



US006563532B1

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

(10) **Patent No.:** US 6,563,532 B1
(45) **Date of Patent:** May 13, 2003

(54) **LOW ATTENTION RECORDING UNIT FOR USE BY VIGOROUSLY ACTIVE RECORDER**

(75) Inventors: **Henry B. Strub**, Lincolnwood, IL (US); **David A. Burgess**, Fairfield, CA (US); **Kimberly H. Johnson**; **Jonathan R. Cohen**, both of San Francisco, CA (US); **David P. Reed**, Needham, MA (US); **G. Roberto Aiello**, Palo Alto, CA (US)

(73) Assignee: **Internal Research Corporation**, Palo Alto, CA (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.: **09/557,169**

(22) Filed: **Apr. 21, 2000**

Related U.S. Application Data

(63) Continuation of application No. 09/408,482, filed on Sep. 29, 1999, now abandoned

(60) Provisional application No. 60/114,808, filed on Jan. 5, 1999.

(51) **Int. Cl.**⁷ **H04N 7/18**

(52) **U.S. Cl.** **348/158**; 348/373; 348/376

(58) **Field of Search** 348/143, 158, 348/159, 373, 376

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,884,403	A	5/1975	Brewer	224/5
3,919,475	A	11/1975	Dukich et al.	178/7.91
4,033,488	A	7/1977	Brewer	224/5
4,051,534	A	9/1977	Dukich et al.	358/210
4,131,919	A	12/1978	Lloyd et al.	360/9
4,446,997	A	5/1984	Himberg	224/151
4,526,308	A	7/1985	Dovey	224/265
4,536,066	A	8/1985	Bauer	352/35

(List continued on next page.)

OTHER PUBLICATIONS

Gemperle, Francine et al., "Design for Wearability", IEEE, 1998, pp. 116-122.

World Wide Web page illustrating Alain Mikli La Lunette Camera Sunglasses, Jul. 27, 1998, 1 page.

World Wide Web pages regarding 1998 Everest Expedition Datacam Technology, Jul. 31, 1998, 2 pages.

Good Guys Circular, "JVC Compact Super-VHS Modular Component Video System", Nov. 1991 or 1992, 1 page.

Healey, Jennifer et al., "StartleCam: A Cybernetic Wearable Camera", Second International Symposium on Wearable Computers, Oct. 19-20, 1998, pp. 42-49.

Description of Toyoda Machinery USA's Virtual Tech system, believed to be in use in Japan in 1998, 2 pages.

World Wide Web page describing Supercircuits GCI Professional Grade Color Covert Glasses Cam, 1998, 1 page.

(List continued on next page.)

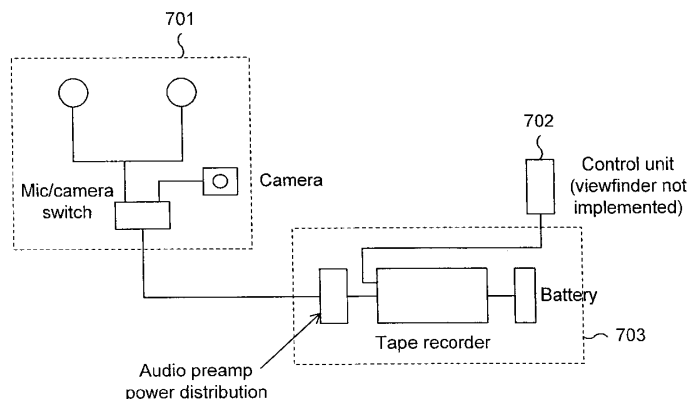
Primary Examiner—Andy Rao

(74) *Attorney, Agent, or Firm*—Van Pelt & Yi LLP

(57) **ABSTRACT**

The invention enables "low attention recording," i.e., recording that need not appreciably affect interaction of a recorder (i.e., a person in control of a recording unit according to the invention) or others with the environment in which the recording is taking place. The low attention recording enabled by the invention can be particularly advantageously employed in "social recording," i.e., recording in which multiple participants in an event are recording the event. As described in more detail below, advantageous aspects of the invention can be provided by a small, lightweight, wearable recording unit. In particular, a recording unit according to the invention is particularly adapted to enable use of the recording unit to record an event during which the recorder engages in vigorous physical activity (e.g., an athletic activity, such as hiking, snow skiing or ping pong). The recording unit is constructed with a particular emphasis on the wearability characteristics of the recording unit, in order to facilitate freedom of movement by the recorder and minimize distraction to, or encumbrance of, the recorder's participation in the activity.

43 Claims, 10 Drawing Sheets



Motorola v. Stellar

Motorola Exhibit 1046

Page 001

U.S. PATENT DOCUMENTS

4,714,184 A	12/1987	Young et al.	224/253	5,717,814 A	2/1998	Abecassis	386/46
4,837,817 A	6/1989	Maemori	358/224	5,717,869 A	2/1998	Moran et al.	395/339
5,012,335 A *	4/1991	Cohodar	348/158	5,726,660 A	3/1998	Purdy et al.	342/357
5,146,353 A	9/1992	Isoguchi et al.	358/909	5,729,108 A	3/1998	Steele	318/575
5,185,667 A	2/1993	Zimmermann	358/209	5,740,037 A	4/1998	McCann et al.	364/400
5,262,856 A	11/1993	Lippman et al.	358/136	5,742,339 A	4/1998	Wakui	348/233
5,295,089 A	3/1994	Ambasz	364/708.1	5,742,517 A	4/1998	Van Den Bosch	364/507
5,396,583 A	3/1995	Chen et al.	395/127	5,749,010 A	5/1998	McCumber	396/420
5,416,310 A	5/1995	Little	235/462	5,752,113 A	5/1998	Borden	395/428
5,436,542 A	7/1995	Petelin et al.	318/567	5,768,640 A	6/1998	Takahashi et al.	396/310
5,438,362 A	8/1995	Tabuchi	348/211	5,768,648 A	6/1998	Skipper et al.	396/428
5,467,271 A	11/1995	Abel et al.	364/420	5,796,426 A	8/1998	Gullichsen et al.	348/207
5,477,331 A	12/1995	Yamaguchi et al.	358/296	5,826,206 A	10/1998	Nemeth	701/35
5,486,852 A	1/1996	Arai	348/211	5,886,739 A *	3/1999	Winningstad	348/158
5,488,409 A	1/1996	Yuen et al.	348/5	5,940,004 A *	8/1999	Fulton	348/158
5,510,830 A	4/1996	Ohia et al.	348/36	5,982,979 A	11/1999	Omata et al.	386/69
5,514,861 A	5/1996	Swartz et al.	235/472	6,118,925 A	9/2000	Murata et al.	386/83
5,524,193 A	6/1996	Covington et al.	395/154	6,160,950 A	12/2000	Shimazaki et al.	386/46
5,546,145 A	8/1996	Bernardi et al.	354/76	6,243,725 B1	6/2001	Hempleman et al.	707/530
5,550,754 A	8/1996	McNelley et al.	364/514	6,351,599 B1	2/2002	Komeno	386/70
5,575,443 A	11/1996	Honeycutt	248/231.9	6,360,234 B2	3/2002	Jain et al.	707/500.1
5,583,571 A *	12/1996	Friedland	348/373	6,377,519 B1	4/2002	Lee et al.	369/30.04
5,594,498 A *	1/1997	Fralely	348/158				
5,604,551 A	2/1997	Choi et al.	396/58				
5,613,032 A	3/1997	Cruz et al.	386/69				
5,678,793 A	10/1997	Hill	248/206.3				
5,684,514 A	11/1997	Branscomb	345/185				
5,692,661 A	12/1997	Kellerman	224/648				
5,694,474 A	12/1997	Ngo et al.	381/66				
5,713,021 A	1/1998	Kondo et al.	395/614				

OTHER PUBLICATIONS

World Wide Web pages describing Rock House Products
Covert Video/Audio Sunglasses, 1998, 2 pages.
"Evolution of Steve Mann's 'existential computer' ('wearable computer') invention developed for applications in 'personal imaging'", IEEE Computer Society, 1998, 1 page.

* cited by examiner

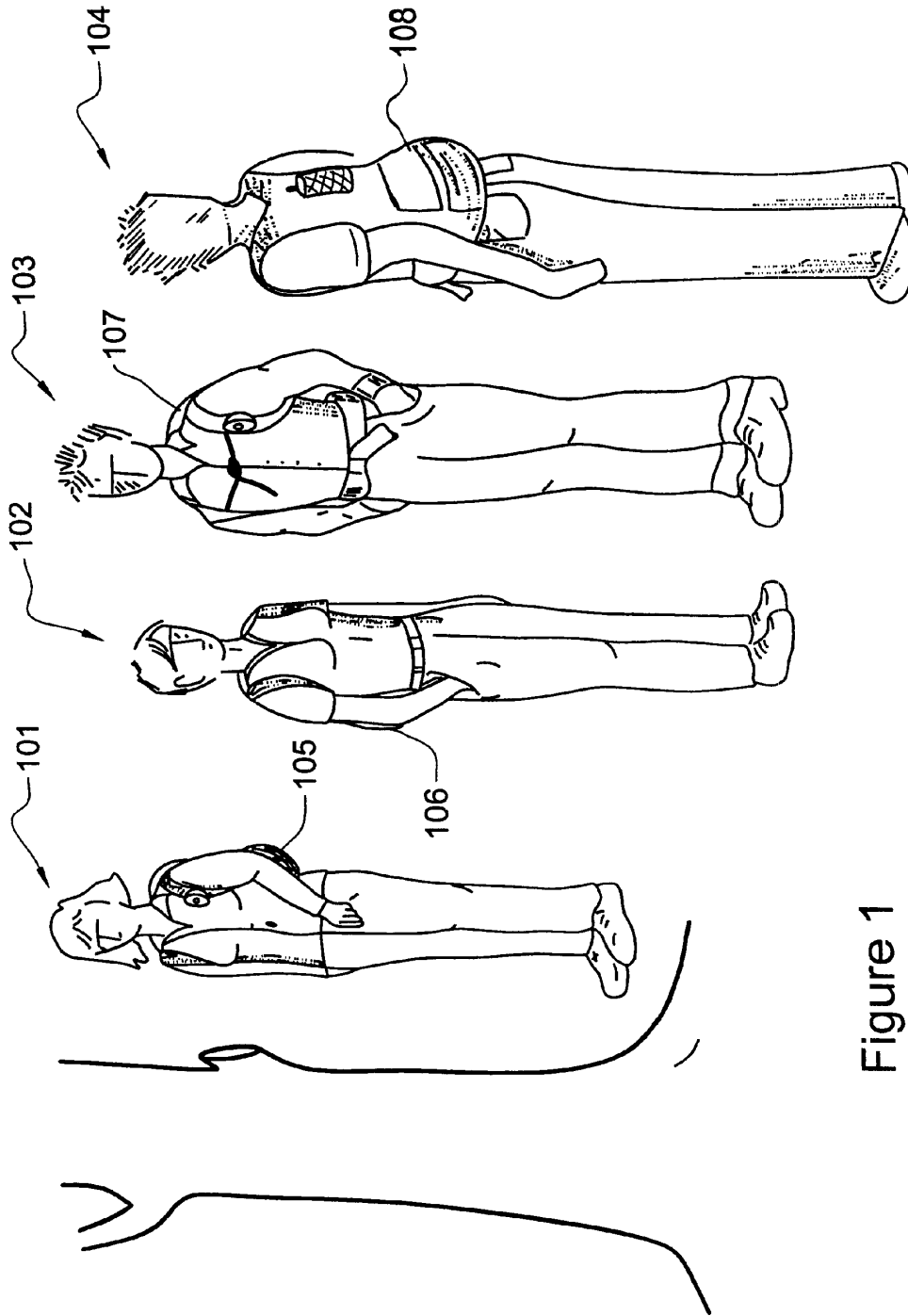


Figure 1

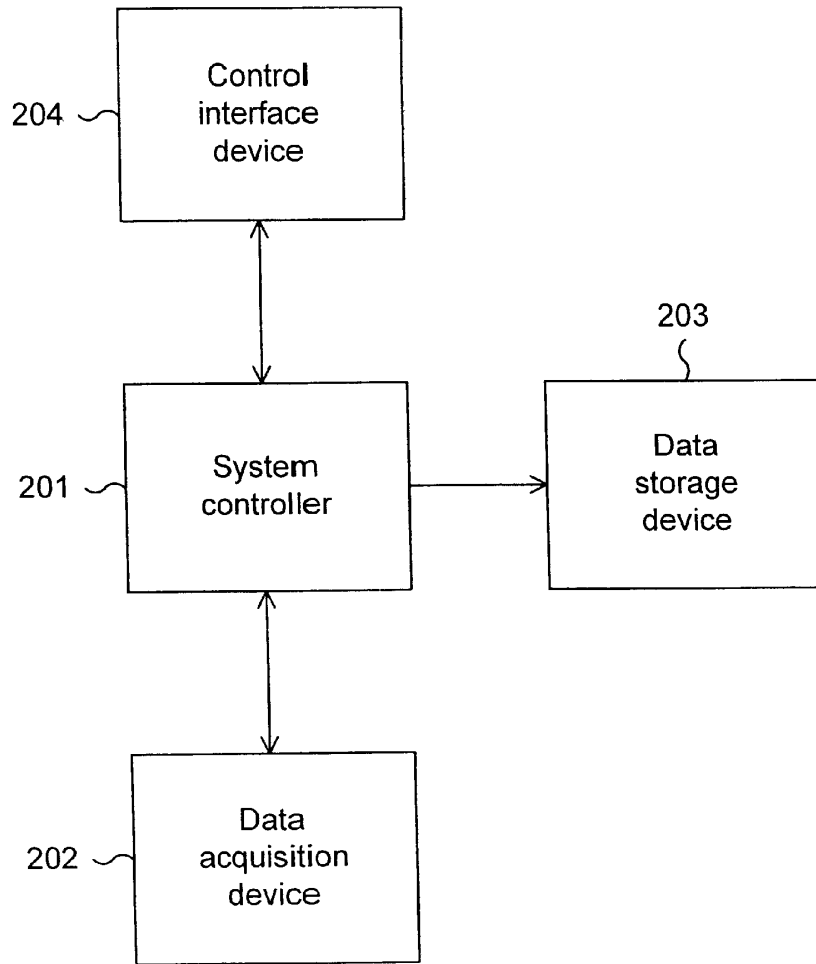


Figure 2

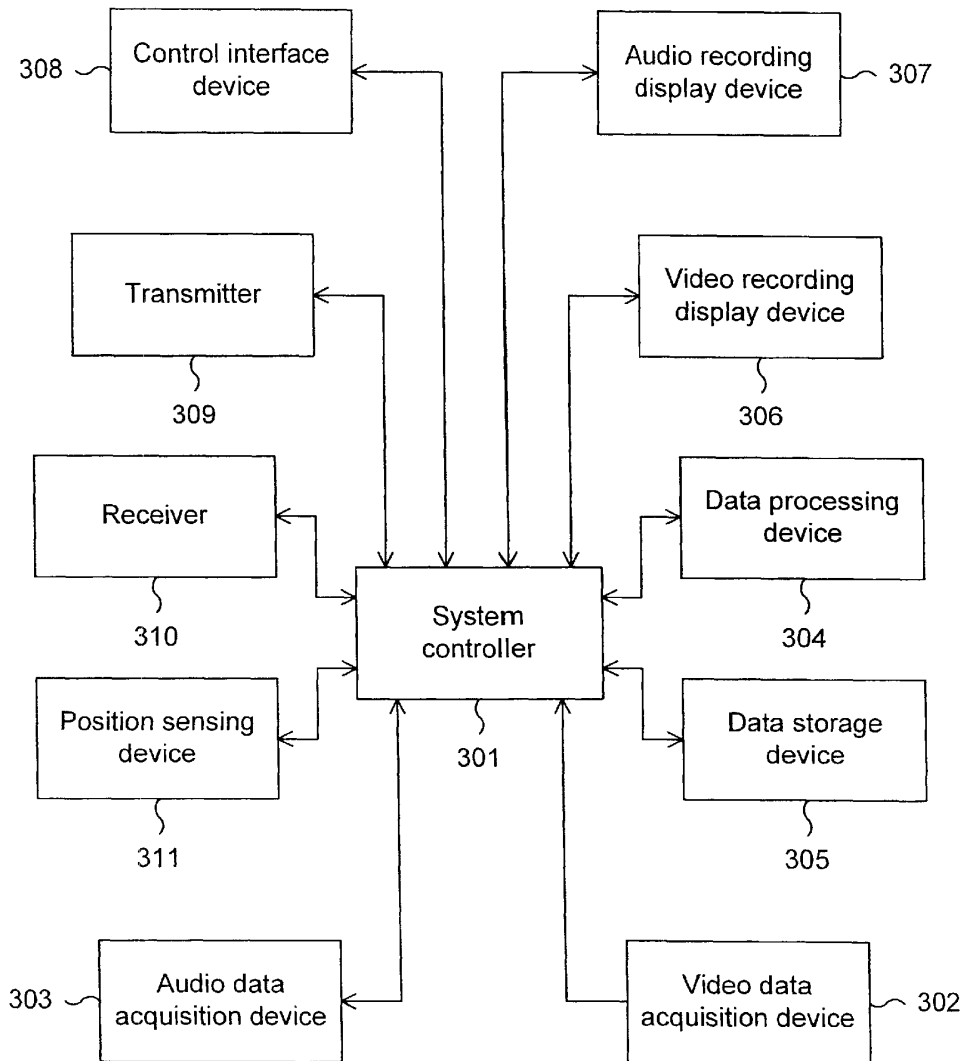


Figure 3

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.