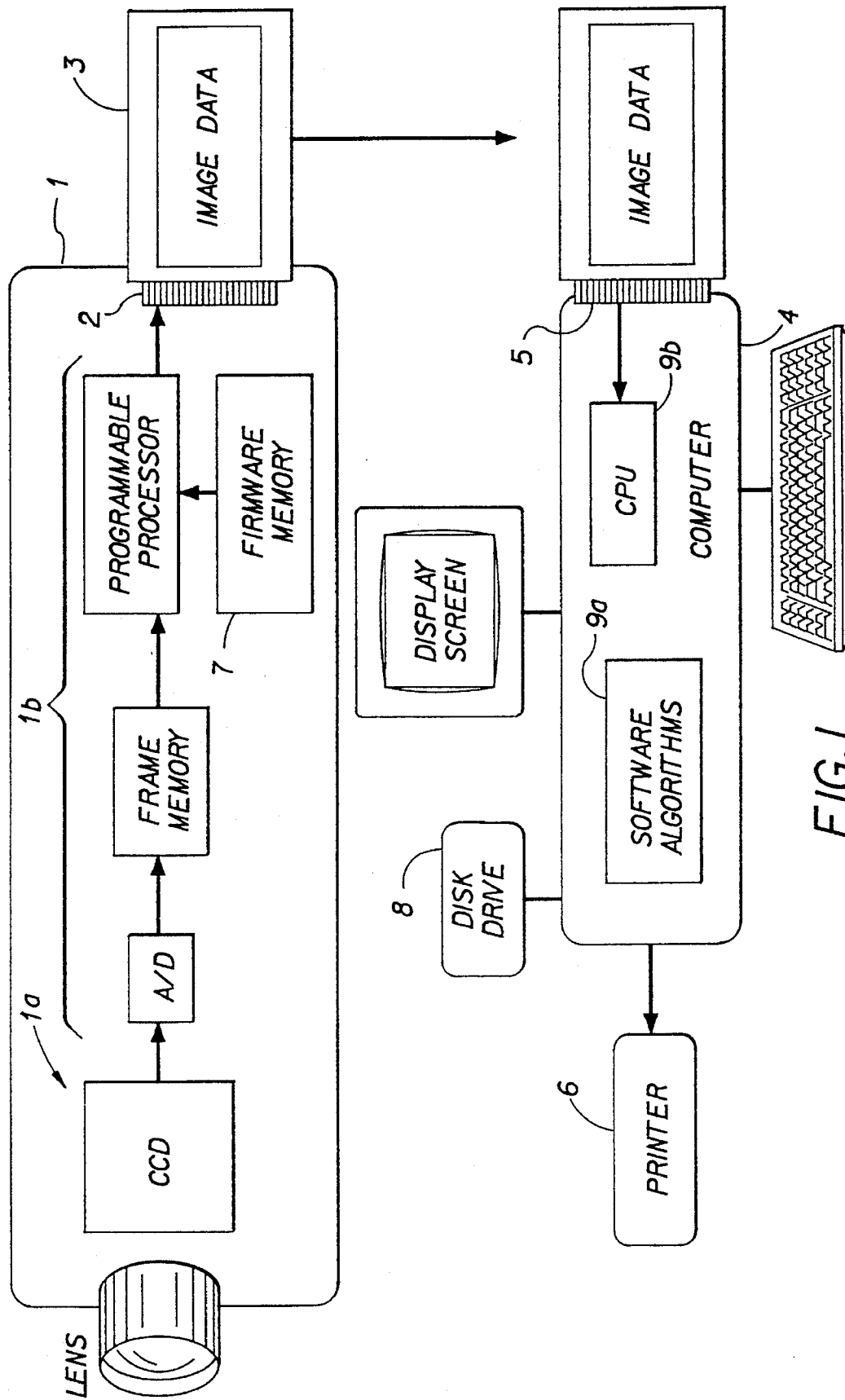


FIG. 1  
(PRIOR ART)

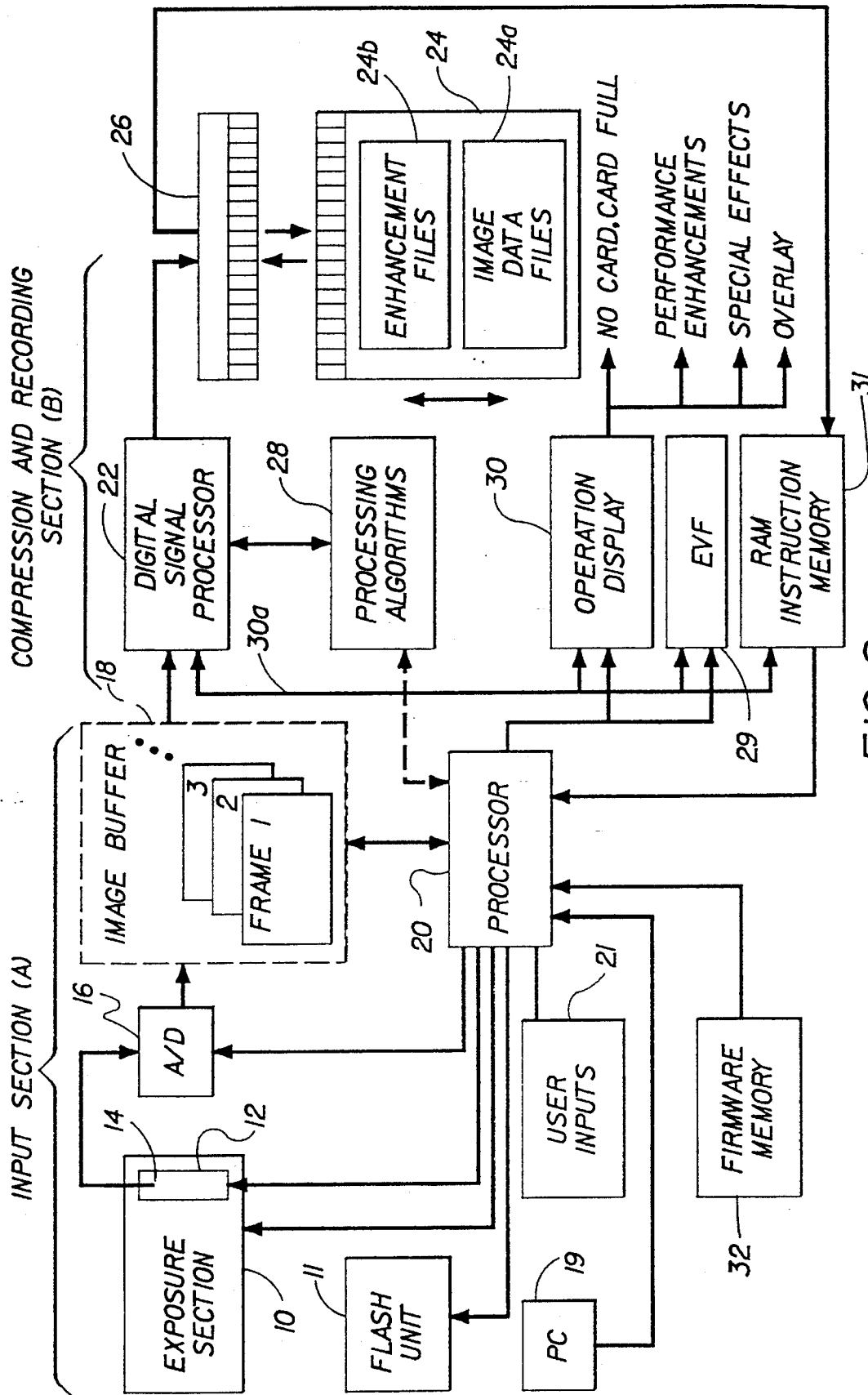


FIG. 2

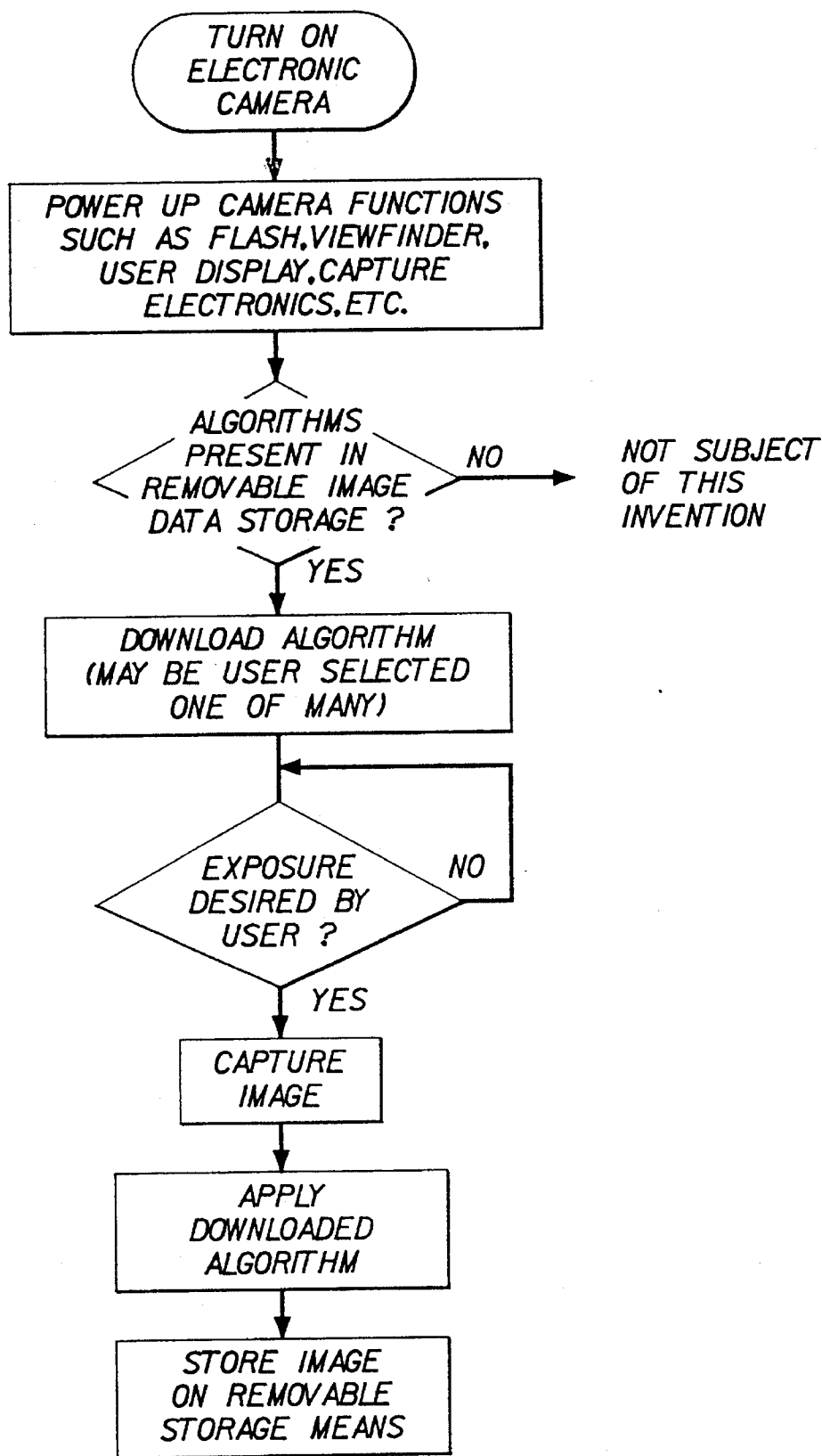


FIG. 3

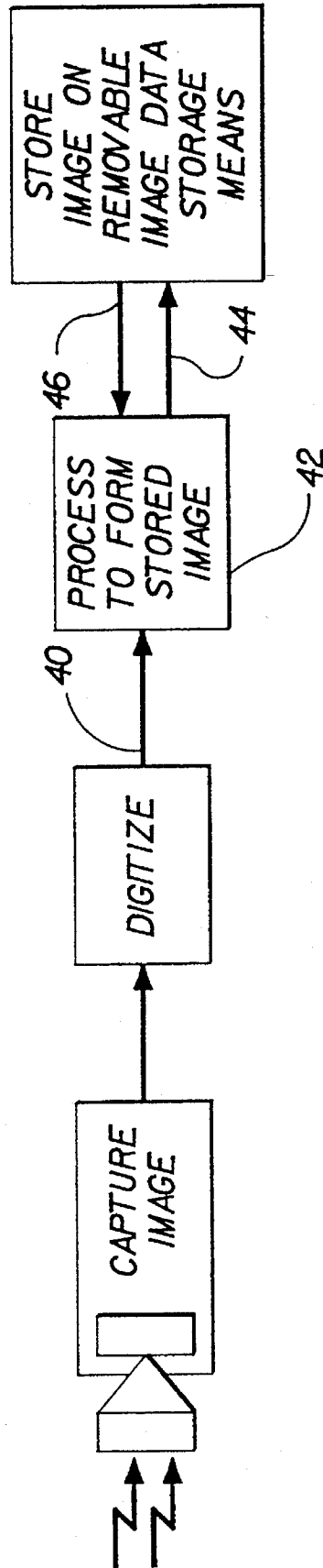


FIG. 4

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