



US005465401A

United States Patent [19] Thompson

[11] Patent Number: **5,465,401**
[45] Date of Patent: *** Nov. 7, 1995**

[54] **COMMUNICATION SYSTEM AND METHODS FOR ENHANCED INFORMATION TRANSFER**

FOREIGN PATENT DOCUMENTS

9217974 10/1992 WIPO 379/433

OTHER PUBLICATIONS

Arthur Kupfer "Phones That will Work Anywhere" *Fortune*, Aug. 24, 1992, pp. 100-112.
Seattle Times "Technology", The Dallas Morning News, Sunday, Oct. 18, 1992, p. 6H.

(List continued on next page.)

[75] Inventor: **E. Earle Thompson**, Dallas, Tex.

[73] Assignee: **Texas Instruments Incorporated**, Dallas, Tex.

[*] Notice: The portion of the term of this patent subsequent to Aug. 2, 2012, has been disclaimed.

[21] Appl. No.: **991,015**

[22] Filed: **Dec. 15, 1992**

[51] Int. Cl.⁶ **H04B 1/38; H04B 1/16**

[52] U.S. Cl. **455/89; 455/90; 455/343; 455/349; 379/58; 379/357; 379/420**

[58] **Field of Search** 458/56.1, 74, 11.1, 458/347, 349, 89, 90, 344, 348, 349, 351, 186.1, 186.2; 379/57, 58, 59, 433, 434, 357, 201; 16/334, 321, 386, 387; 361/814; 343/702; 200/329, 318.2, 323, 327, 333, 336

[56] References Cited

U.S. PATENT DOCUMENTS

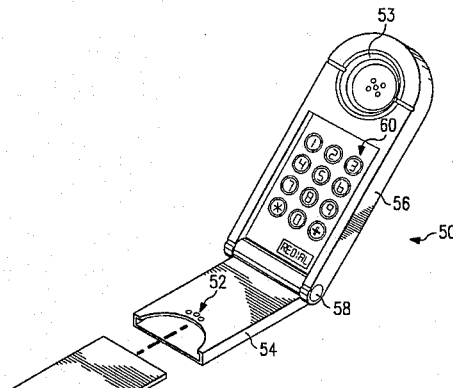
4,153,937	5/1979	Poland	364/706
4,295,181	10/1981	Chang et al.	361/395
4,712,242	12/1987	Rajasekaran et al.	381/42
4,845,772	7/1989	Metroka et al.	455/90
4,882,757	11/1989	Fisher et al.	381/43
4,908,865	3/1990	Doddington et al.	381/43
5,014,346	5/1991	Phillips et al.	455/90
5,027,394	6/1991	One et al.	379/434
5,138,649	8/1992	Krisbergh et al.	379/56
5,170,173	12/1992	Krenz et al.	455/89
5,175,759	12/1992	Metroka et al.	455/89
5,185,790	2/1993	Mischneko	379/433
5,258,892	11/1993	Staton et al.	455/90
5,260,998	11/1993	Takagi	379/434
5,278,993	1/1994	Reiff et al.	455/90
5,303,291	4/1994	Takagi et al.	379/58
5,335,276	8/1994	Thompson et al.	379/201

Primary Examiner—Reinhard J. Eisenzopf
Assistant Examiner—Lisa Charouel
Attorney, Agent, or Firm—Thomas G. Eschweiler; James C. Kesterson; Richard L. Donaldson

[57] ABSTRACT

A communication system (20) is provided with multiple purpose personal communication devices (50 and 150). Each communication device (50 and 150) includes a touch-sensitive visual display (60 and 160) to communicate text and graphic information to and from the user and for operating the communication device (50 and 150). Voice activation (78) and voice control capabilities (76) are included within communication devices (50 and 150) to perform the same functions as the touch-sensitive visual display (60 and 160). The communication device includes a built-in modem (82), audio input and output (52 and 53), telephone jacks (86), and wireless communication (90). A plurality of application modules (100) are used with personal communication devices (50 and 150) to perform a wide variety of communication functions such as information retrievable, on-line data base services, electronic and voice mail. Communication devices (50 and 150) and application modules (100) cooperate to allow integrating multiple functions such as real time communication, information storage and processing, specialized information services, and remote control of other equipment into an intuitively user friendly apparatus. The system (20) includes both desktop (150) and hand-held communication devices (50) with the same full range of communication capabilities provided in each type of communication device (50 and 150).

11 Claims, 6 Drawing Sheets



OTHER PUBLICATIONS

Louis A. Blatt & Alan Schell, "Gesture Set Economics for Text and Spreadsheet Editors", *Proceedings of the Human Factors Society 34th Annual Meeting—1990*, pp. 410–414.

Catherine Plaisant & Andrew Sears, "Touchscreen Interfaces for Alphanumeric Data Entry", *Proceedings of the Human Factors Society 36th Annual Meeting—1992*, pp. 293–297.

Panos Papamichalis and Jay Reiner, "16. Implementation of the Data Encryption Standard Using the TMS 32010", *Theory, Algorithms and Implementations*, vol. 1, Texas Instruments Digital Signal Processing Applications with the TMS320 Family, 1989, pp. 455–465.

1993 Catalog, "Executive's Guide to Electronic Organizers", Rupp Technology Corp., pp. 1–15.

Bell Atlantic News, "Voice Command Telephoning Being Trailed at Bell Atlantic", Dec. 17, pp. 1–4.

Texas Instruments Voice Dialing Services, DBP089, Texas Instruments.

Texas Instruments Multiserve Media Server, DPPS300, Aug. 1992 2M.

"Enhanced Information Services Technical Report", Texas Instruments Telecom Systems, DBPB088, Dec. 1991, pp. 1–19.

"TI Announces Multiserve™ Telecommunication Platform", News Release ITG–005, Texas Instruments, pp. 1–5.

"TI and Speech: Pioneering a New Era of Enhanced Telecom Applications", Texas Instruments, Editorial Background, pp. 1–6.

"Wizard. The Gift of Organization". Sharp Electronics Corp. (ad).

"Texas Instruments Multimedia Processor", DBPS299, Dec. 1991, 2M.

Enhanced Information Services, "A Strategic Approach", pp. 1–12, Texas Instruments Telecom Systems.

"Remote Controls" Consumers Reports, Dec. 1992, pp. 796–799.

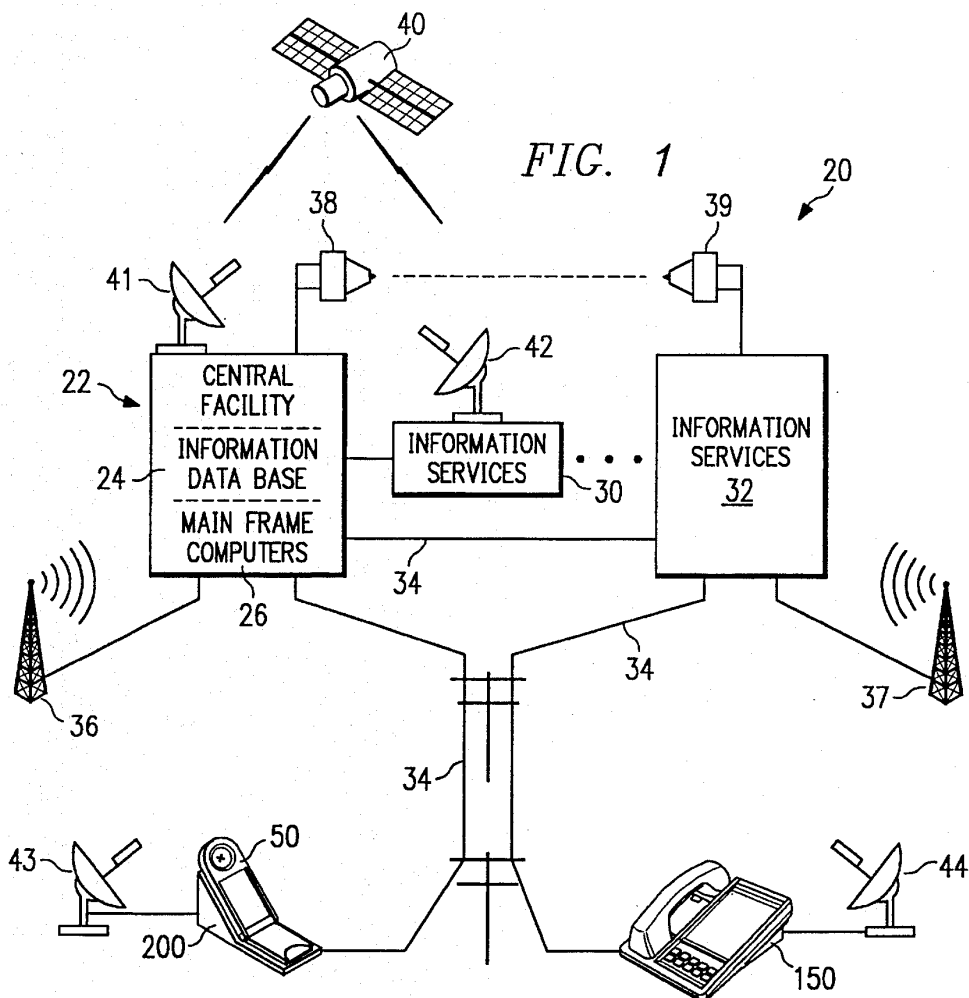


FIG. 10

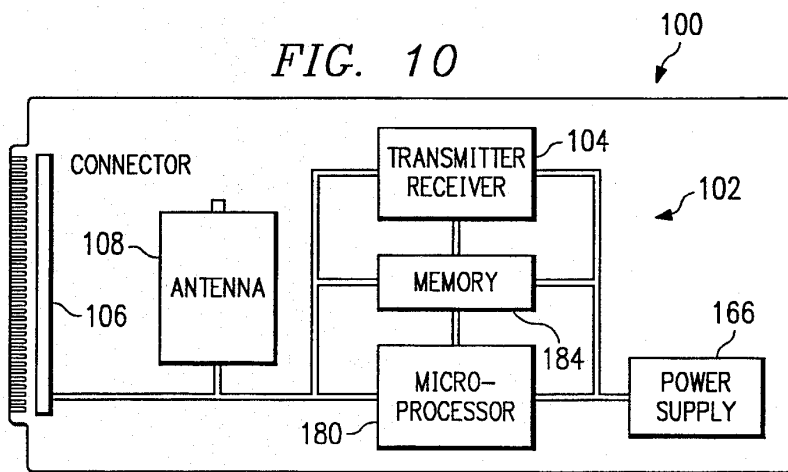


FIG. 2

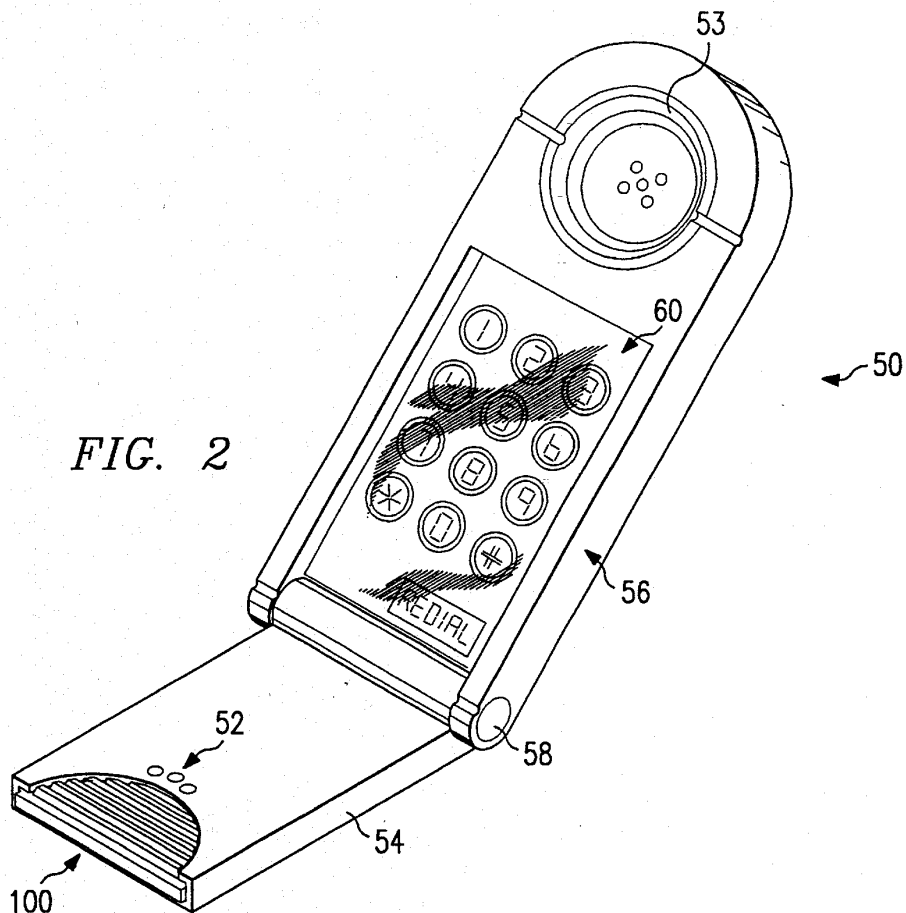
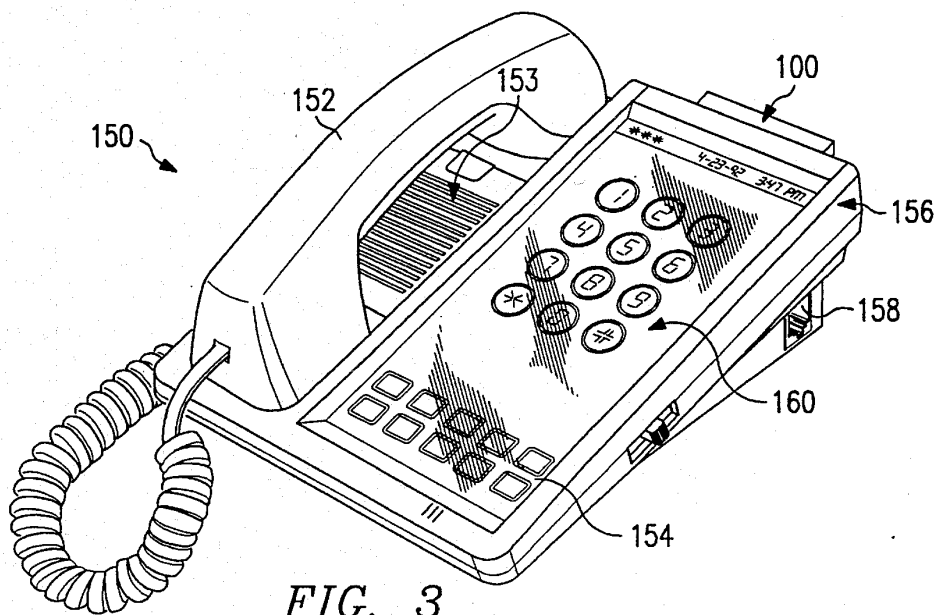
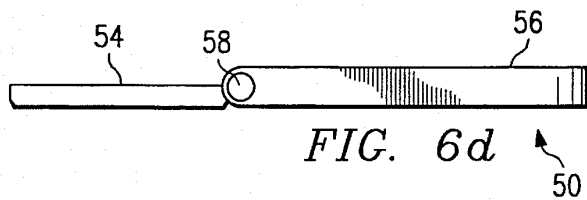
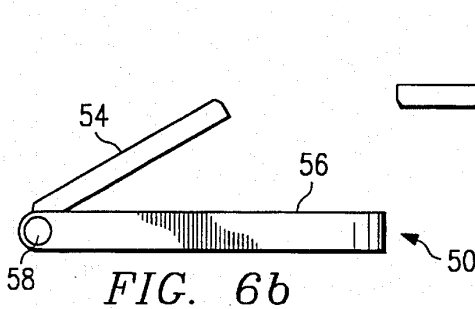
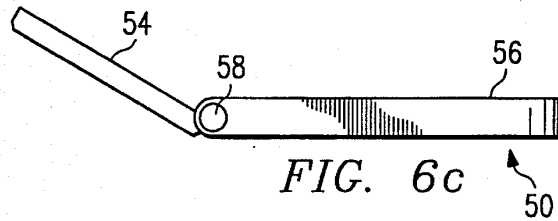
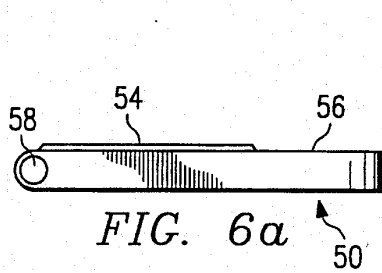
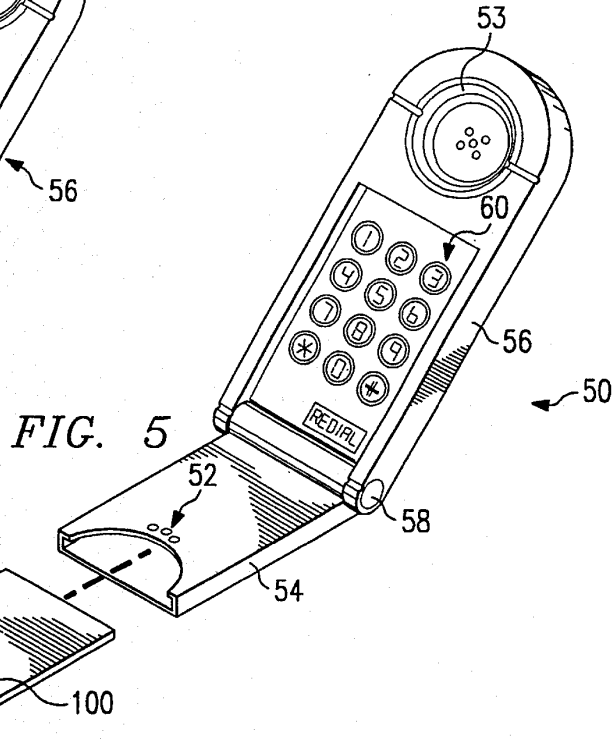
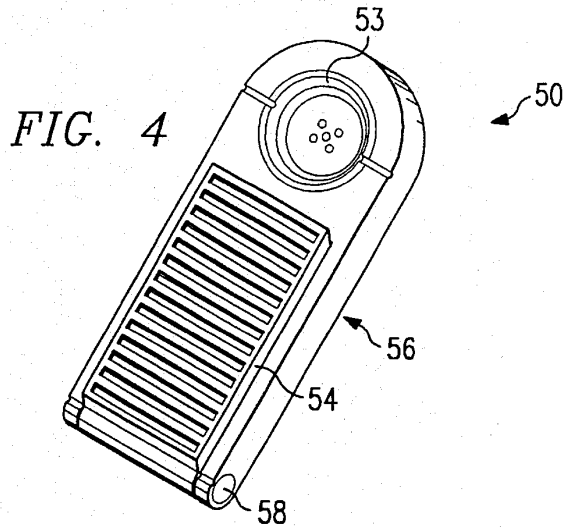


FIG. 3





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.