



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

(10) **Patent No.: US 6,408,191 B1**
(45) **Date of Patent: *Jun. 18, 2002**

(54) **ARRANGEMENT FOR DISPLAYING MESSAGE SCREENS ON A TELEPHONE TERMINAL**

(75) Inventors: **Harry Edward Blanchard**, Rumson; **Kathleen J. Chylinski**, Bridgewater; **David R. Dempksi**, Bricktown; **Steven M. Herbst**, Chester; **Nicholas H. Katis**, Aberdeen; **Susan A. Palermo**, Oceanport; **Susan L. Tuttle**, East Windsor, all of NJ (US)

(73) Assignee: **Lucent Technologies Inc.**, Murray Hill, NJ (US)

(*) 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).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

4,872,196 A	*	10/1989	Royer et al.	455/564
5,095,307 A	*	3/1992	Shimura et al.	340/825.44
5,243,331 A	*	9/1993	McCausland et al.	345/172
5,371,788 A	*	12/1994	Baals et al.	379/396
5,392,337 A	*	2/1995	Baals et al.	379/457
5,412,713 A	*	5/1995	Baals et al.	379/457
5,425,077 A	*	6/1995	Tsoi	455/566
5,487,104 A	*	1/1996	Baals et al.	379/93.17
5,509,048 A	*	4/1996	Meidan et al.	455/564
5,579,535 A	*	11/1996	Orlen et al.	455/421
5,604,921 A	*	2/1997	Alanara	455/45
5,615,248 A	*	3/1997	Norimatsu	455/566
5,633,912 A	*	5/1997	Tsoi	455/566
5,692,032 A	*	11/1997	Seppanen et al.	455/466
5,737,394 A	*	4/1998	Anderson et al.	379/88.11
5,752,195 A	*	5/1998	Tsuji et al.	455/462
5,774,540 A	*	6/1998	Davidson et al.	379/387
5,797,098 A	*	8/1998	Schroeder et al.	455/464
5,920,826 A	*	7/1999	Metso et al.	455/557
5,930,239 A	*	7/1999	Turcotte	370/310
5,966,671 A	*	10/1999	Mitchell et al.	455/575
6,044,260 A	*	3/2000	Eaton et al.	455/406
6,047,196 A	*	4/2000	Makela et al.	455/556
6,125,287 A	*	9/2000	Cushman et al.	455/566
6,157,841 A	*	12/2000	Bolduc et al.	455/456
6,161,020 A	*	12/2000	Kim	455/466

(21) Appl. No.: **09/270,431**

(22) Filed: **Mar. 16, 1999**

* cited by examiner

Related U.S. Application Data

(63) Continuation of application No. 08/775,317, filed on Dec. 31, 1996.

(51) **Int. Cl.**⁷ **H04B 1/38**; H04M 11/10

(52) **U.S. Cl.** **455/566**; 455/412

(58) **Field of Search** 379/356, 93.17, 379/457, 88.11; 455/566, 564, 575, 466, 412, 464

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,837,811 A * 6/1989 Butler et al. 379/93.17

Primary Examiner—Nguyen T. Vo

Assistant Examiner—Charles N. Appiah

(74) *Attorney, Agent, or Firm*—Priest & Goldstein, PLLC

(57) **ABSTRACT**

An arrangement for displaying message screens on a telephone terminal provides easy access to messages received by the telephone terminal from a service provider. The arrangement allows users to seamlessly and intuitively view header and body information of a message without the need for any unnecessary key presses.

16 Claims, 3 Drawing Sheets

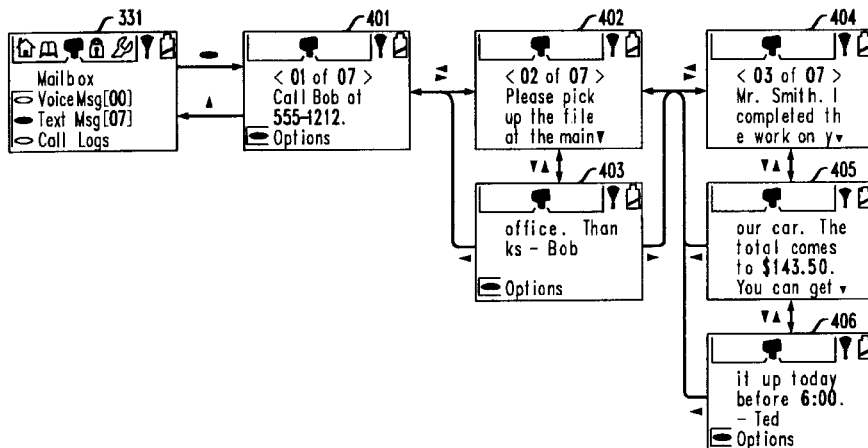


FIG. 1

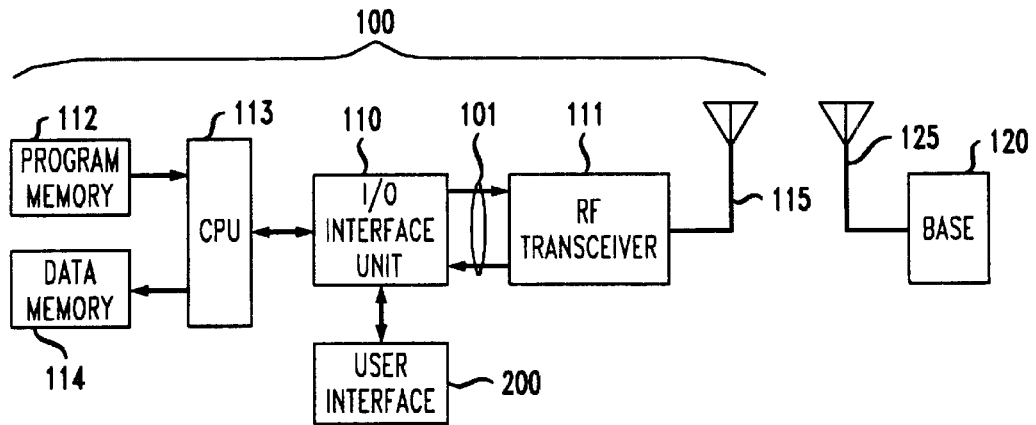
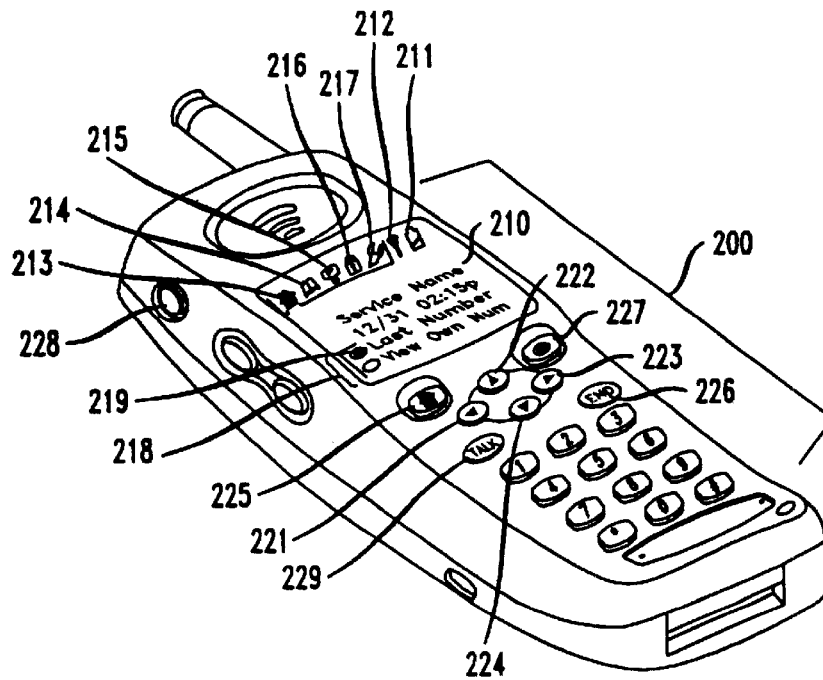


FIG. 2



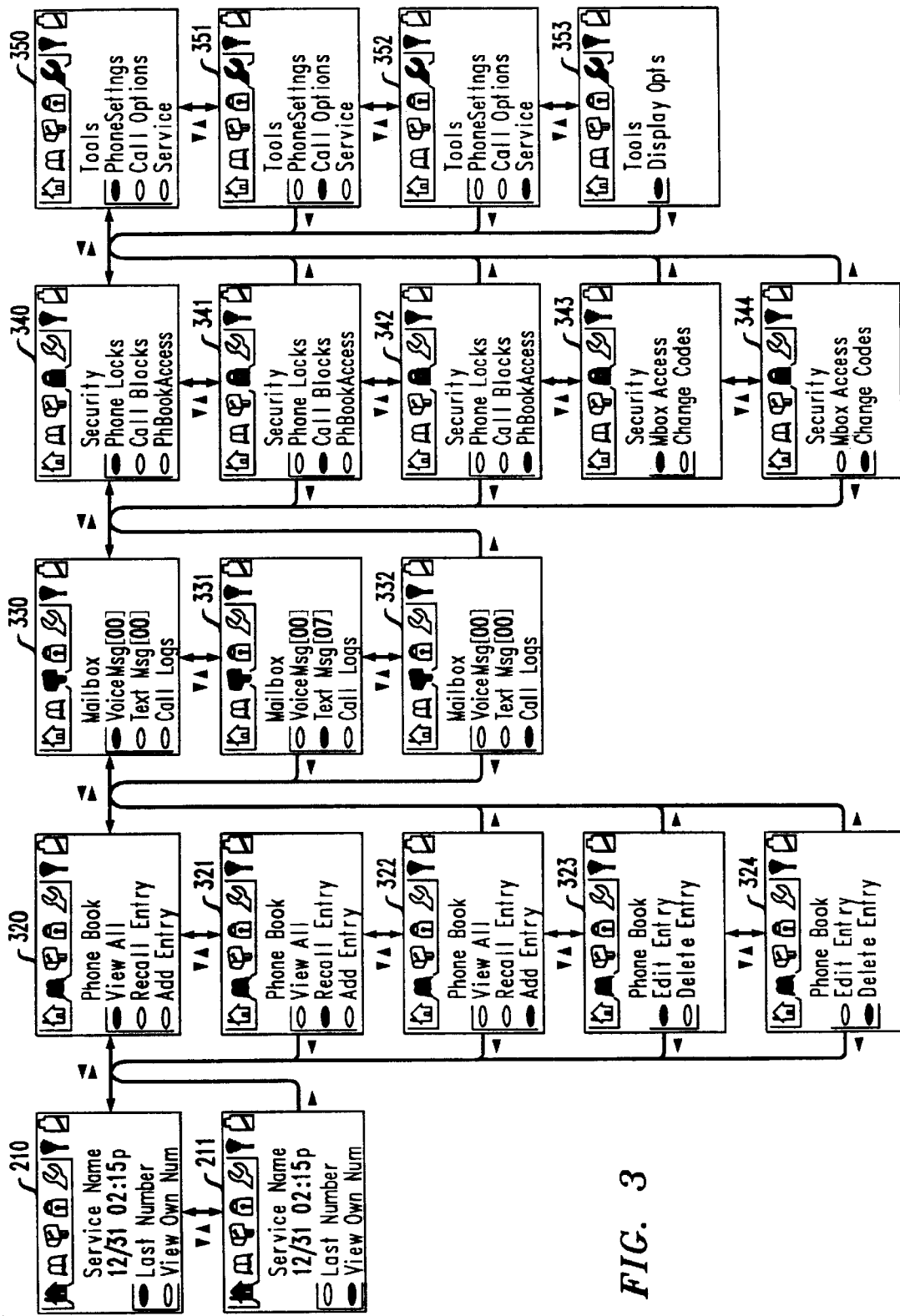
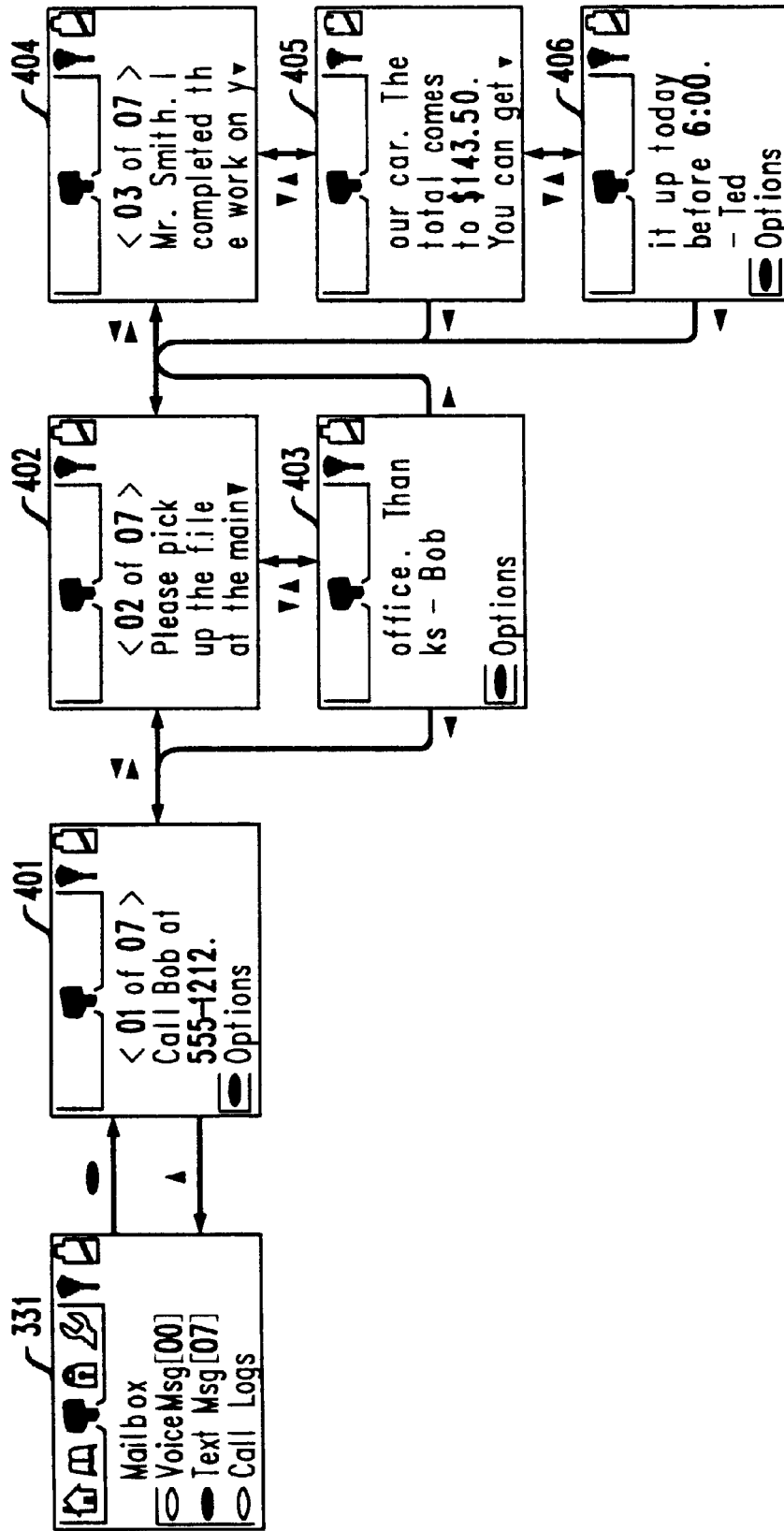


FIG. 3

FIG. 4



**ARRANGEMENT FOR DISPLAYING
MESSAGE SCREENS ON A TELEPHONE
TERMINAL**

This is a continuation of copending application(s) Ser. No. 08/775,317 filed on Dec. 31, 1996.

BACKGROUND OF THE INVENTION

1. Technical Field

This invention is directed to telephone terminals and more particularly, to a telephone terminal configurable by a user for accessing messages available at the terminal through an interactive display arrangement.

2. Description of the Prior Art

Current trends in the design of telephone terminals indicate that more and more of telephone functionality is being integrated into the telephone display on the terminal. For example, information as to features available on the display has migrated from light emitting diodes (LEDs) to the display, and local additions such as directories, incoming caller information and the like, are all migrating to the display.

The technology presently in use in telephone displays is character-based liquid crystal device (LCD) displays. These displays are configured in various array sizes such as, for example, a 2 line by 10 character LCD display, a 3 line by 12 character LCD display and even a 4 line by 12 character LCD display. In order to be artfully incorporated into the telephone housing of some telephone terminals, by way of example, the recently introduced AT&T 3760 and 3770 wireless telephone terminals, these displays tend to be small, typically on the order of one inch in height. Also, in order to provide a reasonable number of characters for information such as caller information and directory access information, a small font size for the characters is generally used.

Wireless telephone terminals have evolved to a state where they now permit reception and storage of short messages for access by a user at his or her convenience. Such short message capability has traditionally been provided in paging devices, which alert the user upon receipt of a new message through beeping, vibrating and the like. Since in these devices this message function is usually the only one provided, the user simply presses a button whenever he or she wishes to view the messages, which are typically identified as a series of message headers.

Existing short message-capable wireless telephone terminals rely upon a "pager model" for viewing messages. Such design requires that a user of the terminal initially view a series of message headers. In order to view an entire message, the user must select a specific header in order to view the message body corresponding to that message header. Likewise, the user must take a separate action to exit from the message body level and return to the message header level. It is therefore desirable that the short message capability be incorporated in a telephone terminal in a manner that allows a user to easily access, view and manage a received message presented on a small display.

SUMMARY OF THE INVENTION

The prior art problem is solved in accordance with the present invention by providing an arrangement for displaying message screens on a telephone terminal through which easy access to messages received by the telephone terminal from a service provider is available for the user. The arrangement allows users to seamlessly and intuitively view

header and body information of a message without the need for any additional, unnecessary key presses.

A set of menu keys or buttons in a user interface provides, in accordance with a first aspect of the invention, quick access to messages as well as other features of the telephone terminal with just a few key presses of these menu keys. The menu keys include a "Right" arrow key, a "Left" arrow key, an "Up" arrow key, a "Down" arrow key, a "Select" key and a "Home" key. The Right, Left, Up and Down arrow keys are functionally descriptive in moving between menu screens and advantageously provides a dual axis of control for a user in navigating among a plurality of these menu screens. The Select key selects or advances to a feature choice which is being displayed in a menu screen. Finally, the Home key is used to return a user to an original or starting menu screen in the plurality of menu screens.

In accordance with a second aspect of the invention, each message in a series of messages may be viewed by selecting a "messages menu" choice in a displayed menu. Once this messages menu choice is selected by the Select key, the message header in the displayed menu provides an enumeration for the particular message being displayed as well as a total number of messages in the series of messages. Also in the menu screen, the message body is displayed in available characters spaces on the display and below the message header. If the received message body is greater than the available character spaces of the display, a down-arrow is provided in the display to indicate that the message body continues and that additional information can be viewed by scrolling to the next screen with the Down arrow key. At any point in the message being viewed, the user may step to the next message in the series of messages by pressing the Right arrow key, which sends the user to the top of this next message. The user can use the Left and Right arrow keys in a similar fashion to step backward and forward to all messages. This dual axis of control advantageously allows a user to view the contents of a menu area without having to perform the additional step of selecting, with the Select key, each message in the area.

BRIEF DESCRIPTION OF THE DRAWING

This invention and its mode of operation will be more clearly understood from the following detailed description when read with the appended drawings in which:

FIG. 1 is a block diagram of a wireless telephone terminal and a base unit, the telephone terminal being usable for incorporating the present invention;

FIG. 2 illustrates the telephone terminal of FIG. 1 including a user interactive display displaying a first menu screen accessible in accordance with the present invention; and

FIGS. 3 and 4 are flow charts of the invention illustrating some of the display screens provided by the circuitry shown in FIG. 1 and also illustrating how movement between these display screens is achieved, in accordance with the invention.

Throughout the drawing, the same elements when shown in more than one figure are designated by the same reference numerals.

DETAILED DESCRIPTION

Referring now to FIG. 1, there is shown an illustrative block diagram of a wireless telephone terminal 100 useful for describing the operation of the present invention. The telephone terminal is configured so that incoming messages from a service provider may be received from a base station

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.