



US005790644A

United States Patent [19]

[11] Patent Number: **5,790,644**

Kikinis

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

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

[75] Inventor: **Dan Kikinis**, Saratoga, Calif.

[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.⁶ **H04M 17/00; H04M 1/00**

[52] U.S. Cl. **379/144; 379/355; 379/356**

[58] Field of Search **379/96, 97, 98, 379/99, 142, 144, 354, 355, 356, 357, 91.01, 93.05, 93.06, 93.23, 110.01**

References Cited

U.S. PATENT DOCUMENTS

4,201,887	5/1980	Burns	379/99
4,471,165	9/1984	Defino	379/99
4,503,288	3/1985	Kessler	379/357
4,517,412	5/1985	Newkirk	379/144
4,661,659	4/1987	Nishimura	379/99
4,817,135	3/1989	Winebaum	379/355
4,837,808	6/1989	Immendorfer	379/96
4,860,342	8/1989	Danner	379/354

4,862,498	8/1989	Reed	379/355
4,926,464	5/1990	May	379/99
4,991,199	2/1991	Purekh	379/110.1
4,995,077	2/1991	Malinowski	379/355
5,119,414	6/1992	Izumi	379/110.1
5,163,086	11/1992	Ahearn	379/144
5,181,744	1/1993	Betheil	379/355
5,297,196	3/1994	Yamada	379/99
5,359,651	10/1994	Draganoff	379/354
5,455,857	10/1995	McGuire	379/355
5,455,858	10/1995	Lin	379/354
5,467,385	11/1995	Reuben	379/142

FOREIGN PATENT DOCUMENTS

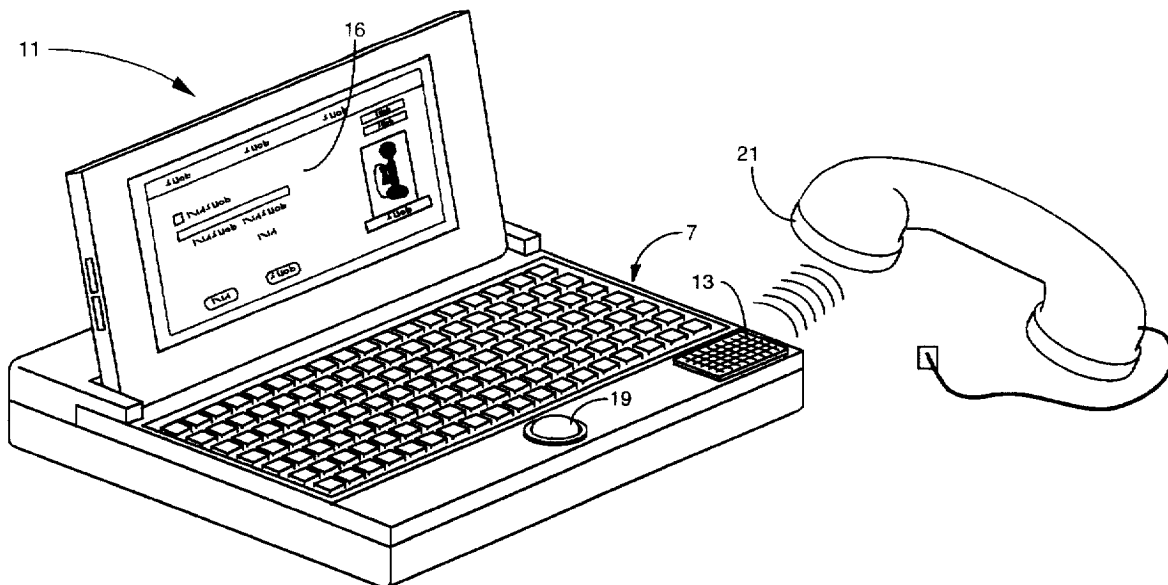
0073847	3/1989	Japan	379/357
0277043	11/1989	Japan	379/354
0019380	1/1991	Japan	379/357

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



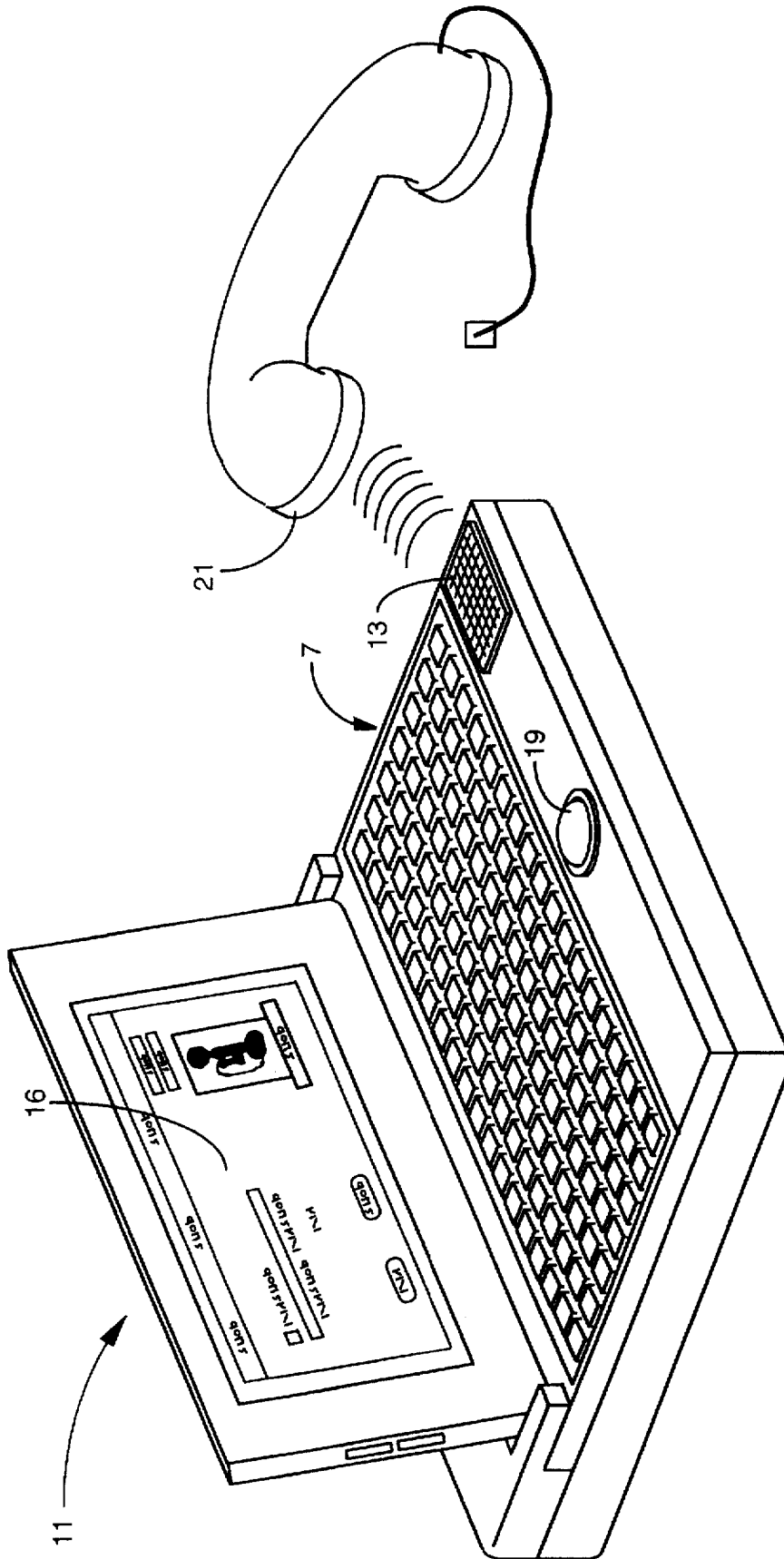


Fig. 1

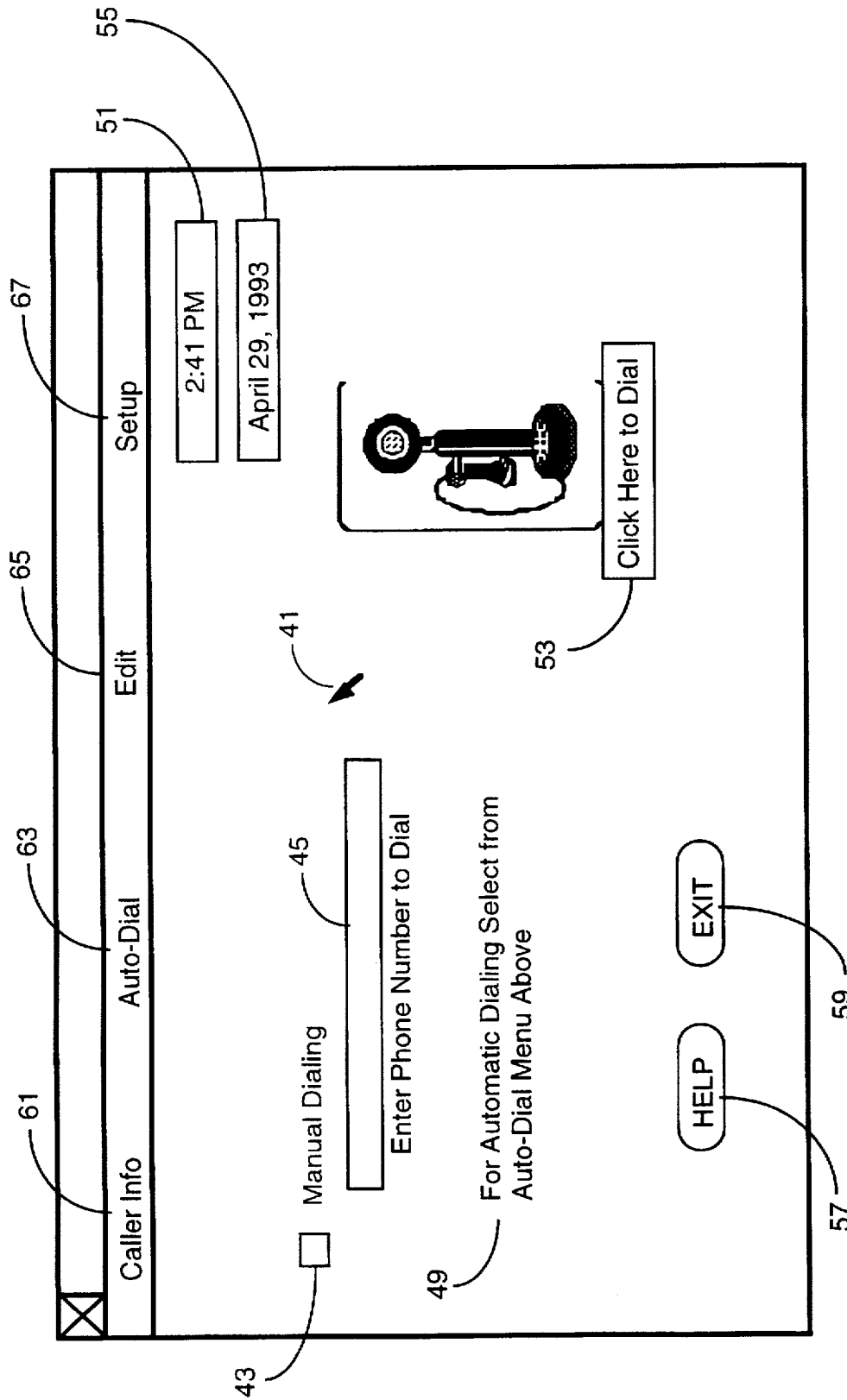


Fig. 2A

69 CALLER INFO:
73 Carrier: AT&T MCI SPRINT Other 71
72
Credit Card ID:
75 HELP 77 OK 79 CANCEL

Fig. 2B

81 DIAL LIST
83 AREA CODE: 82
 Display by No.
85 Display by Name
Moran, George 727-2393
Morgan, Helen 348-4386
Murchison, Sydney 222-9999
Mylar Products, Inc 727-8816
Nascent Sciences 348-8810
87 HELP 89 OK 91 CANCEL

Fig. 2C

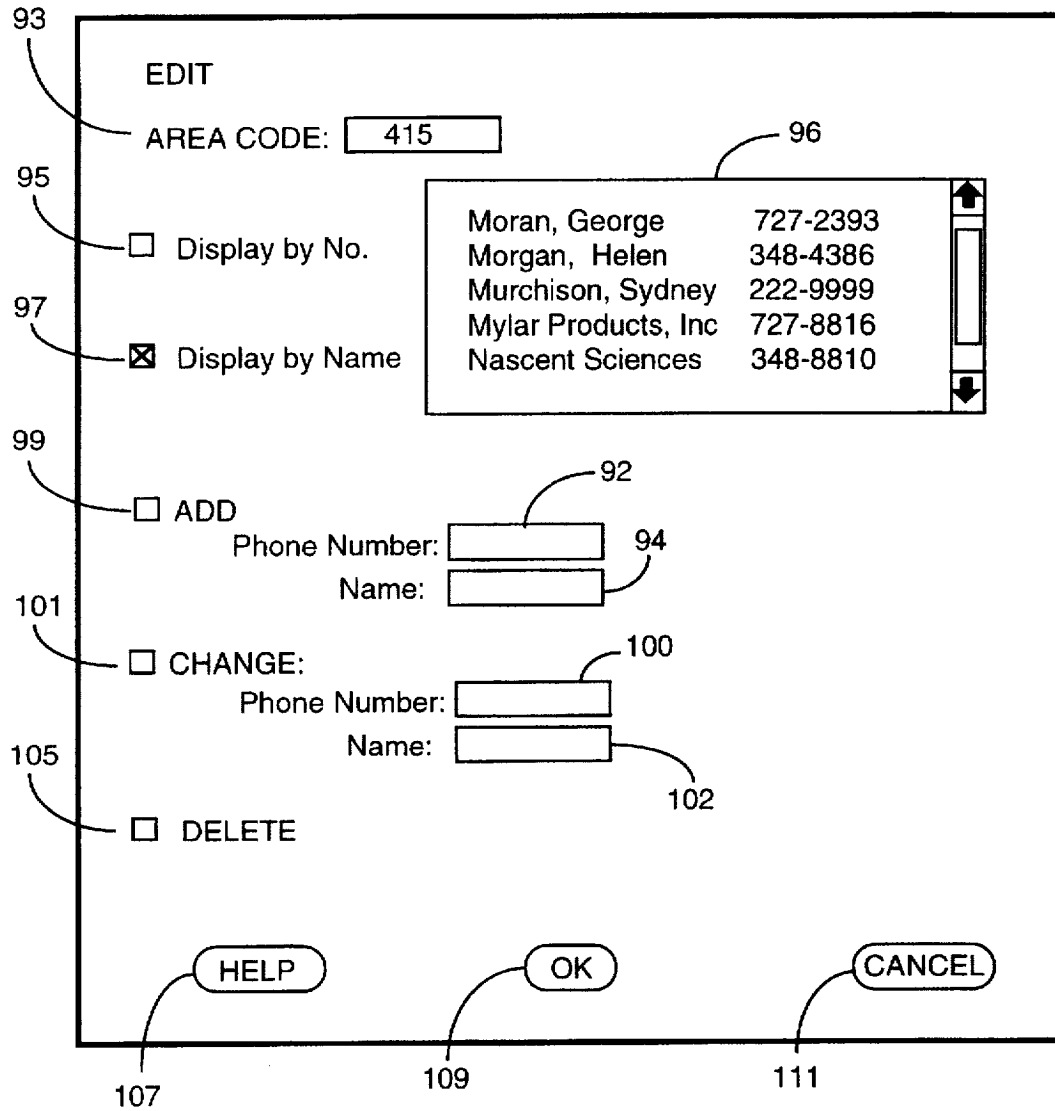


Fig. 2D

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.