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Farmakis et al.

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[54] **SATELLITE BASED AIRCRAFT TRAFFIC CONTROL SYSTEM**

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[21] Appl. No.: **633,192**

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Related U.S. Application Data

[63] Continuation of Ser. No. 275,547, Jul. 15, 1994, abandoned, which is a continuation-in-part of Ser. No. 62,406, May 14, 1993, Pat. No. 5,351,194.

[51] **Int. Cl.**[6] **G08G 5/04**

[52] **U.S. Cl.** **340/961**; 342/29; 364/439

[58] **Field of Search** 340/961, 971, 340/945; 455/38.1, 115; 342/29, 30, 32, 36, 37, 38; 364/439, 461, 424.06

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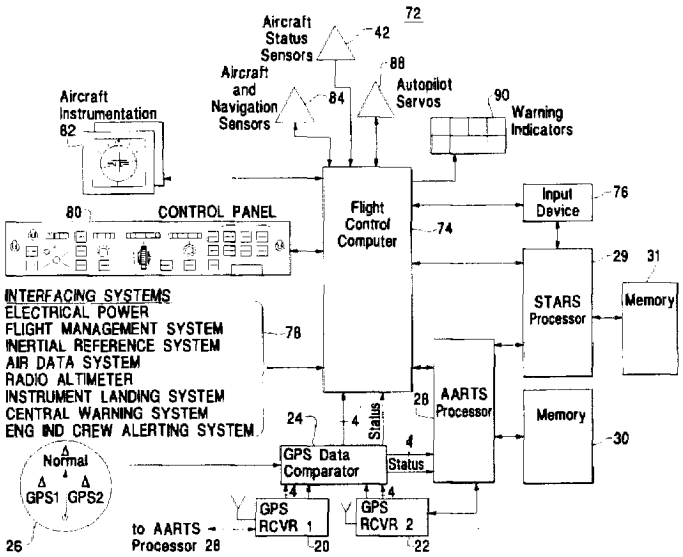
[57] **ABSTRACT**

A satellite based air traffic control (ATC) system includes an aircraft unit on an aircraft and an ATC facility. The aircraft unit includes an AARTS processor, GPS receivers or other satellite receivers, a comparator for comparing the GPS data, a two-way radio, and a transmitter and receiver for communicating information and data over a data link with the ATC facility. The ATC facility includes an ATC computer, a two-way radio, a display for displaying aircraft, and a transmitter and receiver for communicating information and data over the data link. The aircraft transmits aircraft identification information, GPS data, aircraft status information, and a transmit detect code to the ATC facility to allow the ATC to track the aircraft and identify the aircraft communicating on two-way radio. The traffic control system and a flight control system utilizing GPS may be used for aircraft in the air and on the ground, and may be used for ships, boats, automobiles, trains or railroads, and aircraft.

19 Claims, 3 Drawing Sheets



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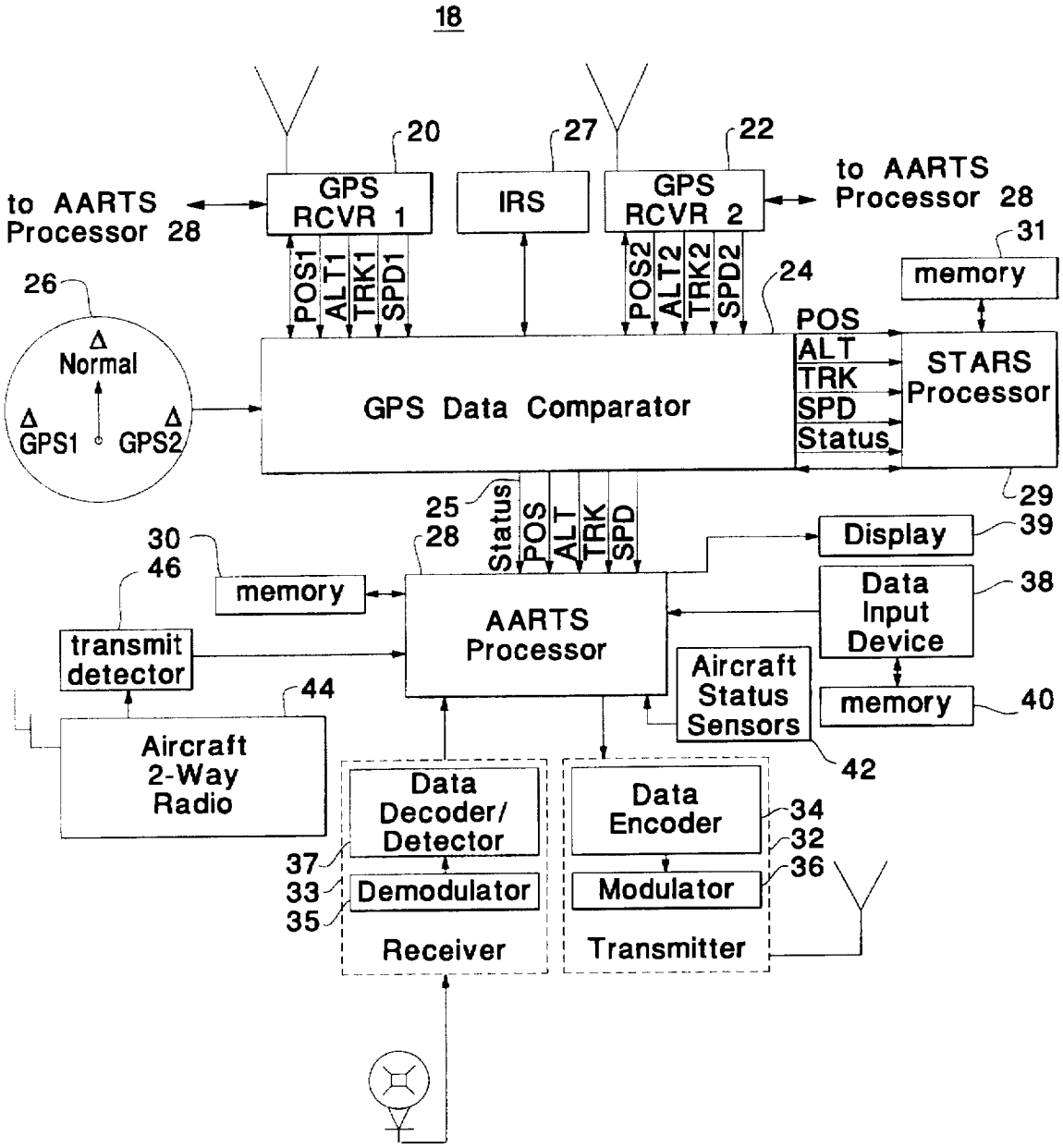

Fig. 1

Fig. 2

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