

program, said second microprocessor executes said second program to enable said characters to be decoded by said first microprocessor, transformed into a form useable by said first microprocessor, and stored in said second random access memory.

6. The navigational aid system of claim 5, wherein said supplying means comprises an interface for transferring information between said second random access memory and said first microprocessor.

7. The navigational aid system of claim 6, wherein said receiver comprises means for validating that said characters are being provided by said external source.

8. The navigational aid system of claim 7, further comprising means for manually inputting the current set and current drift into said first random access memory, said first microprocessor utilizes the manually input current set and current drift to compute the position of the vessel with respect to the earth in the absence of a validated output from said receiver.

9. The navigational aid system of claim 8, further comprising means to manually input into said first random access memory data defining the position of a destination of the vessel.

10. The navigational aid system of claim 1, wherein said external source of information comprises the LORAN system.

11. The navigational aid system of claim 1, wherein said means for measuring the movement of the wind relative to the vessel includes a wind direction sensor and a wind speed sensor.

12. A navigational aid system for use in navigating a vessel to a destination, comprising:

(a) means for measuring variable navigational parameters defining the movement of the vessel relative to the water, and the movement of the wind relative to the vessel, including:

- (i) heading sensor means for measuring the heading of the vessel relative to the earth;
- (ii) heel angle sensor means for measuring the heel angle of the vessel relative to the vertical;
- (iii) hull speed sensor means for measuring the rate of movement of the vessel relative to the water; and
- (iv) leeway sensor means for measuring the leeway angle between the direction of movement of the vessel relative to the water and the heading;

(b) means for inputting fixed navigational parameters;

(c) a first random access memory for temporarily storing the variable and fixed navigational parameters;

(d) a first read only memory containing a first program;

(e) a first microprocessor for executing said first program, said first program utilizing said variable navigational parameters and said fixed navigational parameters to compute the position of the vessel by dead reckoning;

(f) a timer means for repetitively initiating the execution of said first program after the lapse of a repetition period;

(g) a starter means for determining a starting location of the vessel, said starter means being manually operable to enable said first program to initially erase any previously stored positional information from said first random access memory means and then to obtain once for each said repetition period said variable navigational parameters from said heading sensor means, said heel angle sensor means, said hull speed sensor means and said leeway sensor means, and to store the obtained said variable navigational parameters in said first ran-

dom access memory means, and to enable said first program to correct the value of the leeway angle obtained from said leeway sensor means by utilizing the value of the heel angle obtained from said heel angle sensor means and to store the corrected value of the leeway angle in said first random access memory in place of the value obtained from said leeway sensor means;

(h) means for supplying to said first microprocessor electronic information from a source external to the vessel defining the vessel position with respect to the earth, said electronic information being supplied each time the vessel travels a distance interval, at which times said first microprocessor computes the current set and current drift by comparing the position of the vessel computed by dead reckoning to the vessel position derived from said electronic information, said first program subsequently utilizing the values of the heading, corrected leeway angle and computed current set and drift to compute the actual direction of movement of the vessel with respect to the earth and then to correct the position of the vessel computed by dead reckoning so that it corresponds to the vessel position derived from said electronic information; and

(i) means for providing a readout of the actual direction of movement of the vessel with respect to the earth, said readout being updated by said first microprocessor after the lapse of each said repetition period.

13. The navigational aid system of claim 12, wherein said external source of information comprises the Global Positioning System (GPS).

14. The navigational aid system of claim 13, wherein said supplying means comprises a receiver for receiving said electronic information from said GPS and providing an output of characters.

15. The navigational aid system of claim 14, wherein said supplying means comprises a second random access memory for storing said electronic information until it is transferred to said first microprocessor, the electronic information stored in said second random access memory being replaced by updated information at intervals of time mandated by said supplying means.

16. The navigational aid system of claim 15, wherein said supplying means comprises a second microprocessor and a second read only memory containing a second program, said second microprocessor executes said second program to enable said characters to be decoded by said first microprocessor, transformed into a form useable by said first microprocessor, and stored in said second random access memory.

17. The navigational aid system of claim 16, wherein said supplying means comprises an interface for transferring information between said second random access memory and said first microprocessor.

18. The navigational aid system of claim 17, wherein said receiver comprises means for validating that said characters are being provided by said external source.

19. The navigational aid system of claim 18, further comprising means for manually inputting the current set and current drift into said first random access memory, said first microprocessor utilizes the manually input current set and current drift to compute the position of the vessel with respect to the earth in the absence of a validated output from said receiver.

20. The navigational aid system of claim 12, wherein said external source of information comprises the LORAN system.