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(54) **PORTABLE NAVIGATION DEVICE AND SYSTEM, AND ONLINE NAVIGATION SERVICE IN WIRELESS COMMUNICATION NETWORK**

(52) **U.S. Cl.** ..... **701/207; 340/990; 340/995**

(57) **ABSTRACT**

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A portable communication device comprises a GPS module for determining the present position, an electronic compass module for detecting an azimuth, a display, and a wireless communicator. Herein, the position information representing the destination and present position is transmitted towards the navigation server, which in turn provides the map information including the destination and present position, based on which corresponding icon symbols are indicated in the map displayed on the screen. In addition, the azimuth is also indicated by an angle departing from a north direction of the map information. Specifically, an azimuthal arrow symbol is displayed in proximity to the icon symbol representing the present position in the map, or the icon symbol is inclined by the aforementioned angle. Thus, it is possible to create images for navigation that are appropriately displayed on the screen and are recognizable in viewing without using expensive graphic processing.

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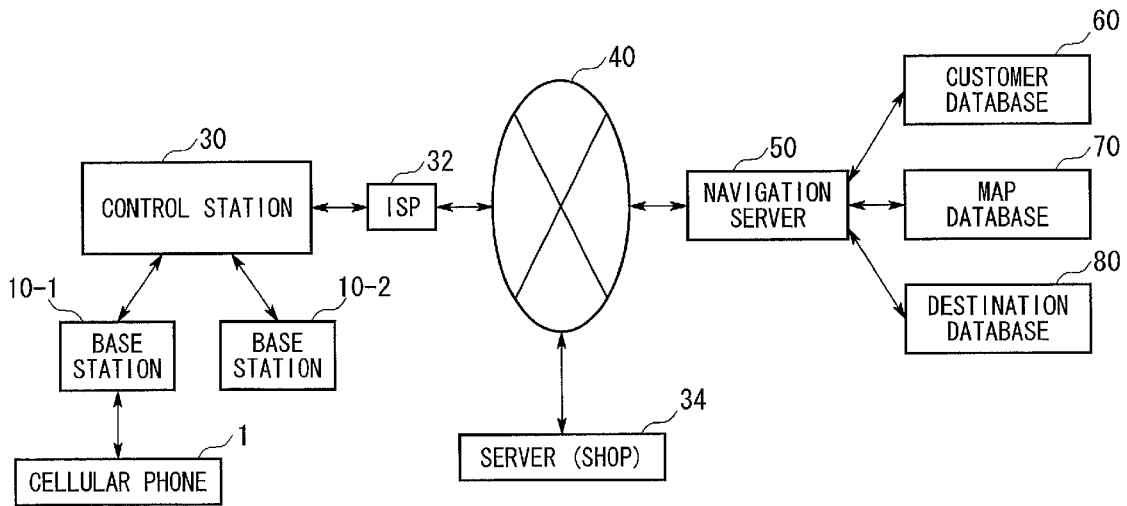


FIG. 1

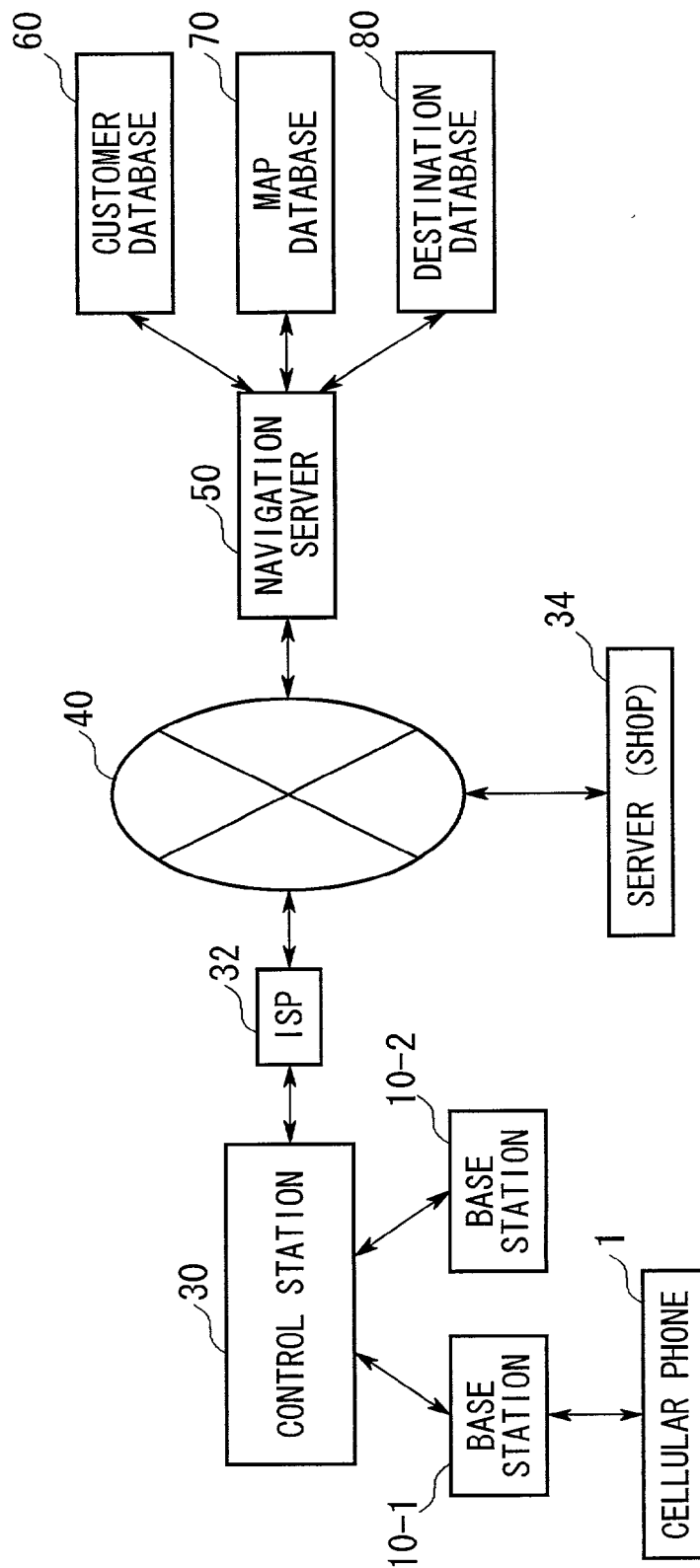


FIG. 2

AREA TOKYO CHUO-KU						
CLASSIFICATION	NAME	TELEPHONE NUMBER	URL	LATITUDE	LONGITUDE	ICON ON DISPLAY
SHOP	Apple	03-1234-0000	www.apple.co.jp	36.14N	140.11E	ICON 1 ⊕
	Beattles	03-1234-0001	www.beattle.co.jp	31.25N	130.53E	ICON 2 △
	Casa	03-1234-0002	www.casa.co.jp	43.55N	144.12E	ICON 3 - - -
RESTAURANT	AI	03-2345-0000	www.ai.co.jp	38.67N	135.64E	ICON 11
	Bean	03-2345-0001	www.bean.co.jp	39.41N	134.41E	ICON 12
	Candy	03-2345-0002	www.candy.co.jp	40.55N	130.40E	ICON 13
COMPANY	AOI Corp	03-3456-0000	www.aoi.co.jp	38.67N	135.64E	ICON 21
	BS Inc	03-3456-0001	www.bs.co.jp	33.79N	133.37E	ICON 22
	Soda Comp	03-3456-0002	www.soda.co.jp	30.79N	132.56E	ICON 23

FIG.3

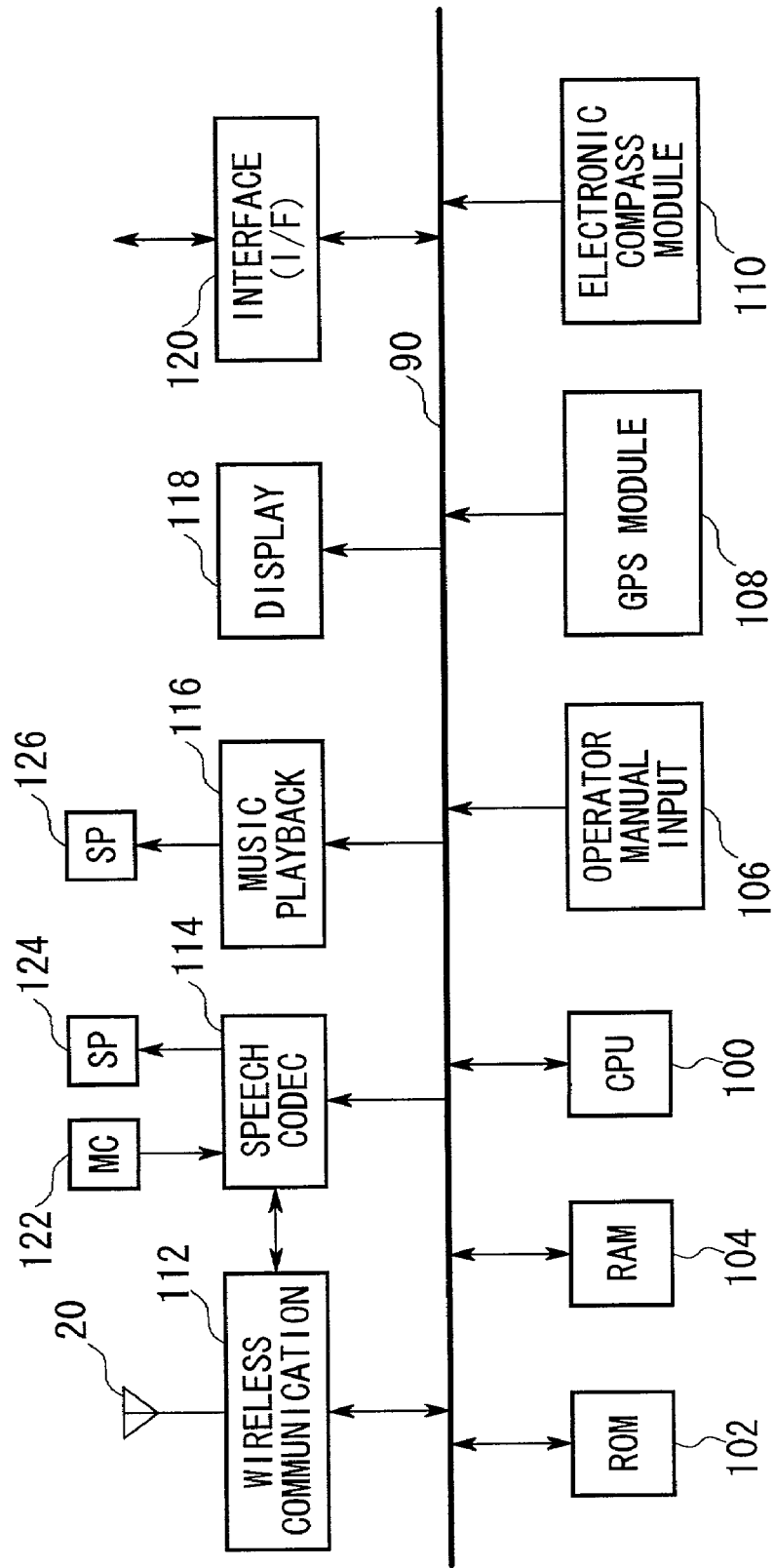

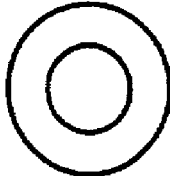



FIG. 4

ICON TYPE	ICON SYMBOL
ICON A	
ICON B	
ICON C	

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