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(12) **United States Patent**  
**Kondou et al.**

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- (54) **METHOD AND SYSTEM FOR PROVIDING INFORMATION FOR A MOBILE TERMINAL AND A MOBILE TERMINAL** 5,087,916 A 2/1992 Metzdorff et al. .... 342/64  
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(75) Inventors: **Takeshi Kondou**, Fujisawa (JP); **Yasuhiro Takahashi**, Sagamihara (JP); **Susumu Matsui**, Machida (JP); **Keishi Takebe**, Yokohama (JP) 5,448,485 A 9/1995 Ishibashi et al. .... 364/443  
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(73) Assignee: **Hitachi, Ltd.**, Toyko (JP) 5,715,163 A 2/1998 Bang et al. .... 364/444.2  
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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 491 days. 5,758,297 A 5/1998 Gaultier ..... 701/14  
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- (21) Appl. No.: **10/164,619**  
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(65) **Prior Publication Data**  
US 2002/0156578 A1 Oct. 24, 2002
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| JP | 7225897 | 8/1995  |
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**Related U.S. Application Data**

- (63) Continuation of application No. 09/558,100, filed on Apr. 25, 2000, now Pat. No. 6,434,479, which is a continuation of application No. 08/739,275, filed on Oct. 29, 1996, now Pat. No. 6,073,075.

(30) **Foreign Application Priority Data**

Nov. 1, 1995 (JP) ..... 07-284818

(51) **Int. Cl.**<sup>7</sup> ..... **G06F 165/00**

(52) **U.S. Cl.** ..... **701/203; 701/208; 701/211; 340/989**

(58) **Field of Search** ..... 701/200, 202, 701/201, 203, 207, 208, 209, 210, 211, 213; 340/990, 995, 998; 73/178 R

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(57) **ABSTRACT**

A mobile terminal, and an information providing method and system which immediately provides information, which the user of the mobile terminal desires, for the mobile terminal. Area and related service information are stored in corresponding relationship in a database. An information server which includes means for calculating the area of the destination of the mobile terminal loads information on the destination area from the database to the mobile terminal which moves toward the destination area, using radio communication means before the mobile terminal arrives at the destination area.

**5 Claims, 19 Drawing Sheets**

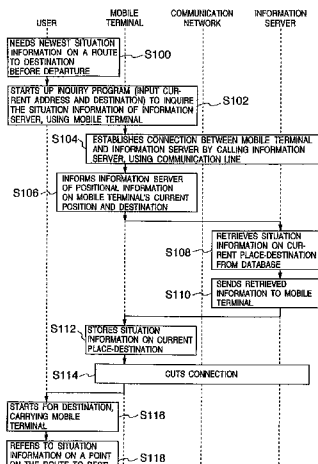


FIG. 1

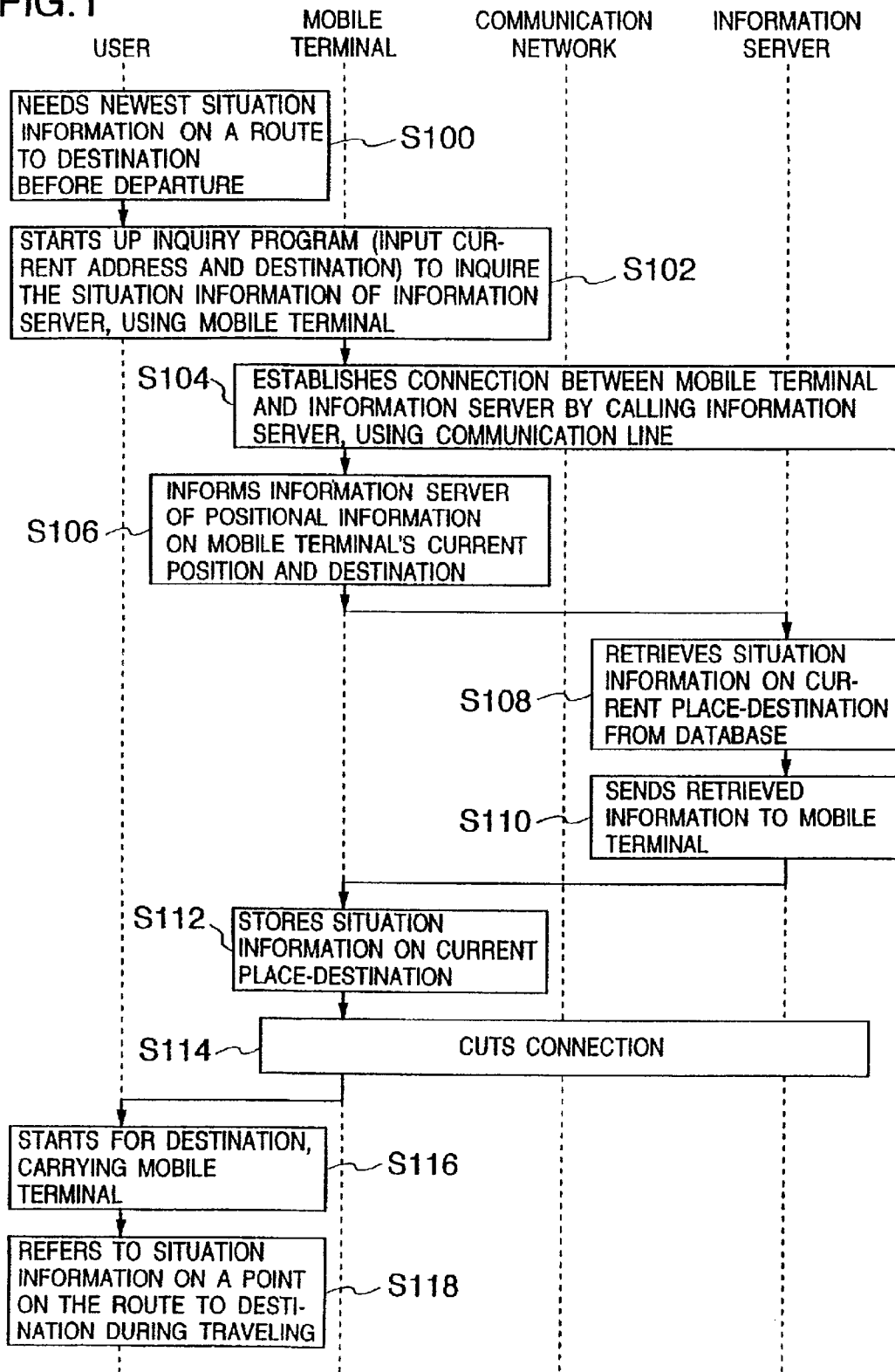
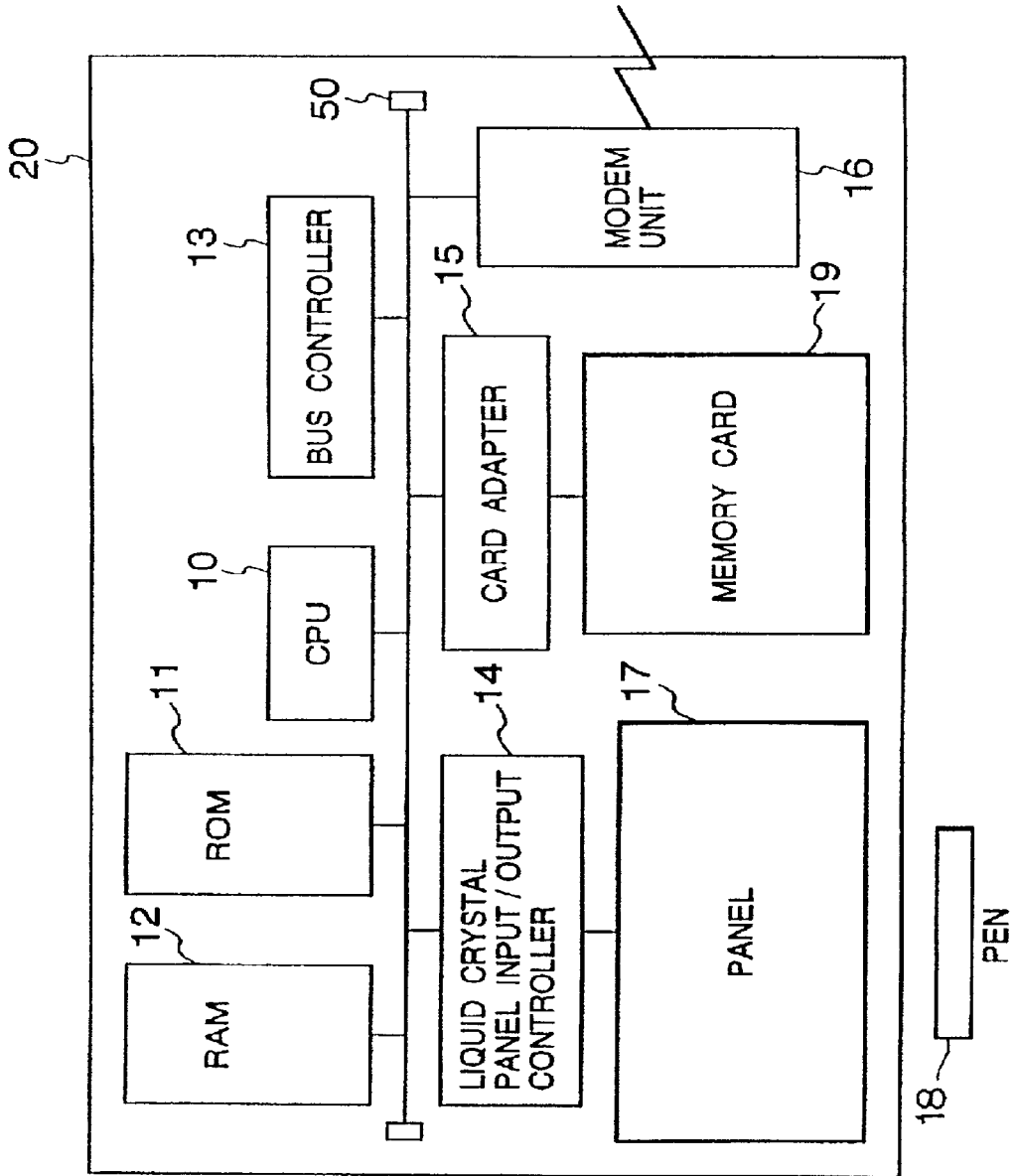


FIG. 2



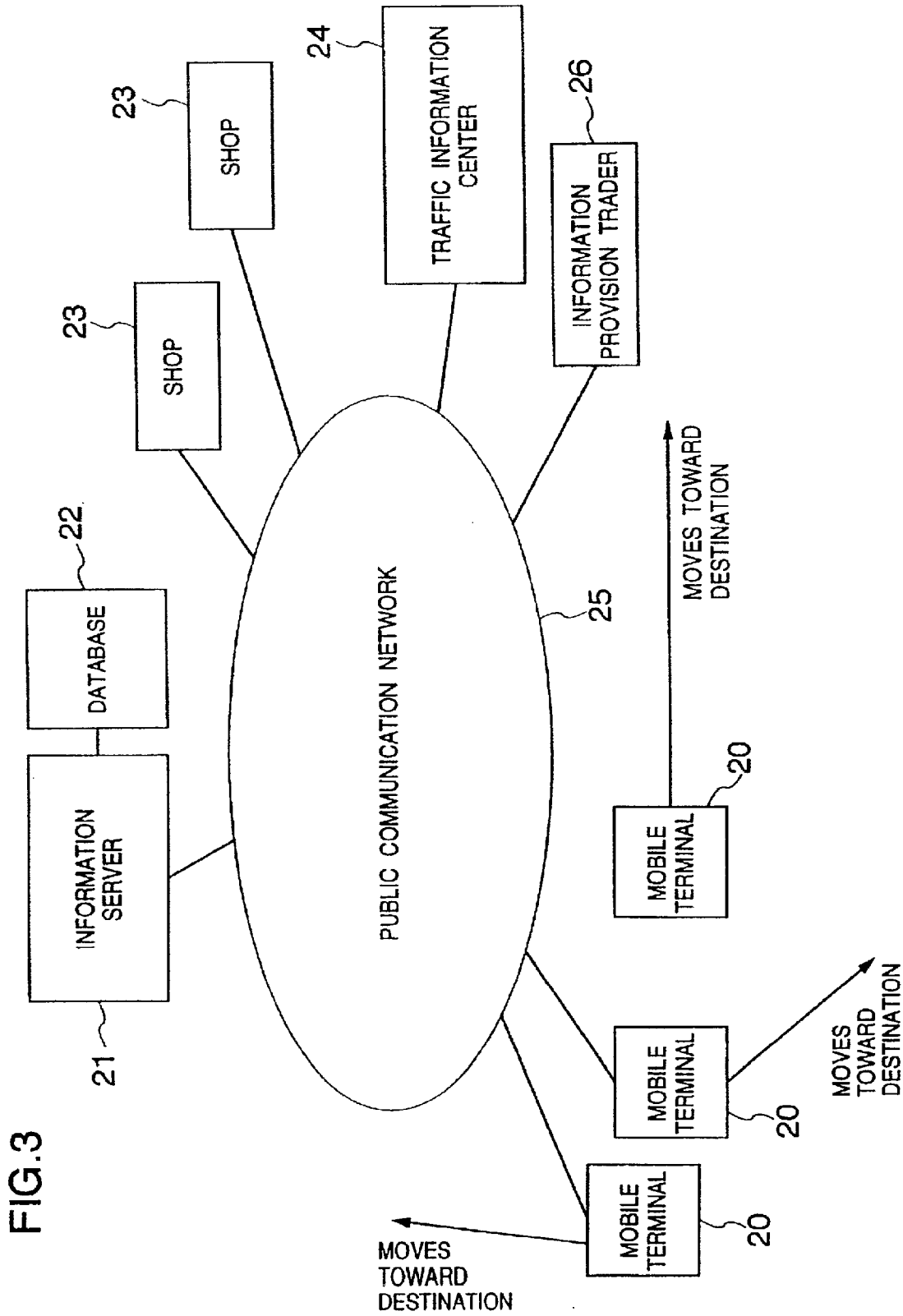
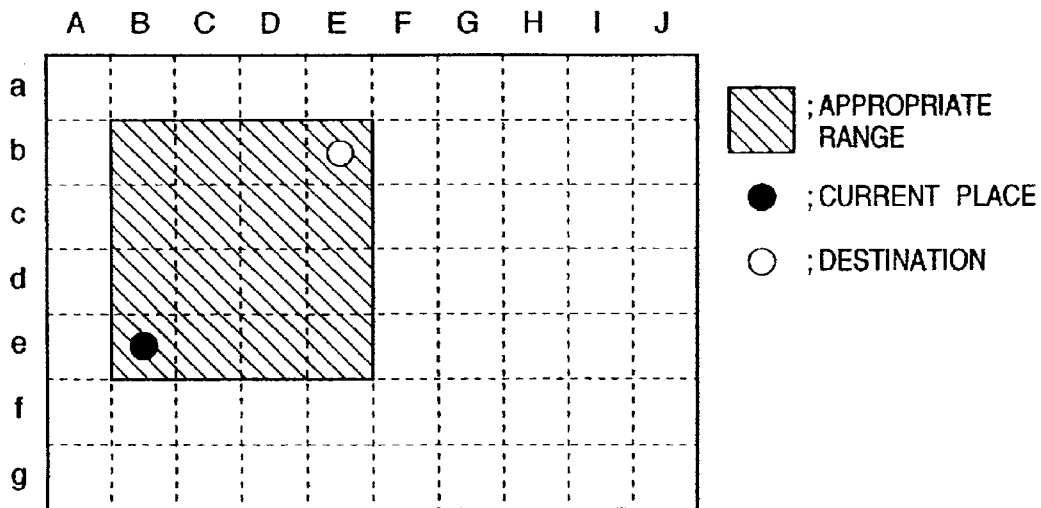


FIG.4

|        |         |               |                        |                     |
|--------|---------|---------------|------------------------|---------------------|
| DATA 1 | ADDRESS | RETRIEVAL KEY | SERVICE CLASSIFICATION | SERVICE INFORMATION |
| DATA 2 | ADDRESS | RETRIEVAL KEY | SERVICE CLASSIFICATION | SERVICE INFORMATION |
| DATA 3 | ADDRESS | RETRIEVAL KEY | SERVICE CLASSIFICATION | SERVICE INFORMATION |
| DATA 4 | ADDRESS | RETRIEVAL KEY | SERVICE CLASSIFICATION | SERVICE INFORMATION |
| DATA 5 | ADDRESS | RETRIEVAL KEY | SERVICE CLASSIFICATION | SERVICE INFORMATION |
|        | ⋮       | ⋮             | ⋮                      | ⋮                   |
| DATA N | ADDRESS | RETRIEVAL KEY | SERVICE CLASSIFICATION | SERVICE INFORMATION |

FIG.5



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