

# United States Patent [19]

Oct. 18, 1995

Int. Cl.<sup>7</sup> ...... G08G 1/123

340/990, 995, 539, 573; 342/457; 364/449.2,

449.3, 449.5, 449.7; 701/207, 208, 209,

211, 213, 215, 300

[52] **U.S. Cl.** ...... **340/988**; 340/539; 342/457;

References Cited

U.S. PATENT DOCUMENTS

4,963,864 10/1990 Iihoshi et al. ...... 340/995

### **Mura-Smith**

[22] Filed:

[56]

4,835,537

4,857,840

5,025,261

5,113,185 5,334,974 5,337,041 5,345,244 **Patent Number:** 

6,127,945

**Date of Patent:** [45]

Oct. 3, 2000

[54]	MOBILE	PERSONAL NAVIGATOR	5,412,573	5/1995	Barnea et al 340/990
			5,434,789	7/1995	Fraker et al
[75] Inventor:	Kiyoko Mura-Smith, Los Altos, Calif.	5,497,149	3/1996	Fast	
		, , ,	5,546,092	8/1996	Kurokawa e tal 340/988
[73]	Assignee:	Trimble Navigation Limited,	5,627,547	5/1997	Ramaswamy et al 342/357
[,0]	1 2001811111	Sunnyvale, Calif.	5,642,107	6/1997	Cross
		Sumy vare, Cam.	5,797,091	8/1998	Clise et al 455/404
[21]	Appl. No.: <b>08/544,553</b>		Primary Examiner—Brent A. Swarthout		

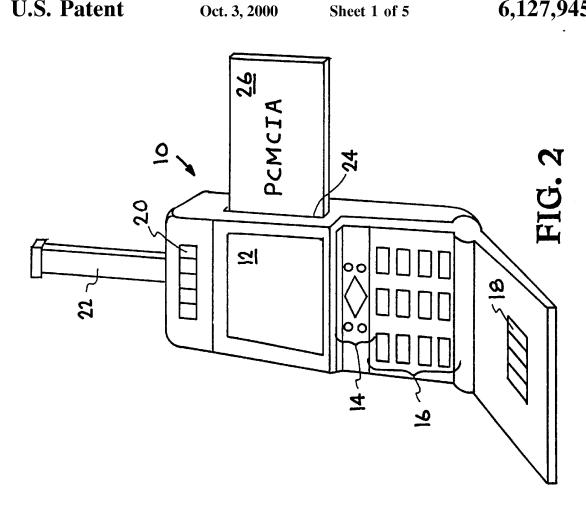
Attorney, Agent, or Firm-Wagner, Murabito & Hao LLP

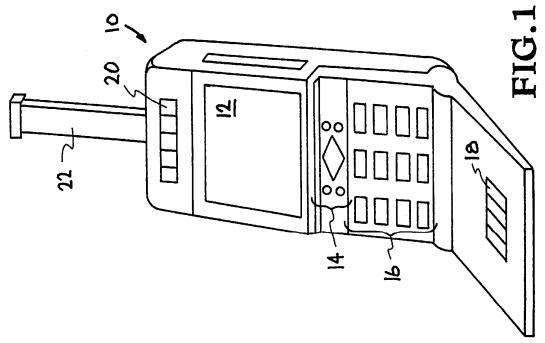
**ABSTRACT** [57]

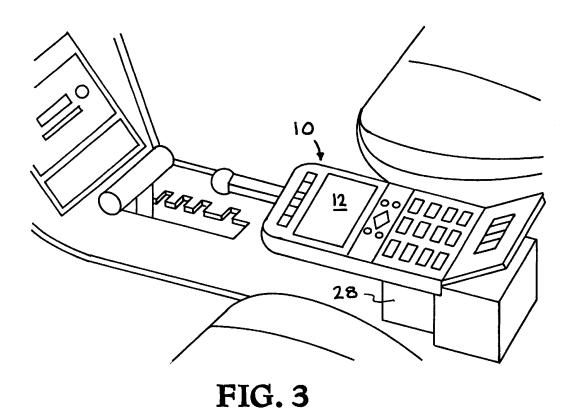
A personal navigation device and method for providing location information. In one embodiment, the present invention is comprised of a portable hand-held unit. The portable unit contains a communication system adapted to receive data at and transmit data from the portable unit. The portable unit also contains a position determining system which determines the geographic location of the portable unit. The position determining system is connected to the communication system. A graphic display located on the portable unit is also connected to the position determining system. The graphic display displays a representation of the current location of the portable unit with respect to a previously selected location. In one embodiment, the representation of the current location also includes a representation of the ith respect to the

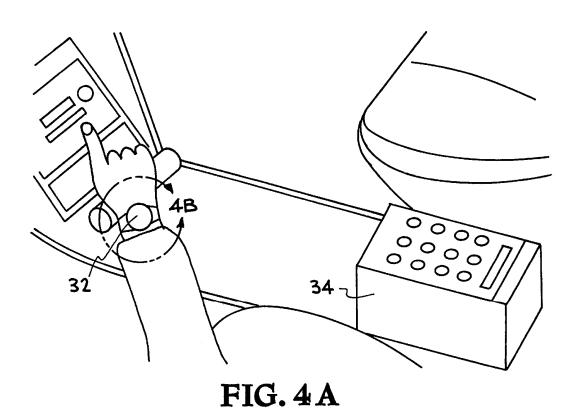
5/1992 8/1994 8/1994	Ohta et al.       342/357         Ichikawa       340/998         Simms et al.       340/988         Friedman       340/573         Gildea et al.       342/357	speed and the heading previously selected 1	g of the portable unit wind ocation.  Sim, 5 Drawing Sheets
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	<58		60
			6
	76 \ 74	4	
		}64	
1	N-989	△~62	66c/E
	<sub>5</sub> 68		66C
1	DISTANCE TO	LOCATION	
	DIRECTION	W >_	
	ETA	`70	
	72	c < 66b	12
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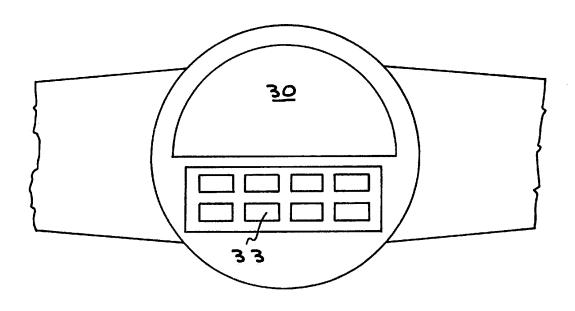


FIG.4B

ANTENNA 22				
42	46 SIGNAL	50 RECEIVER	52 TRANSMITTER	
POSITION DETERMINING SYSTEM	RECEIVER 48 SIGNAL PROCESSOR	COMMUN DEV	- UCATION	
	DISPL	AY !	<u>2</u>	
USER INTERFACE MECHANISM 51				
	MORY	<u>63</u>		

FIG.5

	ANTENN	IA <u>22</u>	
42 POSITION DETERMINING SYSTEM	46 SIGNAL RECEIVER 48 SIGNAL PROCESSOR		TRANSMITTER  44  NICATION  NICE
	DISPL	AY	12
USER INTERFACE MECHANISM 51			
MEMORY 53			
DATA INTERFACE			<u>54</u>

FIG. 6

ANTENNA 22				
42	4 <u>6</u> SIGNAL	50 RECEIVER	52 TRANSMITTER	
POSITION DETERMINING SYSTEM	RECEIVER 48 SIGNAL PROCESSOR	44 COMMUNICATION DEVICE		
	DISPL	<b>AY</b>	12	
USER INTERFACE MECHANISM 51				
MEMORY 53				
VOICE PROCESSOR			56	

FIG. 7

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