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**United States Patent** [19]  
**Heikkinen et al.**

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[45] **Date of Patent:** **\*Jun. 6, 2000**

[54] **MOBILE STATION WITH TOUCH INPUT HAVING AUTOMATIC SYMBOL MAGNIFICATION FUNCTION**

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[\*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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[57] **ABSTRACT**

A wireless user station (10), such as a cellular telephone, is provided with a touch sensitive input device, such as a touch-sensitive display (20) or a touchpad (23). A display device displays a plurality of symbols. A first location of a tactile input is detected and displayed symbols in the vicinity of the first location of the tactile input are magnified to occupy a larger display area. Subsequently, a second location of the tactile input is detected, thereby identifying a new position of the user's fingertip. After the second location on the touch sensitive screen remains constant, or after the user lifts the fingertip, the second location of the tactile input is reported and associated with the selected symbol.

[21] Appl. No.: **08/847,796**

[22] Filed: **Apr. 28, 1997**

[51] **Int. Cl.**<sup>7</sup> ..... **H04B 1/38**

[52] **U.S. Cl.** ..... **455/575; 455/566; 379/354**

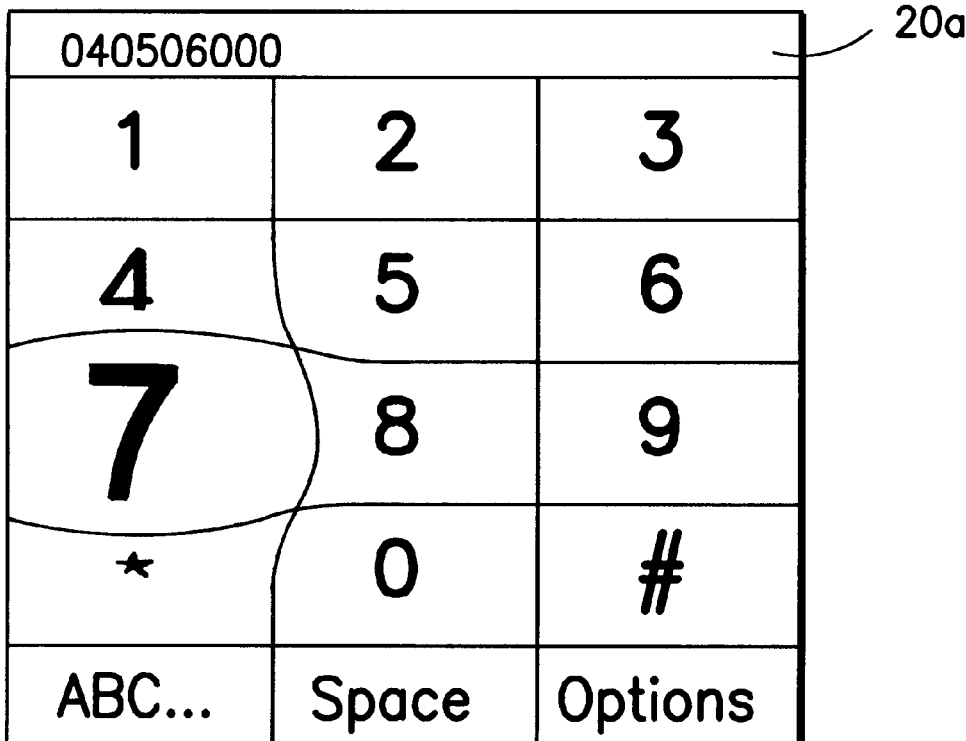
[58] **Field of Search** ..... **455/575, 425, 455/566, 567; 345/63, 147, 173, 121, 130, 156; 379/93.19, 93.23, 354; 382/298, 451**

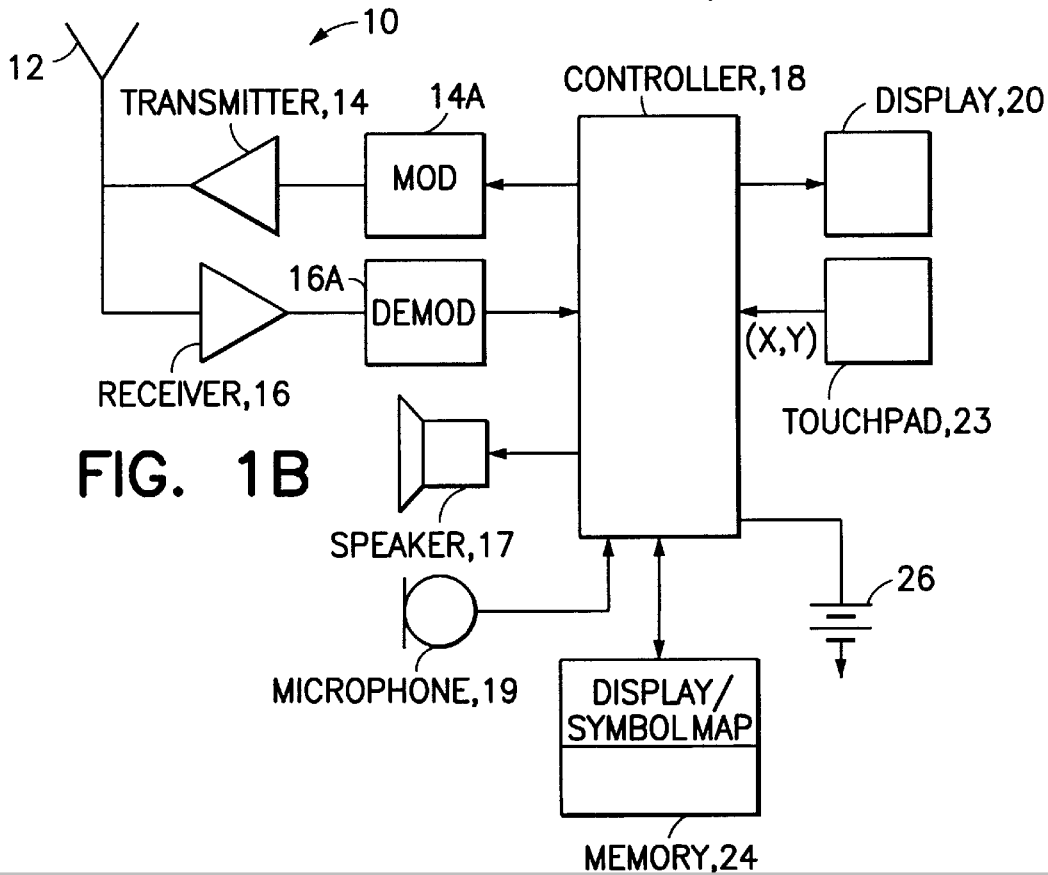
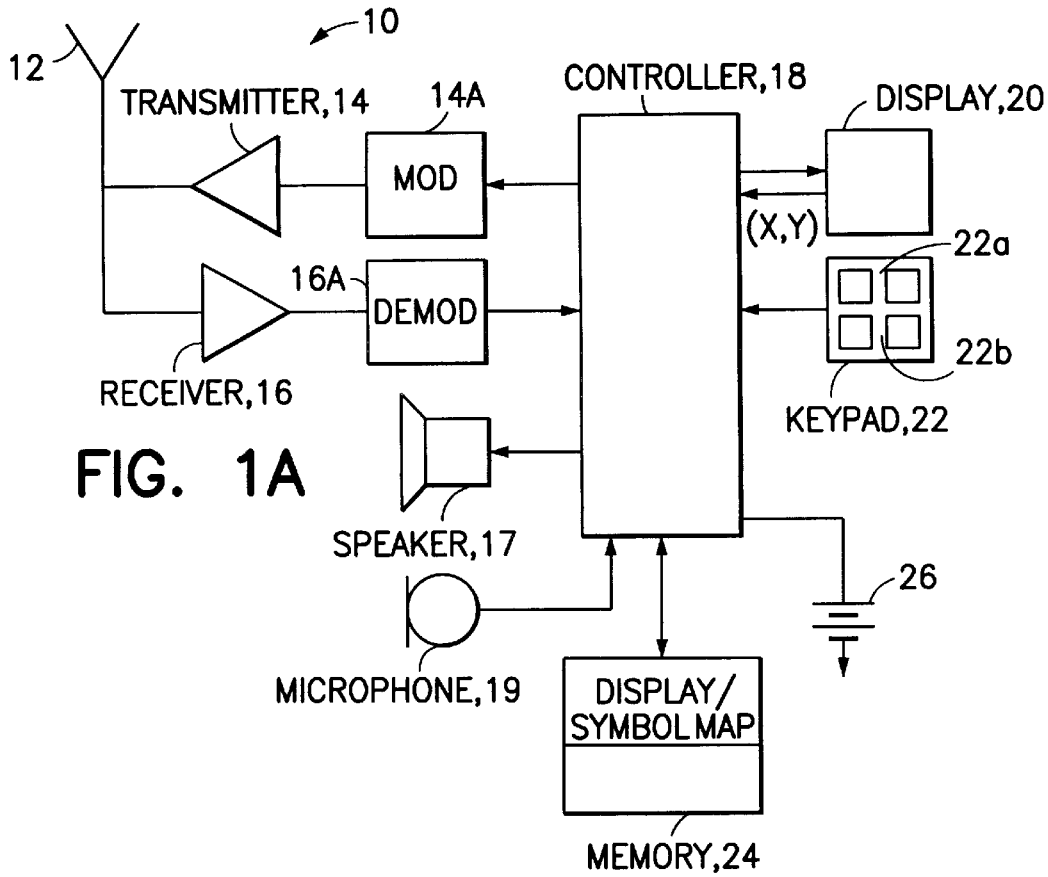
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**19 Claims, 8 Drawing Sheets**





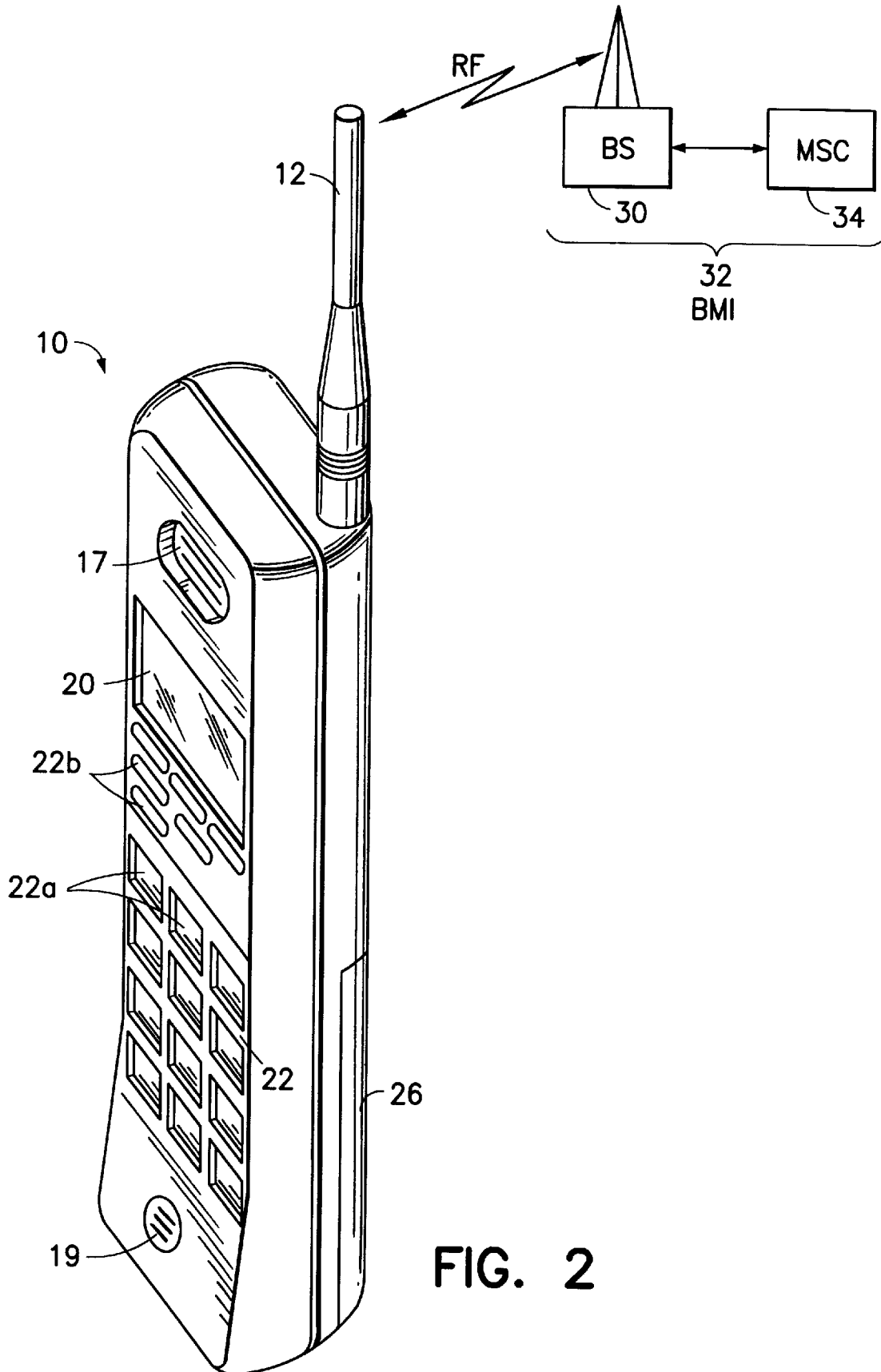


FIG. 2

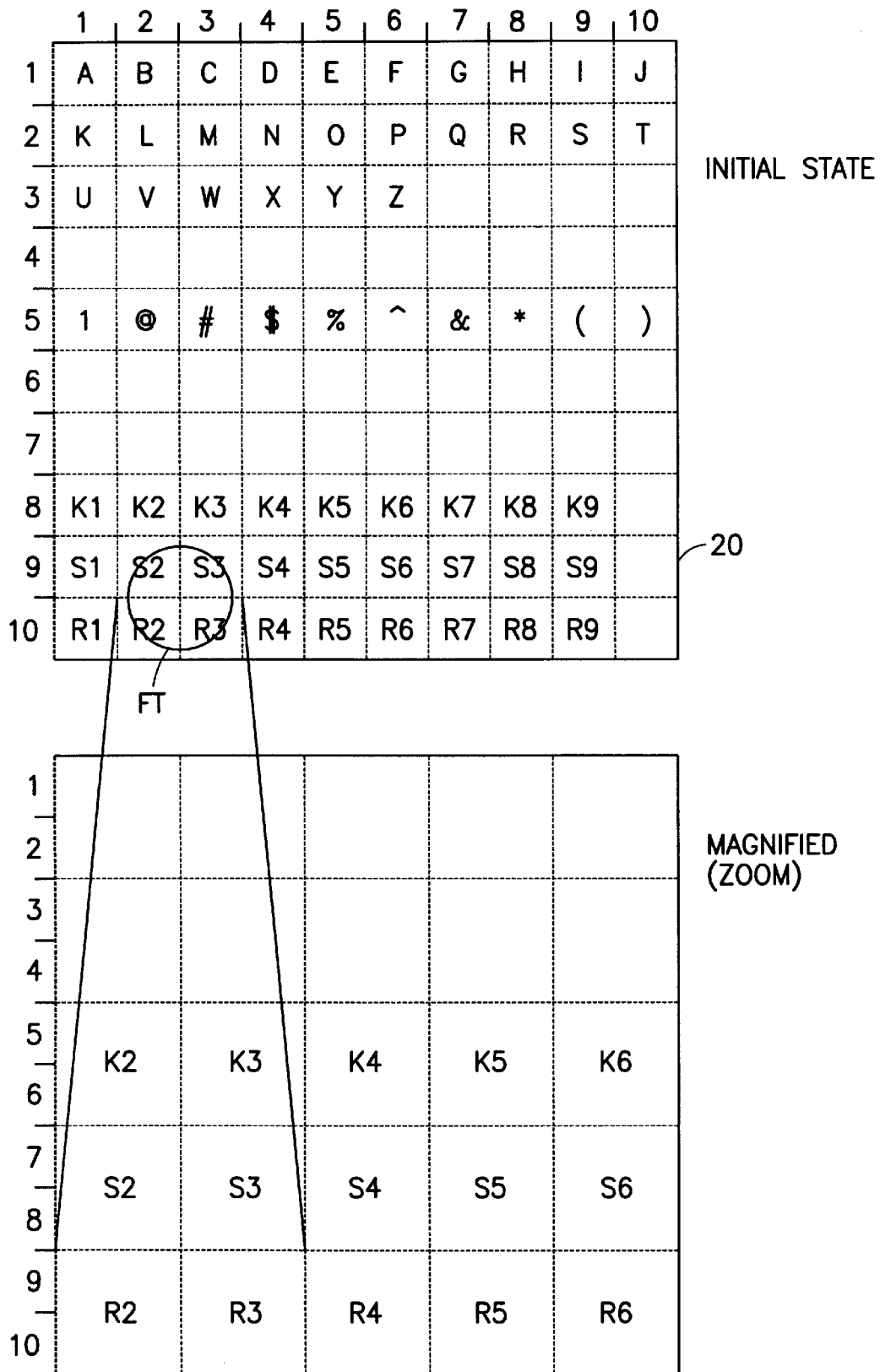


FIG. 3

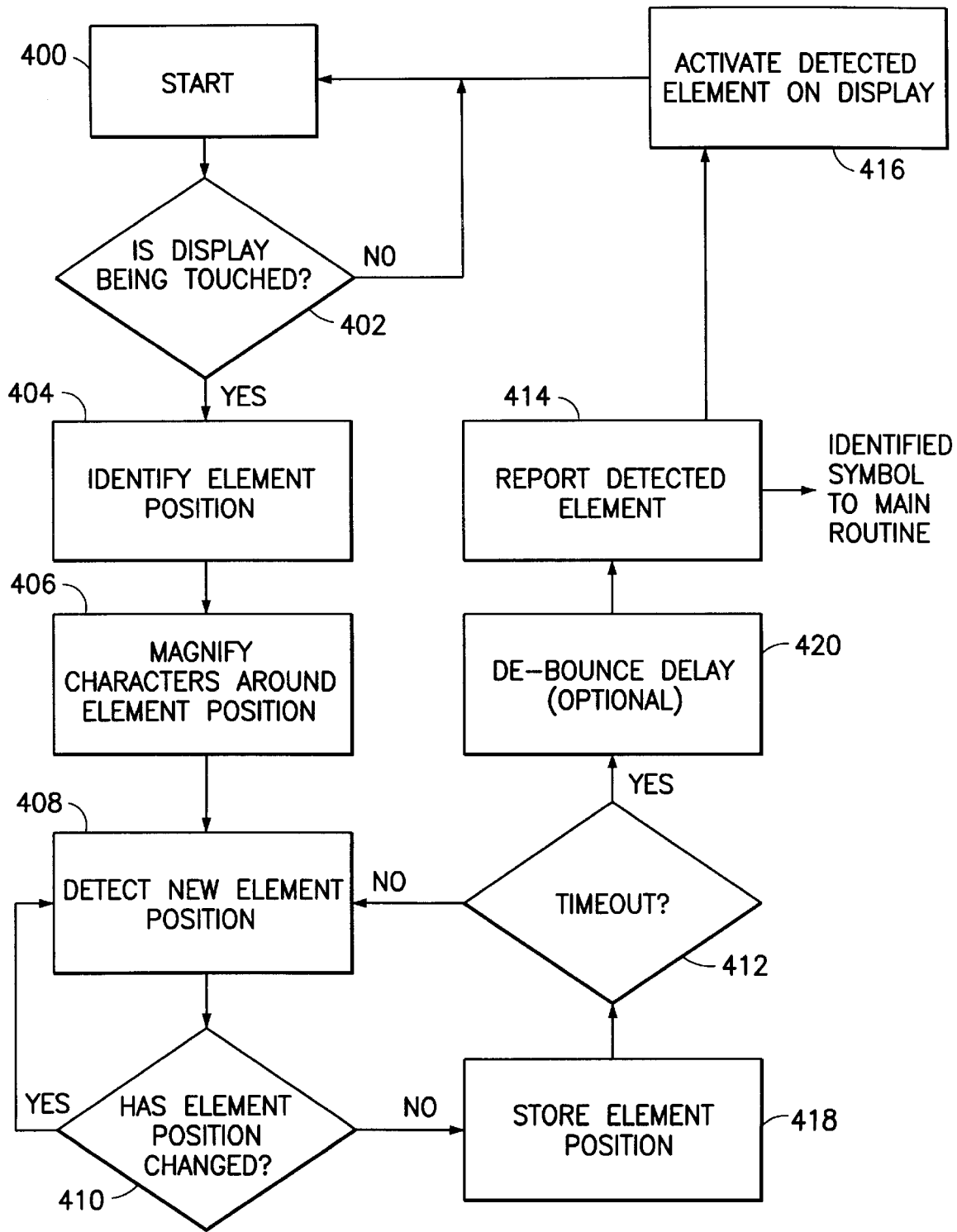


FIG. 4A

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