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United States Patent [19]

Rhodes et al.

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[54] **METHOD AND APPARATUS FOR DISPLAYING AN IMAGE IN A WINDOWED ENVIRONMENT**

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[73] Assignee: **Intel Corporation**, Santa Clara, Calif.

[21] Appl. No.: **103,256**

[22] Filed: **Aug. 6, 1993**

[51] Int. Cl.^{6} G09G 5/14
[52] U.S. Cl. 345/119; 395/133; 395/157
[58] Field of Search 345/118, 119,
345/125, 121, 127, 112, 132, 133, 150,
145, 153, 154, 200, 203; 395/129, 131,
133, 134, 139, 153, 154, 155, 157, 161,
164, 165, 166; 348/557, 577, 578, 708

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Primary Examiner—Steven Saras
Attorney, Agent, or Firm—Steve Mendelsohn; William H. Murray

[57]   **ABSTRACT**

A method and apparatus for displaying an image in a system having an image generation subsystem and an image display subsystem. The image generation subsystem provides digital data corresponding to the image. The image generation subsystem then copies the digital data to a memory of the image display subsystem. The image display subsystem performs window management on the digital data and displays the digital data.
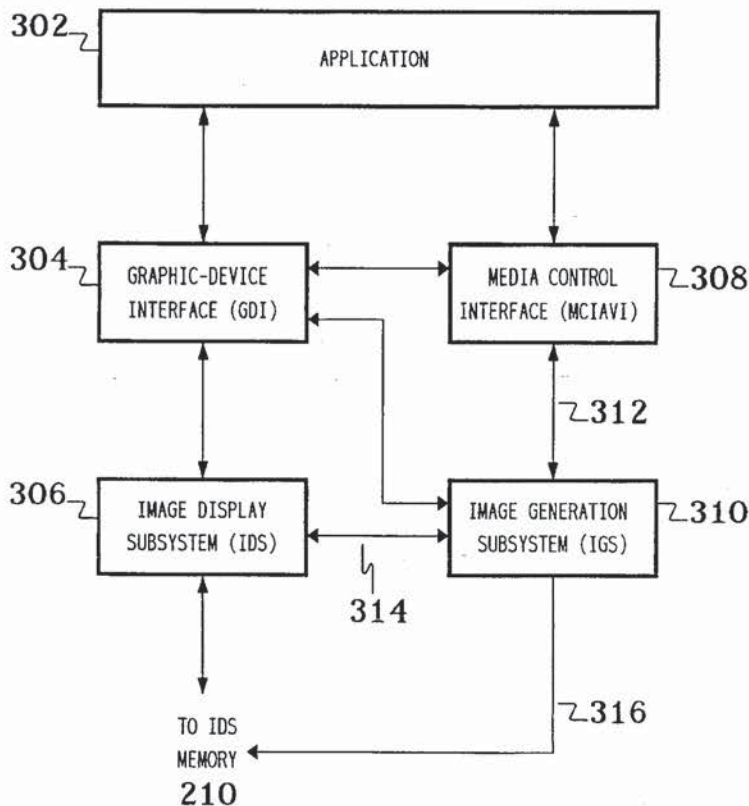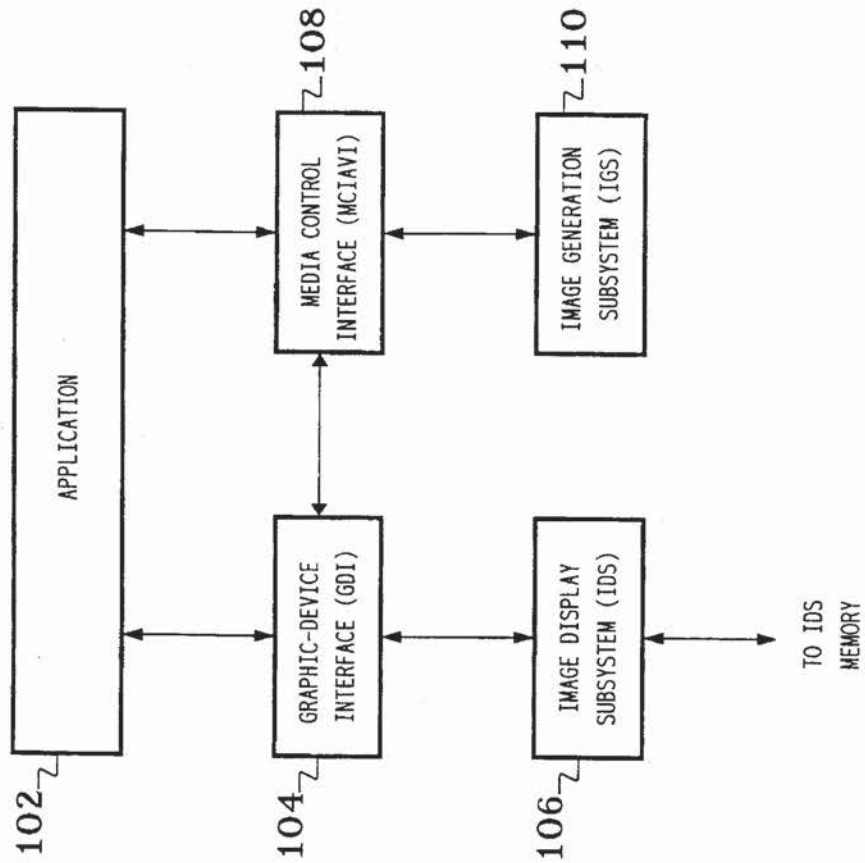
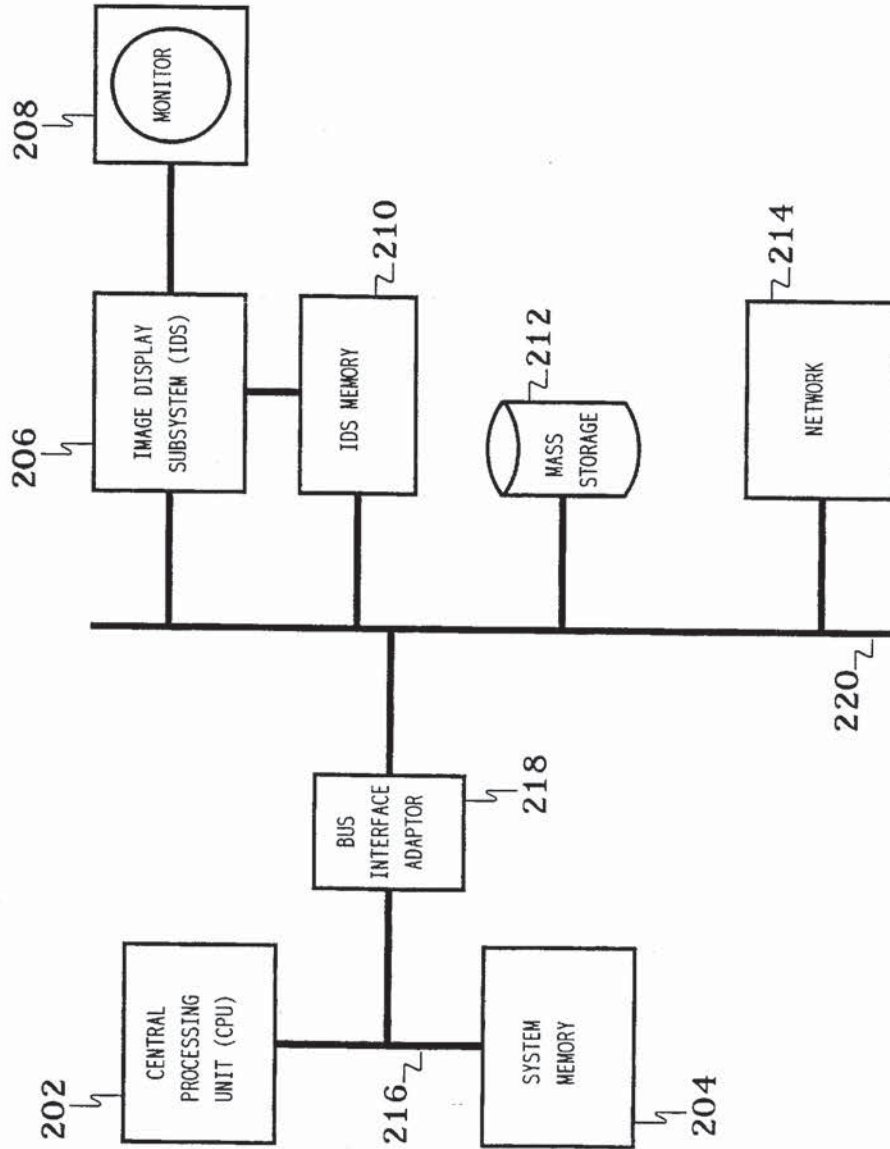**18 Claims, 10 Drawing Sheets**

200

302 — APPLICATION

304 — GRAPHIC-DEVICE INTERFACE (GDI)

308 — MEDIA CONTROL INTERFACE (MCIAVI)

312

306 — IMAGE DISPLAY SUBSYSTEM (IDS)

310 — IMAGE GENERATION SUBSYSTEM (IGS)

314

316

TO IDS MEMORY

210

100

FIG. 1 (PRIOR ART)

APPLICATION — 102

MEDIA CONTROL INTERFACE (MCIAVI) — 108

IMAGE GENERATION SUBSYSTEM (IGS) — 110

GRAPHIC-DEVICE INTERFACE (GDI) — 104

IMAGE DISPLAY SUBSYSTEM (IDS) — 106

TO IDS MEMORY

FIG. 2

200

FIG. 3

FIG. 4

200

402 — APPLICATION REQUESTS MCIAVI TO DISPLAY IMAGE IN WINDOW.

404 — MCIAVI OPENS WINDOW.

406 — MCIAVI OPENS IMAGE FILE.

408 — MCIAVI CAUSES IGS TO BE INITIALIZED.

410 — MCIAVI SENDS DEVICE CONTEXT HANDLE AND WINDOW HANDLE TO IGS.

412 — IGS PROCESSES IMAGE DATA.

414 — IGS MAKES IMAGE DATA AVAILABLE TO IDS

416 — IDS PROCESSES AND DISPLAYS IMAGE DATA

418 — DISPLAY ANOTHER IMAGE ?　　YES

NO

422 — MCIAVI CLOSES IGS.

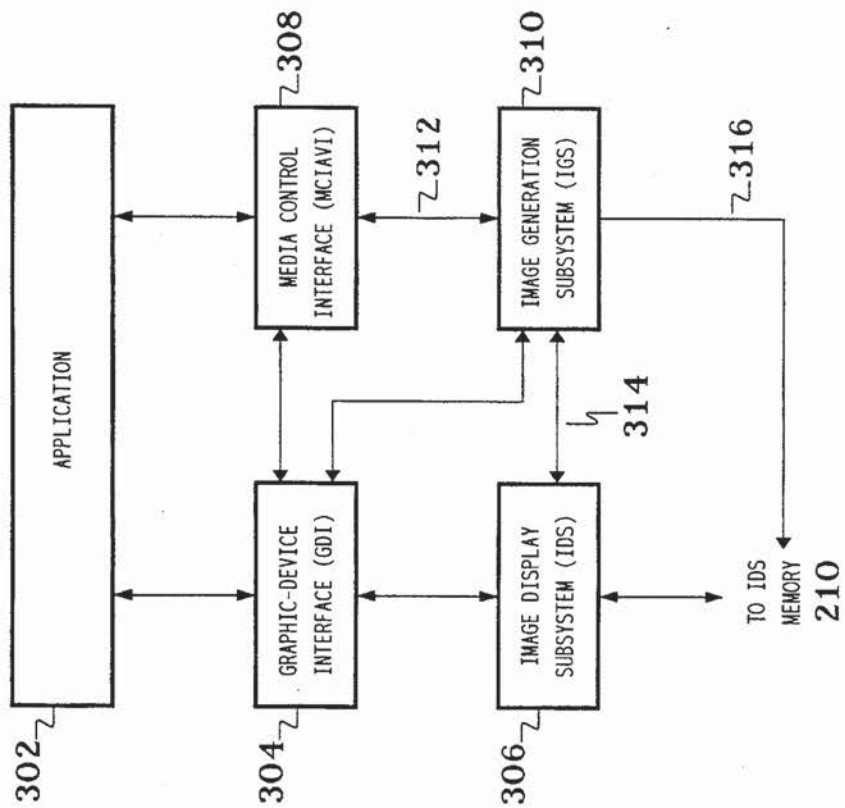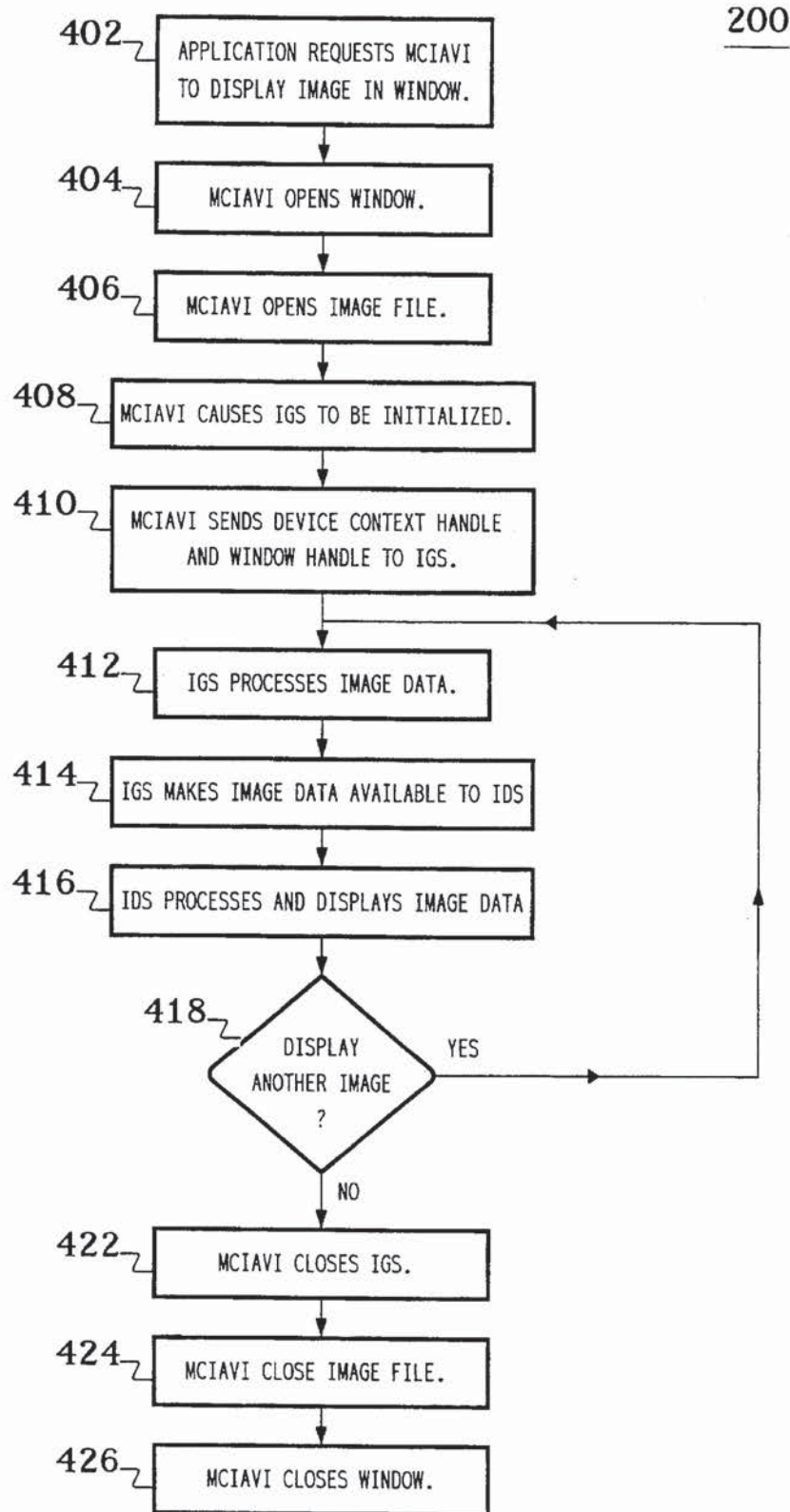424 — MCIAVI CLOSE IMAGE FILE.

426 — MCIAVI CLOSES WINDOW.

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