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Vock et al.

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(54) **SPORT MONITORING SYSTEM FOR DETERMINING AIRTIME, SPEED, POWER ABSORBED AND OTHER FACTORS SUCH AS DROP DISTANCE**

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(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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

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(22) Filed: **Jun. 2, 1998**

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/867,083, filed on Jun. 2, 1997, now Pat. No. 6,266,623, and a continuation-in-part of application No. 08/764,758, filed on Dec. 12, 1996, now Pat. No. 5,960,380.
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(51) **Int. Cl.**⁷ **G01L 3/24**

(52) **U.S. Cl.** **702/182; 702/44; 702/178; 73/379.01**

(58) **Field of Search** **702/182, 41, 42, 702/44, 79, 80, 96, 104, 138, 139, 158, 141, 142, 147, 149, 160, 176-178, 183, 187, 189, 198, FOR 126, 56, 60-62, 166, 179; 364/528.36, 39, 41, 410.1, 411.1; 377/20, 23, 24.1, 24.2, 5, 9; 482/71, 74, 902, 8; 235/105; 324/160, 161, 162, 142; 280/DIG. 13; 368/10, 11, 14; 73/597, 488-493, 495, 502, 503, 862.01, 862.02, 379.01, 379.03, 720, 721, 726, 727, 865.2, DIG. 4, 862.042-862.045; 340/323 R, 665, 668-670; 434/253; 968/885**

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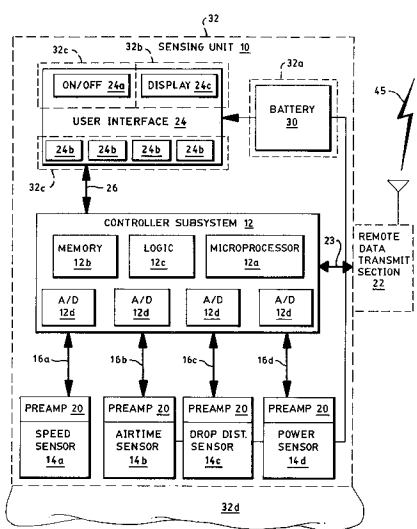
Primary Examiner—Hal Wachsman

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(57) **ABSTRACT**

The invention detects the loft time, speed, power and/or drop distance of a vehicle, such as a sporting vehicle, during activities of moving and jumping. A loft sensor detects when the vehicle leaves the ground and when the vehicle returns to the ground. A controller subsystem converts the sensed information to determine a loft time. A display shows the recorded loft time to a user of the system. In addition, a speed sensor can detect the vehicle's speed for selective display to the user. A power sensing section informs the user of expended energy, which can be compared to other users. A drop distance sensing unit informs the user of the peak height of a jump, during an airtime. Gaming on the internet is facilitated to connect worldwide sport enthusiasts.

24 Claims, 49 Drawing Sheets



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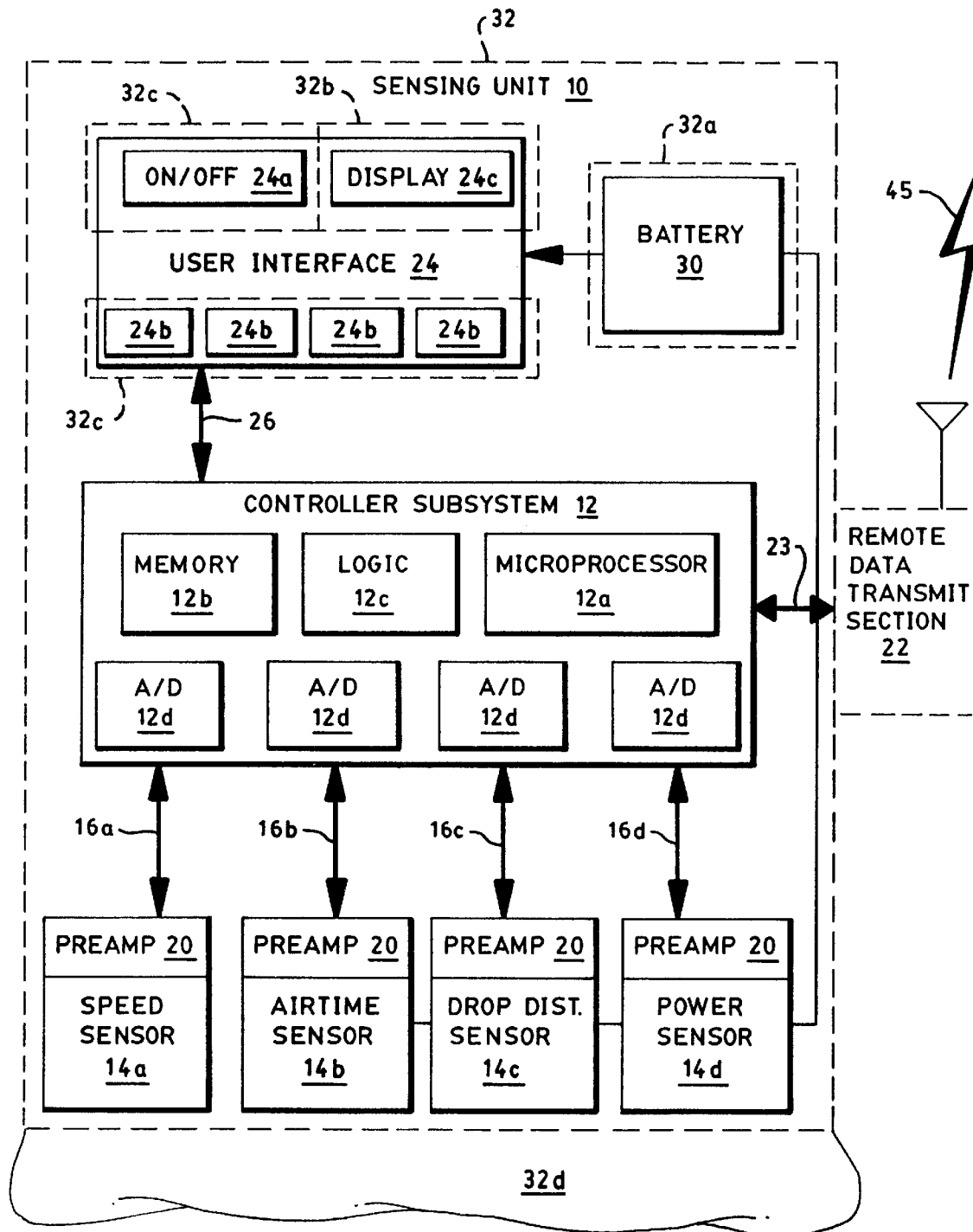


FIG. 1A

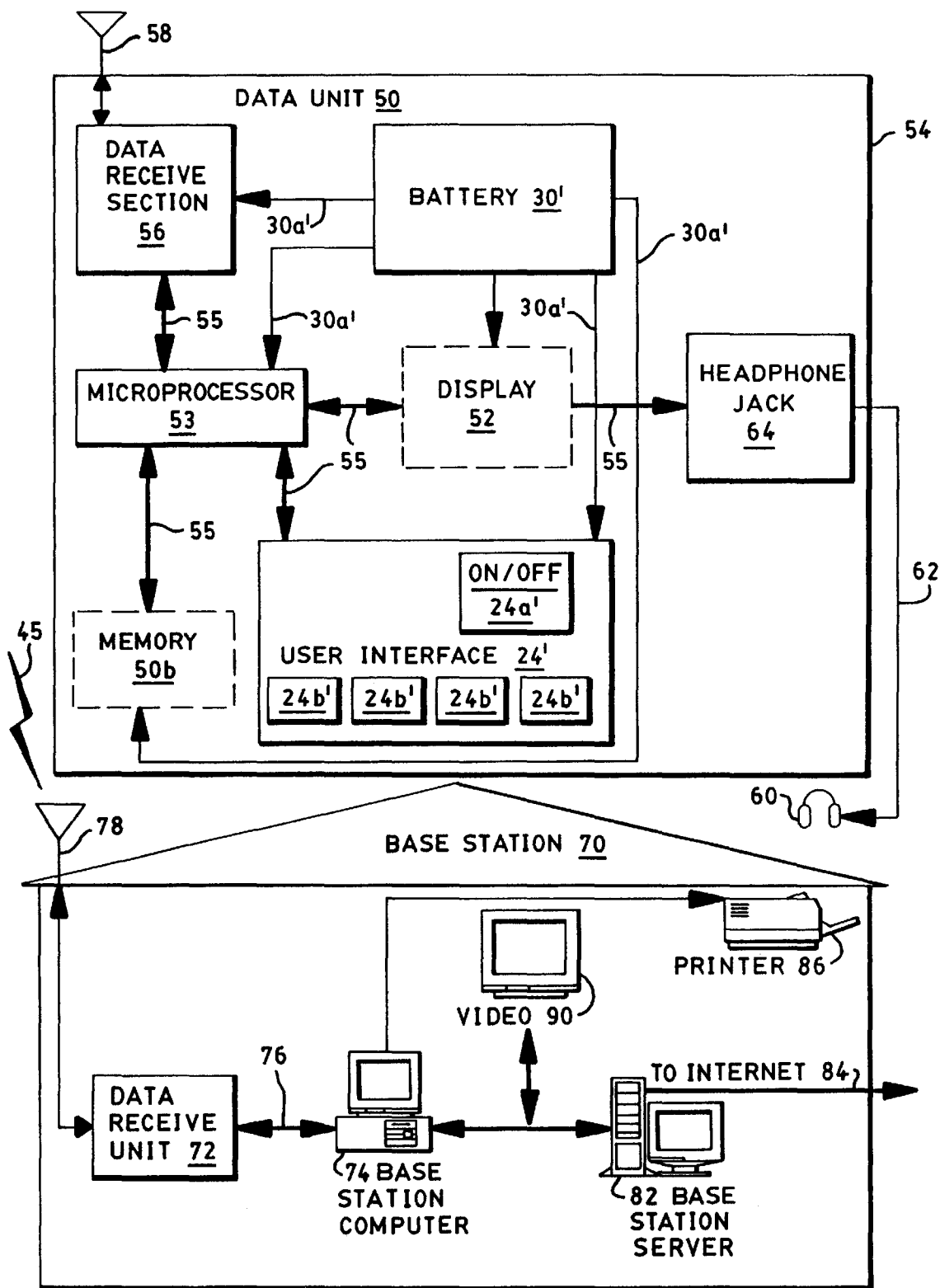


FIG. 1B

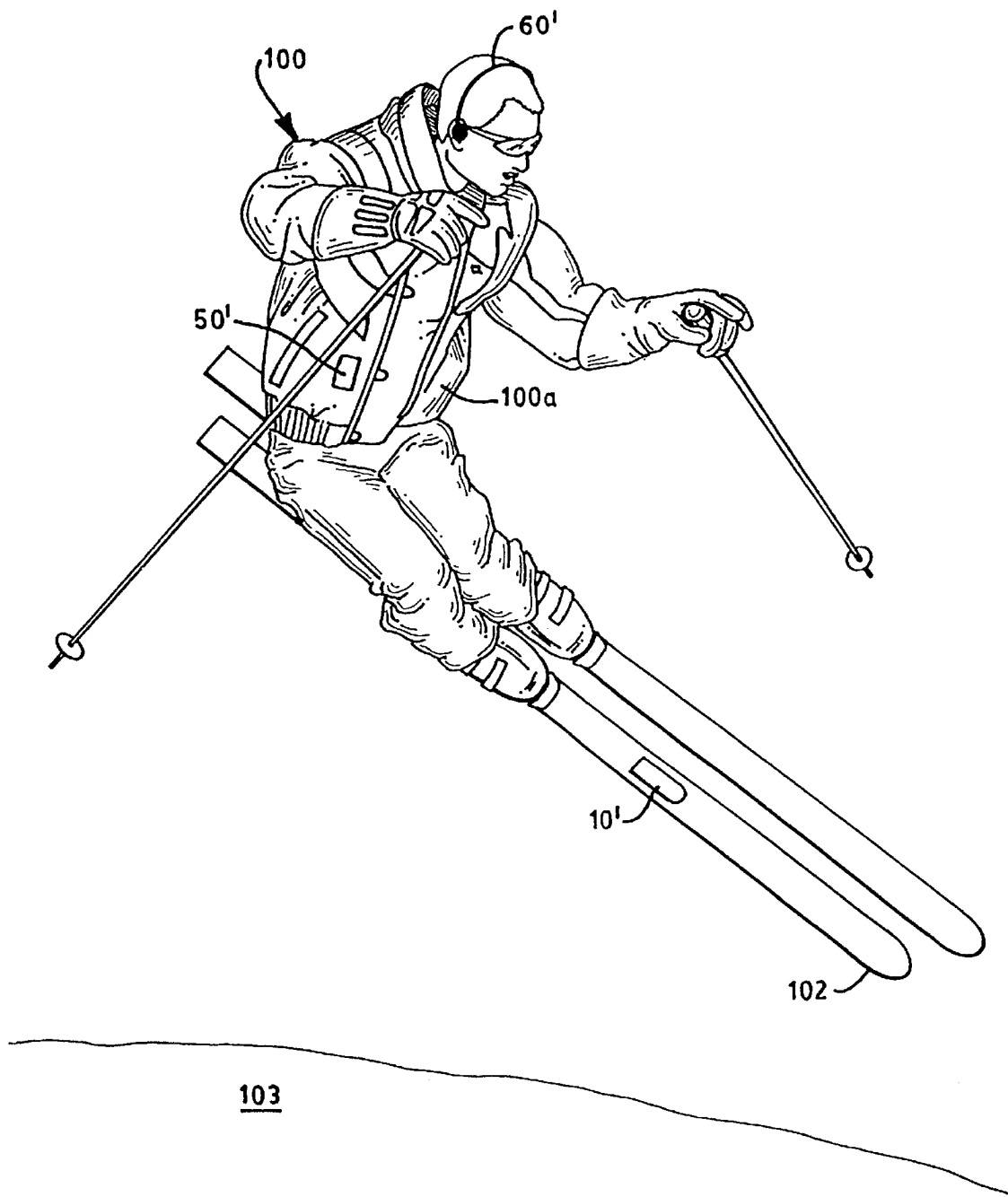


FIG. 2

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