



[54] COMPUTER AIDED MAP LOCATION SYSTEM

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[21] Appl. No.: 896,712

[22] Filed: Jul. 18, 1997

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[57] ABSTRACT

Related U.S. Application Data

[63] Continuation of Ser. No. 265,327, Jun. 24, 1994, abandoned.

[51] Int. Cl.⁶ G06F 165/00; G01S 5/00

[52] U.S. Cl. 701/200; 701/208; 701/212; 340/998; 340/990; 340/995; 342/357

[58] Field of Search 701/207, 208, 701/210, 212, 216, 217, 300; 340/998, 990, 995; 342/357, 457

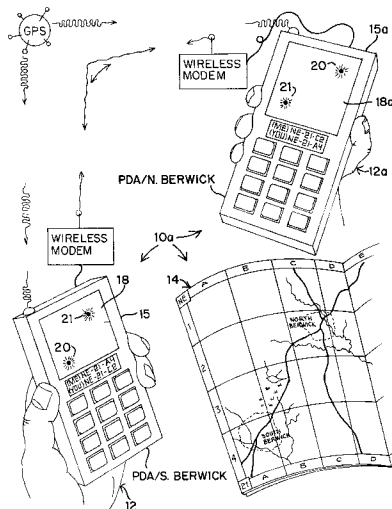
A computer aided map location system (CAMLS) provides correlation and coordination of spatially related data between a computer (PDA/PC/EC) and a set of printed maps typically printed on paper depicting surface features at desired levels of detail. A first set of constant scale printed maps substantially coincides with or is overprinted with equal area grid quadrangles of a first scale grid. The first scale grid quadrangles are identified by a first set of unique names. The PDA/PC/EC has a computer display or other computer output, a first database, and display subsystem. The first database includes the first set of unique names of the grid quadrangles of the first scale grid. The boundary lines of the respective first scale grid quadrangles are identified in the first database by latitude and longitude location. The display subsystem causes the display of a selected grid quadrangle or gridname on the PDA/PC/EC display in response to a user query. The displayed grid quadrangle or gridname is correlated with a grid quadrangle of a printed map from the first set of printed maps. The PDA/PC/EC may have access to a second database or multiple databases of latitude and longitude locatable objects (loc/objects) for display on selected grid quadrangles. Alternatively or in addition the PDA/PC/EC may incorporate a user location system such as a GPS location system for displaying the location and route of the CAMLS user on the display. Multiple level scales of grids and corresponding multiple sets of maps at the different scales are available. Communications links are provided between CAMLS computers and CAMLS users in various combinations.

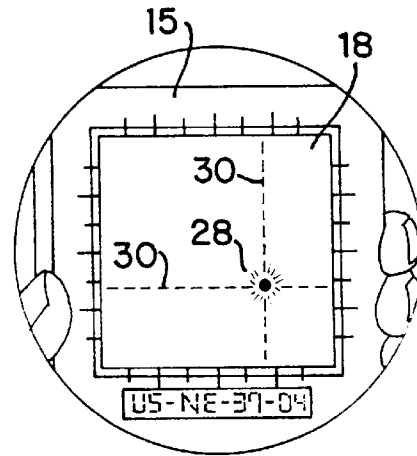
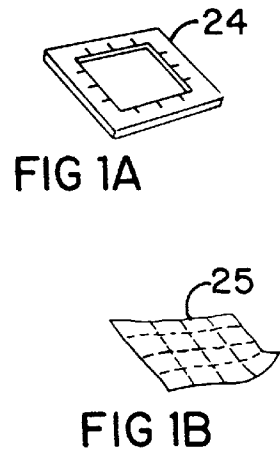
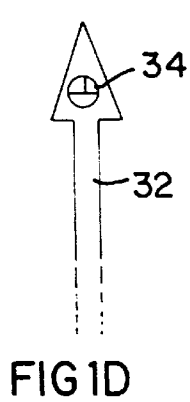
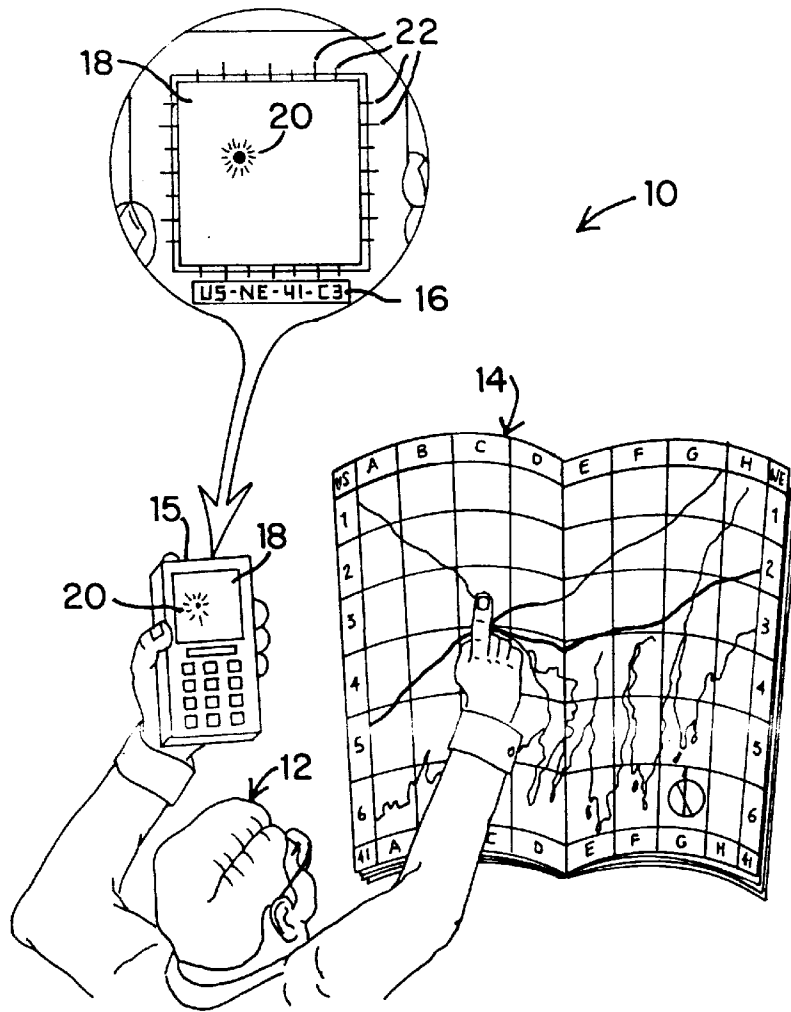
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19 Claims, 18 Drawing Sheets





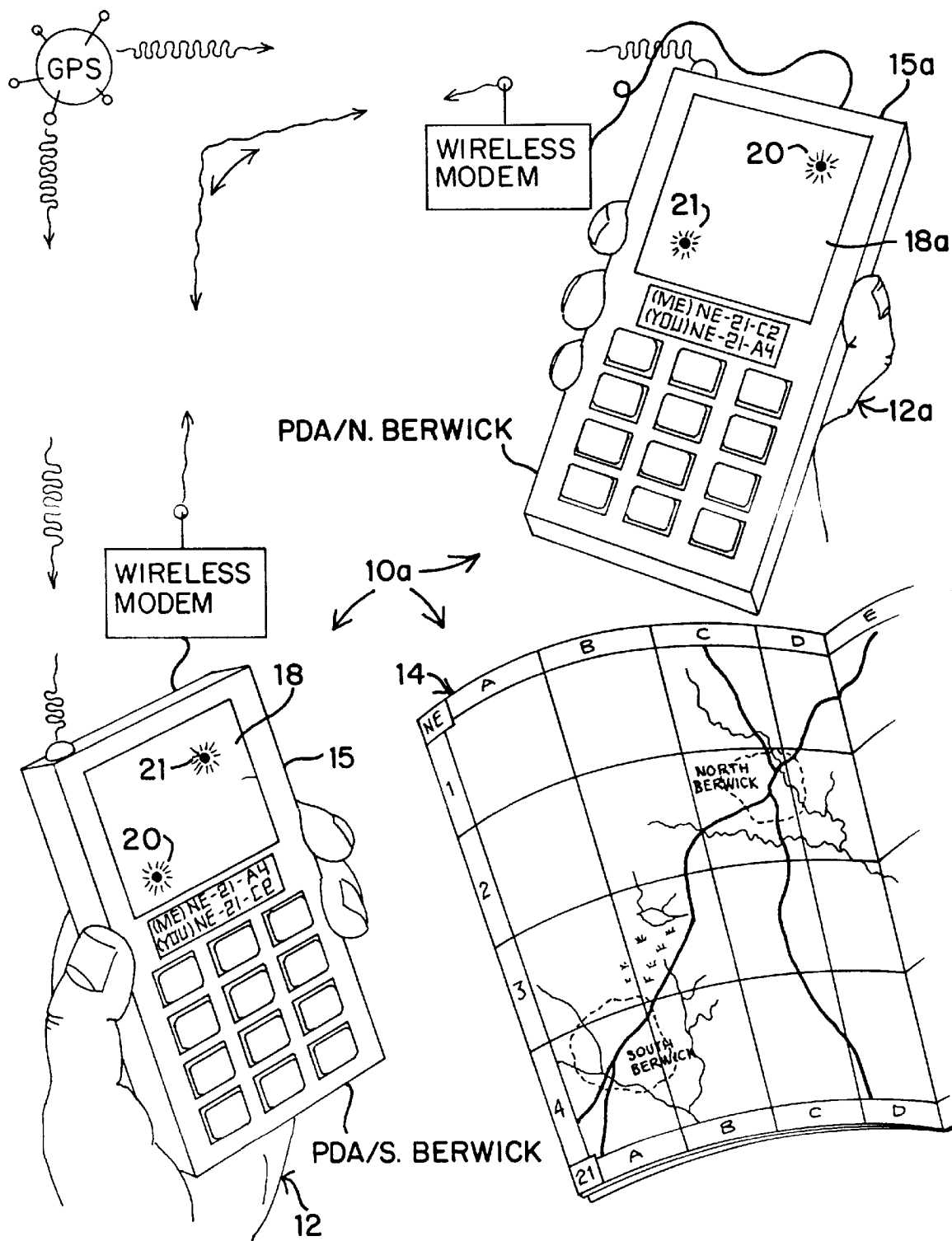


FIG 2

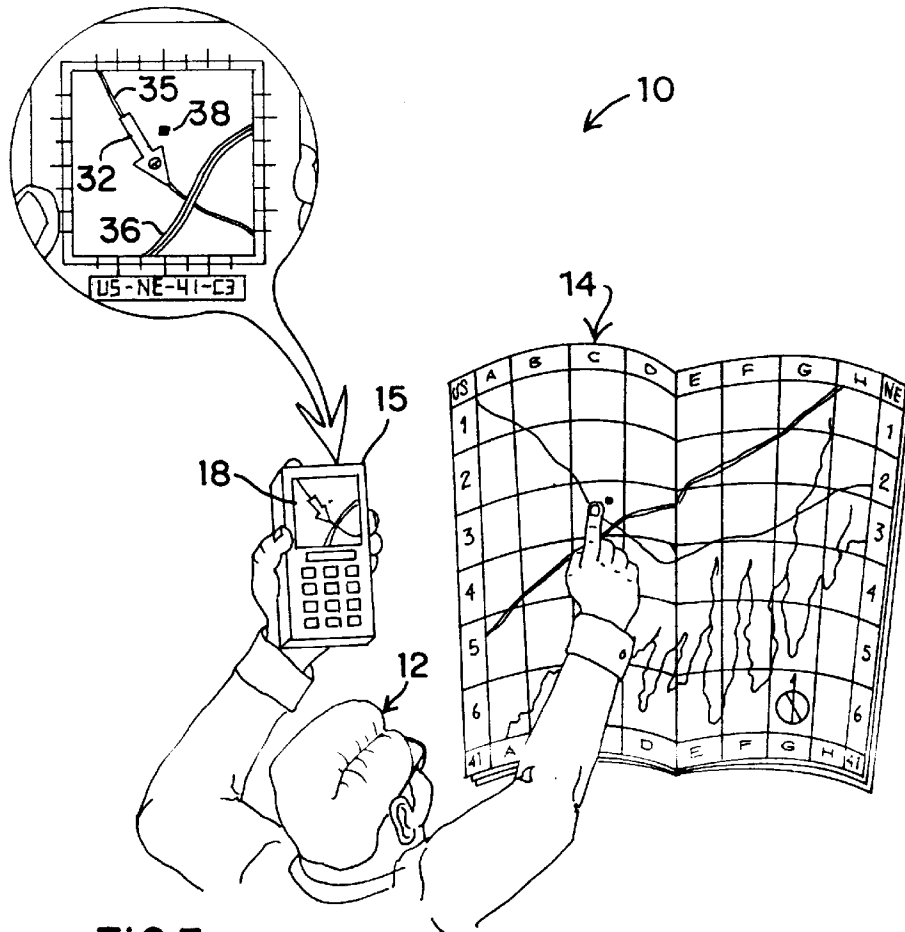


FIG 3

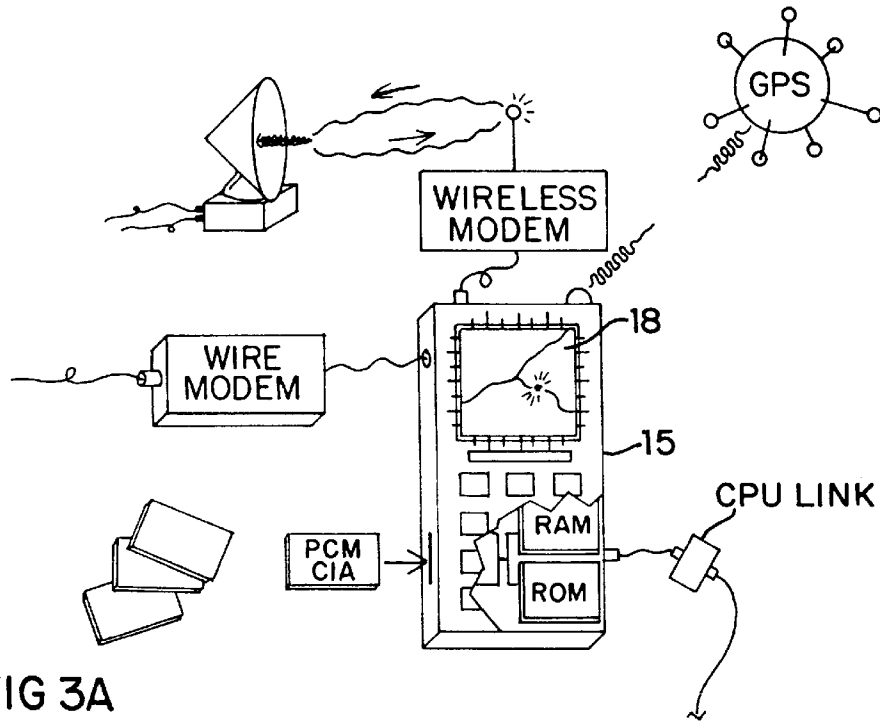


FIG 3A

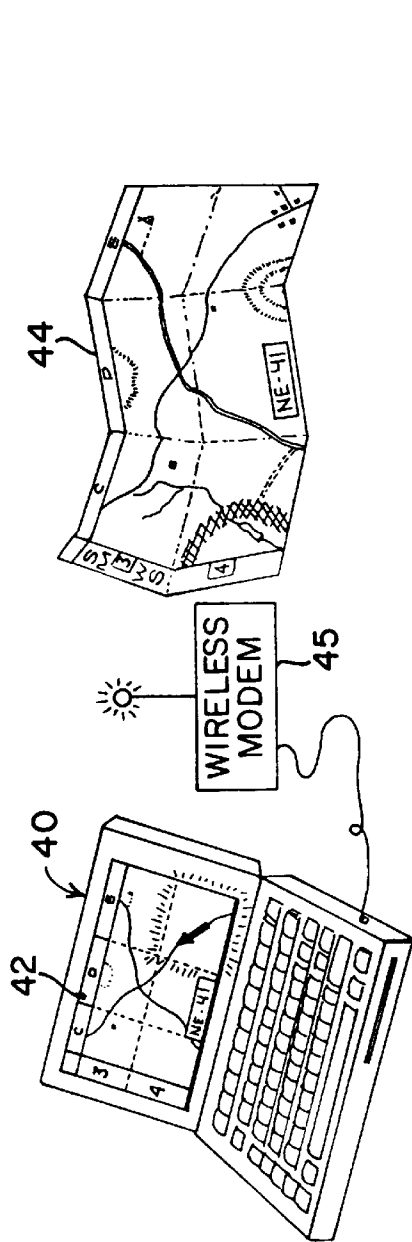


FIG 4

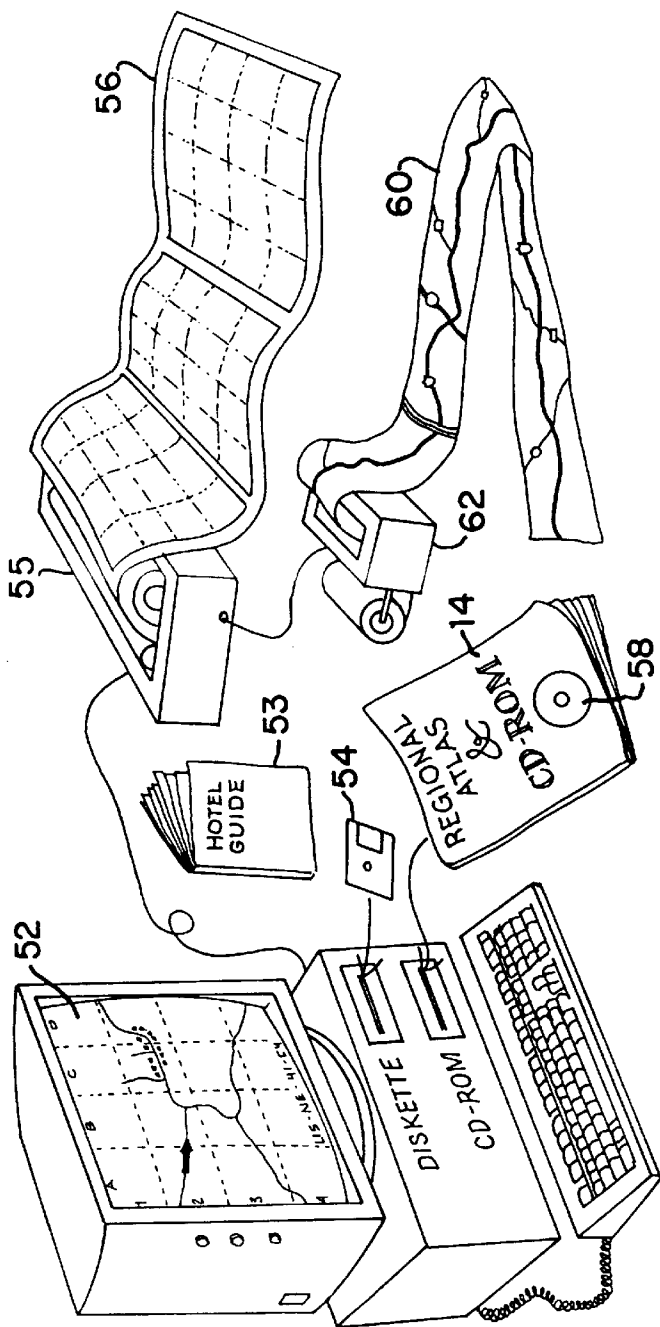


FIG 5

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