

4

1

D

Δ

ARM

WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

Γ	(51) International Patent Classification ⁶ :		(1	11) International Publication Number: WO 97/09813				
	H04M 1/72	A1	(4	13) International Publication Date: 13 March 1997 (13.03.97)				
7	 (21) International Application Number: PCT/SE (22) International Filing Date: 6 August 1996 (1) (30) Priority Data: 08/524,867 7 September 1995 (07.09.95) 	96/0099 06.08.9) T	 (81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, 					
	71) Applicant: TELEFONAKTIEBOLAGET LM ERICSSON (publ) [SE/SE]; S-126 25 Stockholm (SE).			CM, GA, GN, ML, MR, NE, SN, TD, TG).				
	(72) Inventor: NGUYEN, Nam, D.; 2460 Murville, Que 1M9 (CA).	bec J4	Y-	Published With international search report.				
	(74) Agents: BOHLIN, Björn et al.; Telefonaktiebolaget L son, Patent and Trademark Dept., S-126 25 Stockho	M Eric blm (SE	2 5- 2).					
-	(54) Title: PERSONAL COMMUNICATIONS TERMINA	AL	I	L				
	(57) Abstract A personal communications terminal (PCT) (10) in a case having a first half hingedly connected to a second half. The PCT operates in an open and a closed position and comprises a mobile telephone unit (32) and a personal digital assistant (PDA) unit (31) electronically connected to the mobile telephone unit. The PDA unit (31) is a fully functional personal computer. The PDA unit comprises a memory for data (42), a processor (43) for performing operations with the data and the application programs, a modem (33) for passing data between the PDA unit (31) and the mobile telephone unit	stract A personal inciations terminal (10) in a case a first half hingedly ted to a second The PCT operates open and a closed in and comprises ile telephone unit da personal digital tr (PDA) unit (31) itelly connected to bile telephone unit DA unit (31) is a ter. The PDA mprises a memory palication software tms (41), a memory a (42), a processor for performing ons with the nd the application ms, a modem (33) sing data between DA unit (31) and bile telephone unit data the telephone unit the te						
1	interface (34) for passing data between the PDA unit and the mobile telephone unit forms two interior faces which include a PDA display scre	without withou	ut u) on	29 utilizing the modem. When the PCT (10) is in the open position, it n one face and a full alpha-numeric keyboard (24) on the other face.				

forms two interior faces which include a PDA display screen (23) on one face and a full alpha-numeric keyboard (24) on the other face. The PCT may be operated as a standard wireless telephone, as a personal computer, or in an integrated mode for FAX, wireless data transfer, or sending and receiving short message service (SMS) messages.

applic		Fund to a	he FCT on the front pages of pa	ampinets pu	onsning international
	cations under the PCT.				
АМ	Armenia	GB	United Kingdom	N.// XX/	Malaud
AT	Austria	GE	Georgia	MY	Mexico
AU	Australia	GN	Guinea	NE	Nicon
BB	Barbados	GR	Greece	NE	Nigel Notherlanda
BE	Belgium	HI	Hungary	NO	Nomer
BF	Burkina Faso	IF	Ireland	NZ	Norway New Zeelerd
BG	Bulgaria	IL IT	Italy	DI	New Zealand Baland
B.I	Benin	IP	Ianan	PT	Portugal
BR	Brazil	KE	Sapan Kenvo	PO	Portugai
BY	Belarus	KG	Kurovetan	DI	Romania Pussion Endometion
CA	Canada	KP	Democratic People's Peopleia	SD SD	Russian rederation
CF	Central African Republic		of Korea	3 <i>D</i>	Sudan
CG	Congo	KR	Penublic of Korea	SE SC	Sweden
CH	Switzerland	K7	Kepublic of Kolda	3G 61	Singapore
CI	Côte d'Ivoire	I I	Liechtenstein	51	Siovenia
CM	Cameroon		C=: I onko	SK	Slovakia
CN	China	Lix I D	Jii Lalika Liberia	SIN	Senegal
CS	Czechoslovakia		Liberia Lithuania	SZ	Swaziland
CZ	Czech Republic		Luuuania	TD	Chad
DE	Germany		Luxembourg	TG	Togo
nK	Denmark		Latvia	TJ	Tajikistan
FF	Ectonia	MC	Monaco	TT	Trinidad and Tobago
FS	Spain	MD	Republic of Moldova	UA	Ukraine
61 61	Spann Finland	MG	Madagascar	UG	Uganda
61 610	Financ	ML	Mali	US	United States of America
26	France	MN	Mongolia	UZ	Uzbekistan

.

Г

DOCKET

Α

R M Find authenticated court documents without watermarks at <u>docketalarm.com</u>.

PERSONAL COMMUNICATIONS TERMINAL

BACKGROUND OF THE INVENTION

Technical Field of the Invention

This invention relates to mobile stations in a radio telecommunications network and, more particularly, to an integrated personal communications terminal which performs the functions of a mobile telephone while transmitting, receiving, and displaying text or images.

10

15

30

35

DOCKET

5

Description of Related Art

In modern radio telecommunication systems, subscribers move throughout the coverage area of the system utilizing mobile telephones referred to as mobile stations. Existing mobile telephones have a small display, such as a LED display, for displaying to the subscriber the telephone number being called and the status of the call.

Subscriber demand is great for mobile stations with 20 increased communications capabilities. For example, subscribers desire mobile stations capable of transmitting, receiving, and displaying text and images. Heretofore, there has not been a self-contained mobile station capable of operating as a mobile telephone while 25 performing these more advanced functions in a convenient manner. An existing solution has been to use a portable computer such as a laptop or Notepad, such as the Newton Notepad from Apple Computer, which is connected to a mobile telephone so that text and images can be displayed.

There are several problems, however, with this existing solution. First, the subscriber must carry around the laptop or Notepad computer in addition to the subscriber's mobile telephone. This is inconvenient at best, and for some subscribers, or in some circumstances, it is not possible. Second, the subscriber must possess the knowledge required to connect the portable computer to the mobile telephone. With the use of mobile 5

10

15.

20

telephones expanding rapidly within the general population, there are many subscribers who do not possess this knowledge. Third, the subscriber must take time to connect the portable computer to the mobile telephone. Again, this is inconvenient at best, and may result in increased cost to the subscriber since a call is either lengthened by the time it takes the subscriber to connect the computer and the telephone, or two calls must be placed: a first call to alert the subscriber that text or images are to be sent, and a second call to send the text or images.

Although there are no known prior art teachings of solution to а the aforementioned deficiency and shortcoming such as that disclosed herein, a number of prior art references exist that discuss subject matter that bears some relation to matters discussed herein. Such prior art references are U.S. Patent Number 5,348,347 to Shink, a publication titled "Searching for the Perfect PDA", and a publication titled "Is it a phone or a PDA? Here's what Simon says". Each of these references is discussed briefly below.

U.S. Patent Number 5,348,347 to Shink discloses a pocketbook size organizer that can store a portable cellular telephone. The organizer comprises a flexible book that may hold a mobile telephone, a notepad, a pen, a calculator, and a timer. However, Shink does not teach or suggest a personal communications terminal which can perform as a mobile telephone while transmitting, receiving, and displaying text or image data.

30

DOCKET

25

The publication titled "Searching for the Perfect PDA" describes three generations of personal digital assistants (PDAs). The first generation comprised palmtop or handheld computers. These palmtops were generally pocket sized with a split case and a hinge on the spine. 35 One side of the palmtop held a display, and the other side held a keyboard. External communication was limited to a serial port for connecting to a desktop computer or

5

DOCKET

external modems. The second generation of PDAs was much like the first generation, but added the capability to recognize handwriting entered with a stylus on the display screen. The third generation of PDAs are often called Personal Communications Assistants (PCAs) or Personal Intelligent Communicators (PICs). The most advanced PCA appears to be a device sold by BellSouth Cellular Corporation called Simon.

The publication titled, "Is it a phone or a PDA? 10 Here's what Simon says" is a journal article appearing in the October 31, 1994 issue of InfoWorld magazine at pages 119-120. The article describes the Simon as a device comprising a cellular telephone and a personal digital assistant (PDA). The device may function as a mobile 15 telephone as well as offering communications features such as electronic mail (E-mail) and faxing. The Simon device is not a fully functional personal computer. It is a cellular phone that is also programmed with personal information management (PIM) software applications such 20 as a notepad, address book, calendar, calculator, and the like.

Almost all of one side of the Simon device is a LCD display, but this configuration has several disadvantages. First, since the display covers the entire side of the 25 device, the Simon device must use an on-screen keyboard. When used as a PDA rather than a telephone, the device may display one of two on-screen keyboards or a numeric keypad for use with a calculator application. This creates a second disadvantage, however, since the small size of the 30 on-screen keyboard requires that a stylus be used to make data entries. The on-screen keyboard is not designed for touch typing, but a modest amount of data entry is possible. The on-screen keyboard also creates a third disadvantage because a very limited amount of display area 35 remains for displaying text or graphics information when the keyboard is displayed. While acceptable for straight

DOCKET



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.

