



US006930709B1

(12) **United States Patent**
Creamer et al.

(10) **Patent No.: US 6,930,709 B1**
(45) **Date of Patent: Aug. 16, 2005**

(54) **INTEGRATED INTERNET/INTRANET CAMERA**

(75) Inventors: **Rob Creamer**, Boulder, CO (US);
Walter Knapp, Boulder, CO (US);
Mark Koch, Broomfield, CO (US);
Yoshiyuki Araki, Saitama-ken (JP);
Richard Helton, Boulder, CO (US)

(73) Assignee: **PENTAX of America, Inc.**, Montvale, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/204,289**

(22) Filed: **Dec. 3, 1998**

Related U.S. Application Data

(60) Provisional application No. 60/085,585, filed on May 15, 1998, and provisional application No. 60/067,310, filed on Dec. 4, 1997.

(51) **Int. Cl.⁷** **H04N 5/232; H04N 5/225; H04N 11/00**

(52) **U.S. Cl.** **348/211.3; 348/207.1; 348/552**

(58) **Field of Search** 348/207.1, 211.3, 348/211.1, 211.8, 211.12, 552, 231.2, 231.6, 14.01-14.16, 36, 211.6, 154, 155, 158, 358/403; 704/203

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | |
|---------------|---------|-----------------------|-----------|
| 5,185,667 A | 2/1993 | Zimmermann | |
| 5,283,655 A | 2/1994 | Maeno | |
| 5,477,264 A | 12/1995 | Sarbadhikari et al. | |
| 5,479,206 A * | 12/1995 | Ueno et al. | 348/211.5 |
| 5,612,732 A * | 3/1997 | Yuyama et al. | 348/14.01 |
| 5,633,678 A * | 5/1997 | Parulski et al. | 348/231.5 |
| 5,635,983 A | 6/1997 | Ohmori | |
| 5,646,684 A * | 7/1997 | Nishizawa et al. | 348/231.8 |
| 5,724,155 A * | 3/1998 | Saito | 358/402 |

| | | | |
|---------------|---------|---------------------|---------|
| 5,734,425 A | 3/1998 | Takizawa et al. | |
| 5,796,426 A | 8/1998 | Gullichsen et al. | |
| 5,818,537 A * | 10/1998 | Enokida et al. | 348/441 |
| 5,870,135 A | 2/1999 | Glatt et al. | |
| 5,887,140 A * | 3/1999 | Itsumi et al. | 709/225 |
| 5,911,044 A * | 6/1999 | Lo et al. | 709/203 |
| 5,990,941 A | 11/1999 | Jackson et al. | |
| 6,005,611 A | 12/1999 | Gullichsen et al. | |

(Continued)

FOREIGN PATENT DOCUMENTS

| | | | | |
|----|--------------|--------|-------|------------|
| JP | 08102837 A * | 4/1996 | | H04N/01/32 |
| JP | 08171691 A * | 7/1996 | | G08B/25/00 |

OTHER PUBLICATIONS

3.3 Connectionless Transport: UDP, Ross and Kurose; <http://www-net.cs.umass.edu/kurose/transport/UDP.html>; 1996-2000.*

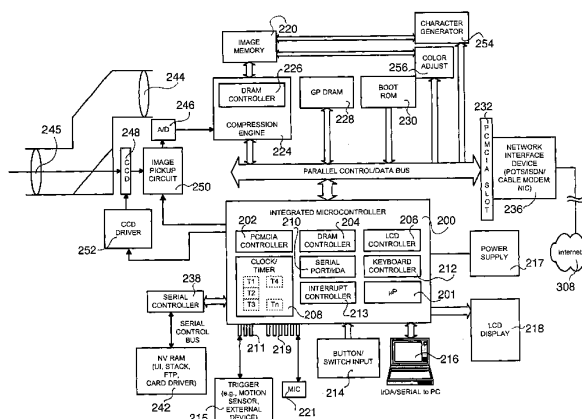
(Continued)

Primary Examiner—Wendy R. Garber
Assistant Examiner—John M. Vilecco
(74) *Attorney, Agent, or Firm*—Greenblum & Bernstein, P.L.C.

(57) **ABSTRACT**

An integrated Internet camera includes, as embedded components contained within the camera body and controlled by a microcontroller, at least a network interface device for connecting to the Internet, a transport control device for packetizing according to Internet protocols, a file transfer device for communicating with a destination user directory on the Internet, and a transmission initiating device for initiating the connection and transfer operations of the file transfer device and transport control device. The network interface device may be a modem, network adapter, or adapter for connection to the Internet. Upon capturing the digital image, the camera initiates a connection to the Internet, connects to the destination user directory, and uploads the digital images. Thereafter, the digital images are available to authorized (or any) user having access to the Internet.

91 Claims, 22 Drawing Sheets



US 6,930,709 B1

Page 2

U.S. PATENT DOCUMENTS

6,034,716 A 3/2000 Whiting et al.
6,038,296 A * 3/2000 Brunson et al. 379/100.11
6,043,837 A 3/2000 Driscoll, Jr. et al.
6,047,264 A * 4/2000 Fisher et al. 705/26
6,061,502 A * 5/2000 Ho et al. 358/1.15
6,065,062 A * 5/2000 Periasamy et al. 709/242
6,067,571 A * 5/2000 Igarashi et al. 709/232
6,094,221 A 7/2000 Andersion
6,134,606 A 10/2000 Anderson et al.
6,147,598 A * 11/2000 Murphy et al. 340/426.19
6,167,469 A * 12/2000 Safai et al. 710/62
6,188,431 B1 * 2/2001 Oie 348/211.5
6,195,511 B1 2/2001 Harada
6,204,877 B1 * 3/2001 Kiyokawa 348/211.3
6,208,426 B1 * 3/2001 Saito et al. 358/1.15
6,226,449 B1 * 5/2001 Inoue et al. 386/120
6,256,059 B1 7/2001 Fichtner
6,278,481 B1 * 8/2001 Schmidt 348/64
6,300,976 B1 10/2001 Fukuoka
6,331,869 B1 12/2001 Furlan et al.
6,360,362 B1 3/2002 Fichtner et al.
6,389,464 B1 * 5/2002 Krishnamurthy et al. ... 709/220
6,407,752 B1 * 6/2002 Harnett 345/744
6,438,587 B2 * 8/2002 Kitamura 709/217
6,441,924 B1 * 8/2002 Matsui 358/403
6,452,629 B1 9/2002 Aizawa et al.

6,525,761 B2 * 2/2003 Sato et al. 348/14.04
6,539,547 B2 3/2003 Driscoll, Jr. et al.
6,567,122 B1 * 5/2003 Anderson et al. 348/211.3
6,571,271 B1 5/2003 Savitzky et al.
6,591,279 B1 7/2003 Emens et al.
6,594,032 B1 * 7/2003 Hiroki et al. 358/1.15
6,603,502 B2 8/2003 Martin et al.
6,624,846 B1 9/2003 Lassiter
6,636,259 B1 10/2003 Anderson et al.
6,720,987 B2 4/2004 Koyanagi et al.
2001/0024232 A1 9/2001 Suzuki
2003/0025803 A1 2/2003 Nakamura et al.
2003/0208567 A1 11/2003 Gross
2004/0012811 A1 1/2004 Nakayama

OTHER PUBLICATIONS

P.M. Corcoran et al., "Internet Enabled Digital Photography," IEEE, pp. 84-84.

"NEC Picona digital camera, Instruction Manual for PC-DC200 and PC-DC200K", dated Feb. 1997.

A verified English language translation of "NEC Picona digital camera, Instruction Manual for PC-DC200 and PC-DC200K", dated Feb. 1997.

* cited by examiner

FIG. 1
PRIOR ART

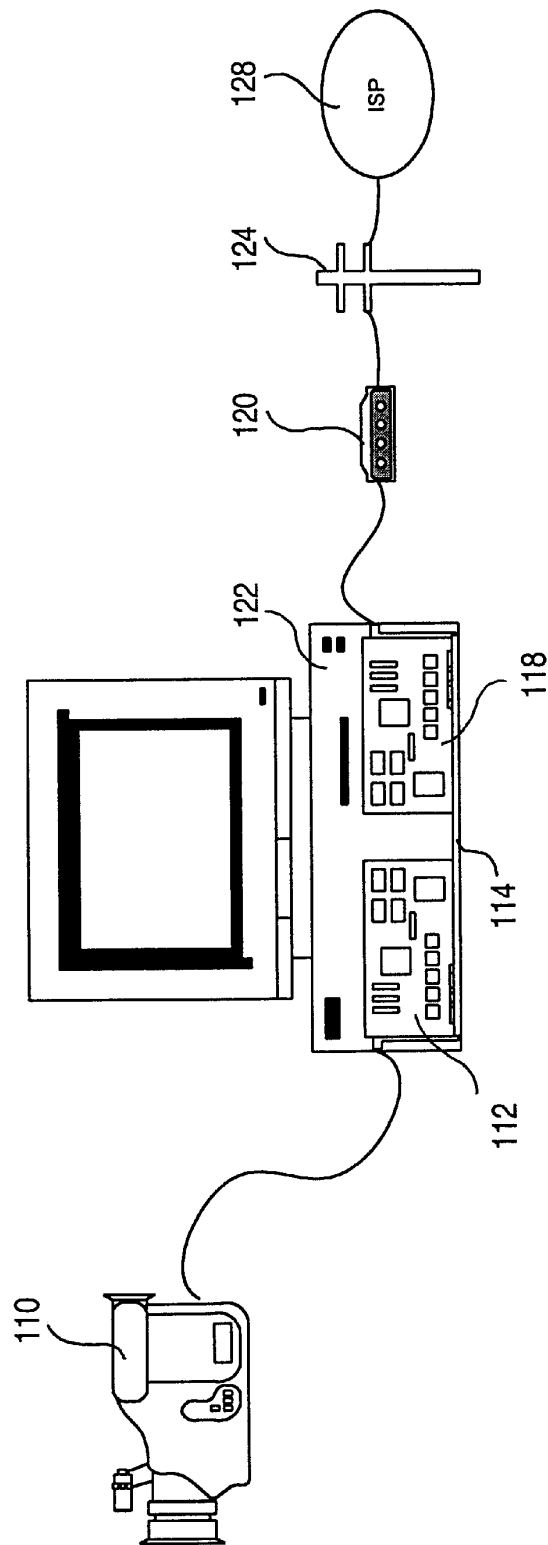


FIG. 2

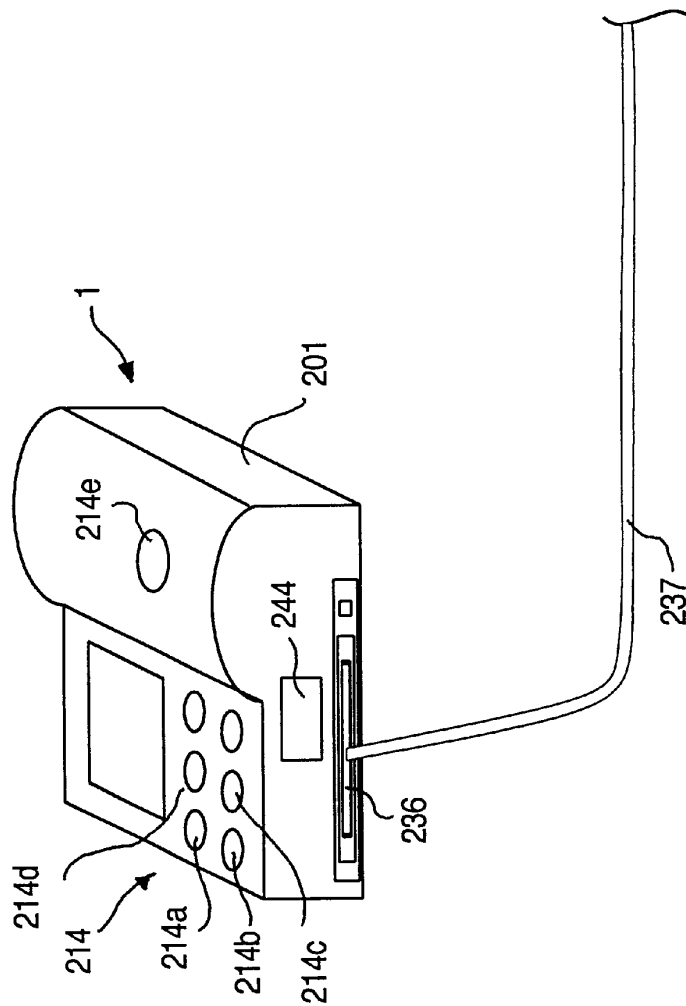
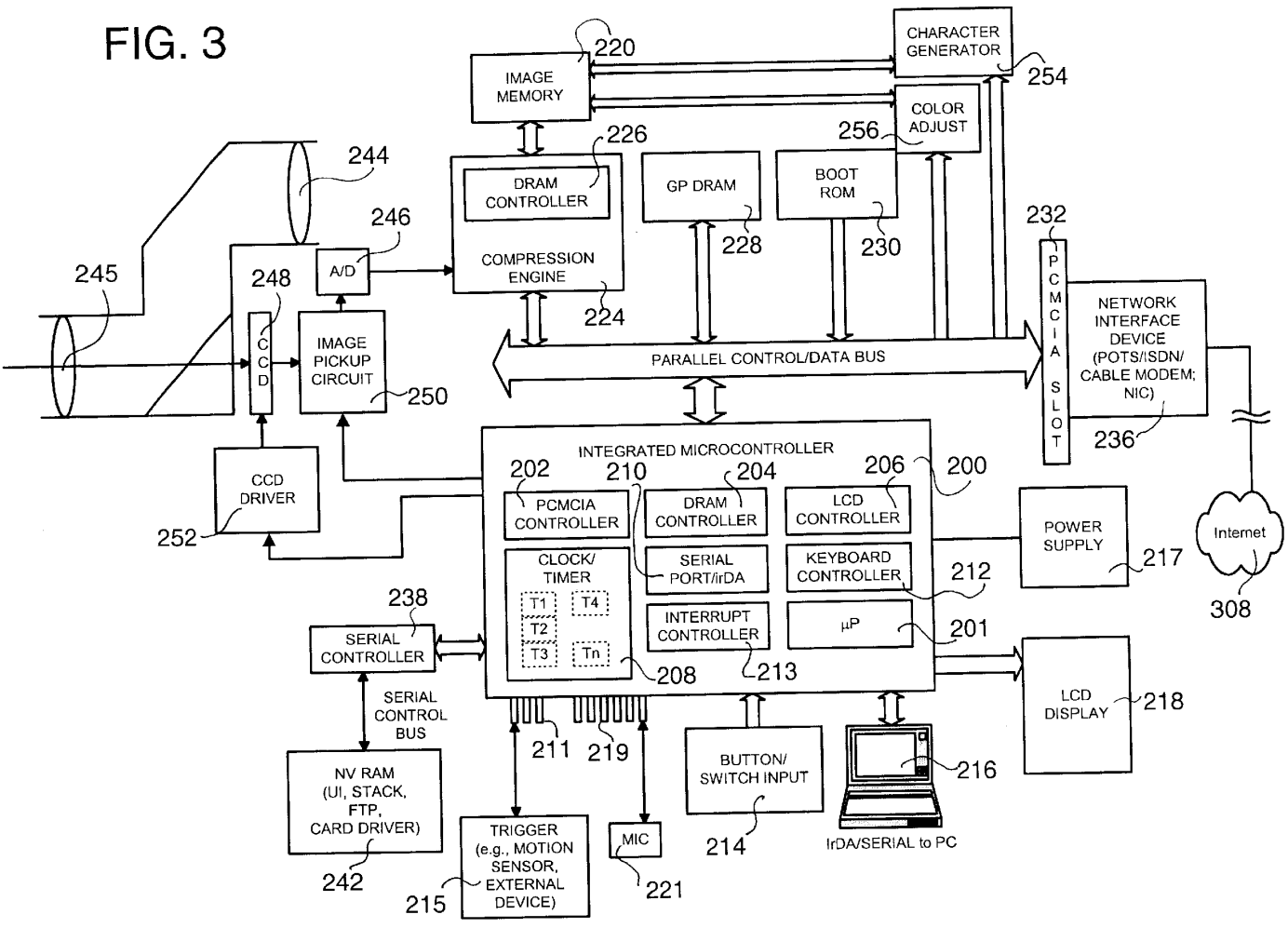


FIG. 3



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.