## United States Patent [19]

### **Kikinis**

### [54] COMPUTER-TO-TELEPHONE INTERFACE

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- [73] Assignee: Elonex LP. Holdings, Ltd., London, United Kingdom
- [21] Appl. No.: 725,183
- [22] Filed: Oct. 1, 1996

### **Related U.S. Application Data**

- [63] Continuation of Ser. No. 446,440, Jul. 14, 1995, abandoned, which is a continuation of Ser. No. 58,922, May 7, 1993, abandoned.
- [51] Int. Cl.<sup>6</sup> ..... H04M 17/00; H04M 1/00
- 379/99, 142, 144, 354, 355, 356, 357, 91.01, 93.05, 93.06, 93.23, 110.01

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Primary Examiner-Steven J. Saras

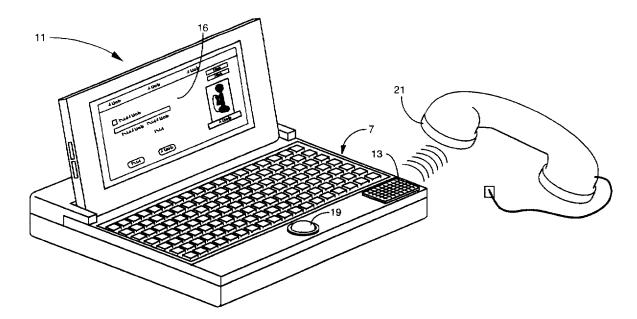
Assistant Examiner-Vijay Shankar

Attorney, Agent, or Firm-Donald R. Boys

#### [57] ABSTRACT

A portable computer, such as a laptop, notebook, or palmtop computer, comprises control routines for providing a sophisticated touch-tone dialer operable through an existing or supplied output speaker, enabling calls to be routed without making a wired direct connection between the telephone equipment and the computer. In one embodiment a system is provided for transmitting computer-usable data over a phone connection through a pre-stored relationship between DTMF tones and ASCII code.

### 8 Claims, 11 Drawing Sheets

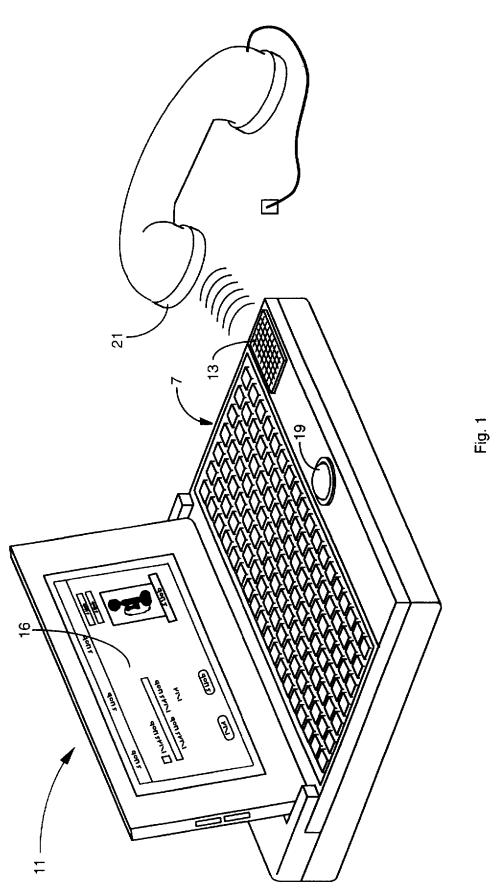


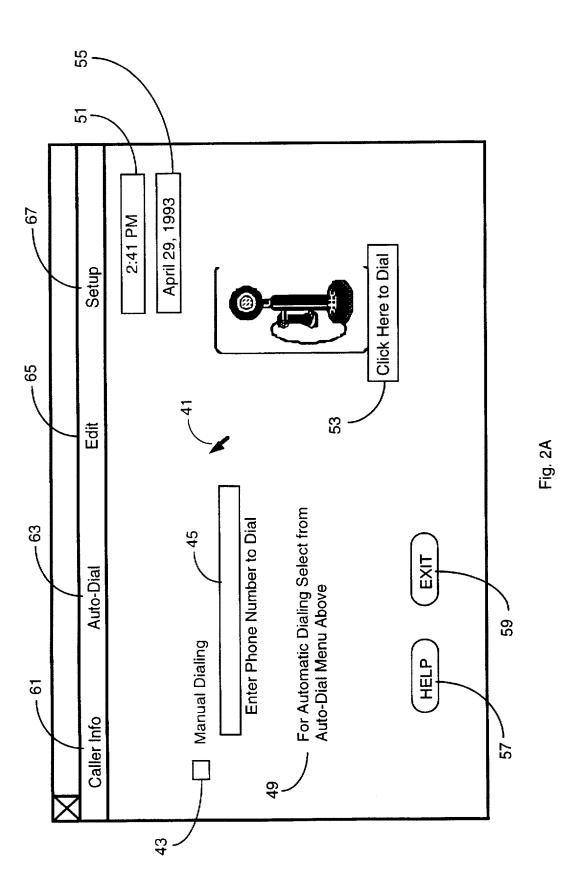
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[11]

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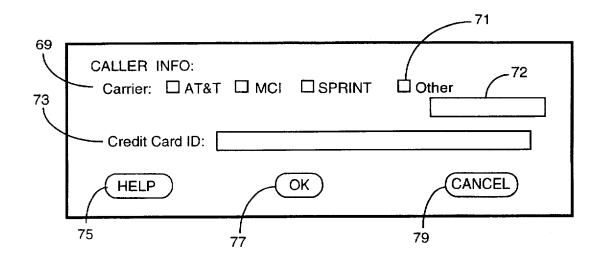
#### Aug. 4, 1998 Date of Patent: [45]



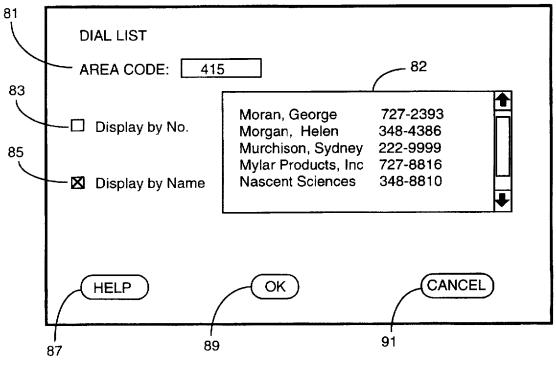


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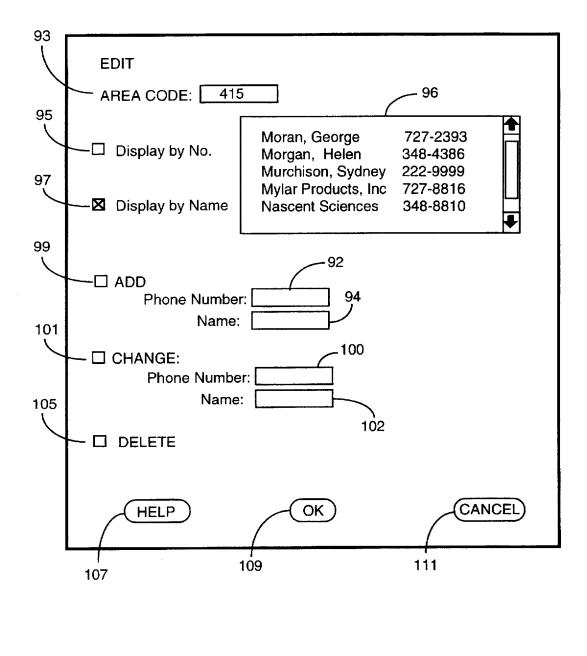


Fig. 2D

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