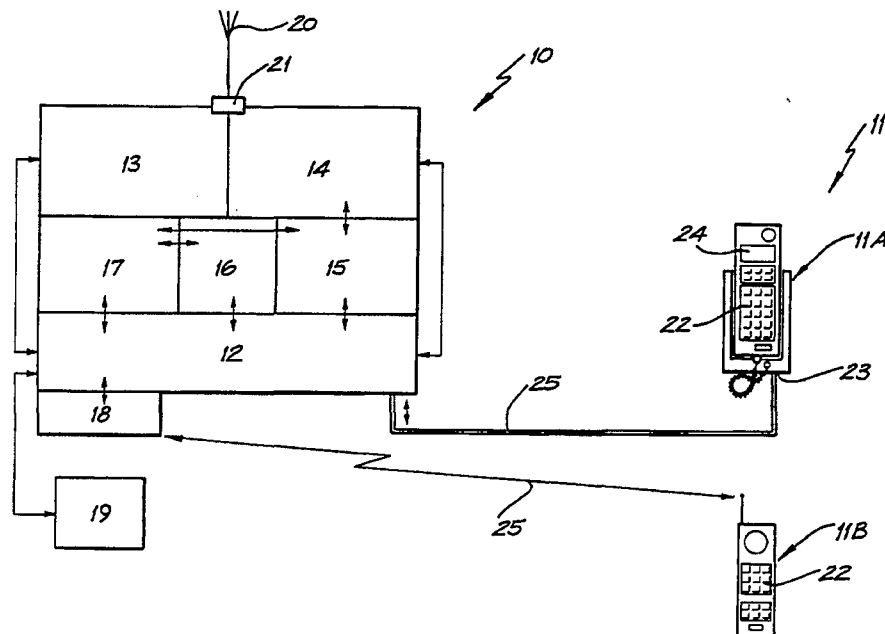


## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>6</sup> : <b>H04Q 7/20</b></p>	<p><b>A1</b></p>	<p>(11) International Publication Number: <b>WO 95/23485</b></p> <p>(43) International Publication Date: 31 August 1995 (31.08.95)</p>
<p>(21) International Application Number: PCT/AU95/00098</p> <p>(22) International Filing Date: 28 February 1995 (28.02.95)</p> <p>(30) Priority Data: PM 4143 28 February 1994 (28.02.94) AU</p> <p>(71) Applicant (for all designated States except US): VOXSON INTERNATIONAL PTY. LIMITED [AU/AU]; 231 Holt Street, Pinkenba, QLD 4008 (AU).</p> <p>(72) Inventor; and (75) Inventor/Applicant (for US only): LONGGINOU, Lucas [AU/AU]; 55 Riverview Terrace, Hamilton, QLD 4007 (AU).</p> <p>(74) Agent: MAXWELL, Peter, Francis; Peter Maxwell &amp; Associates, Blaxland House, 5 Ross Street, North Parramatta, NSW 2151 (AU).</p>		<p>(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG).</p> <p><b>Published</b> With international search report.</p>

(54) Title: MULTI-MODE COMMUNICATIONS SYSTEM



(57) Abstract

A multi-mode communication system including a hand-held phone module (11) and incorporating a base unit (10) allowing selection of multiple operational modes. The system allows a user to select from at least two different network communication protocols and standards (i.e. cellular, trunking, cordless, DGPS, etc.). The hand held phone module and the base unit can be a single handset. Mode selection can be either automatic or manual.

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	GB	United Kingdom	MR	Mauritania
AU	Australia	GE	Georgia	MW	Malawi
BB	Barbados	GN	Guinea	NE	Niger
BE	Belgium	GR	Greece	NL	Netherlands
BF	Burkina Faso	HU	Hungary	NO	Norway
BG	Bulgaria	IE	Ireland	NZ	New Zealand
BJ	Benin	IT	Italy	PL	Poland
BR	Brazil	JP	Japan	PT	Portugal
BY	Belarus	KE	Kenya	RO	Romania
CA	Canada	KG	Kyrgystan	RU	Russian Federation
CF	Central African Republic	KP	Democratic People's Republic of Korea	SD	Sudan
CG	Congo	KR	Republic of Korea	SE	Sweden
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LV	Latvia	SN	Senegal
CN	China	LK	Sri Lanka	TD	Chad
CS	Czechoslovakia	LU	Luxembourg	TG	Togo
CZ	Czech Republic	LV	Latvia	TJ	Tajikistan
DE	Germany	MC	Monaco	TT	Trinidad and Tobago
DK	Denmark	MD	Republic of Moldova	UA	Ukraine
ES	Spain	MG	Madagascar	US	United States of America
FI	Finland	ML	Mali	UZ	Uzbekistan
FR	France	MN	Mongolia	VN	Viet Nam
GA	Gabon				

MULTI-MODE COMMUNICATIONS SYSTEM

FIELD OF THE INVENTION

The present invention relates to multi-mode communications systems and, more particularly, to such systems incorporating a hand held means of control.

BACKGROUND ART

There exists today many competing forms of communication systems ranging from cellular mobile telephones through trunking radio systems and on to more specialised forms of network such as the DGPS network and the CT1, CT2, CT3 or DECT systems.

It is an object of the present invention to provide hand held access to more than one of these systems via a single hand held unit.

DISCLOSURE OF THE INVENTION

Accordingly, in one broad form of the invention, there is provided a multi-mode communications system including a hand held phone module and incorporating means allowing selection of one from a multiple of available modes of operation.

Preferably, the modes of operation comprise different forms of network communications protocols and standards.

In a preferred form of the invention, the communications protocols and standards are selected from: cellular telephone (all standards including but not limited to GSM, E-GSM, P-GSM, PCM, AMPS, ETACS, NMT450);

trunking radio system (TRS);  
DGPS network;  
cordless localised access networks including CT1, CT2,  
CT3 and DECT.

5 Preferably said means allowing selection comprises a  
base unit in communication with said hand held phone module.

Preferably said base unit includes a system controller  
adapted for communication with at least a keypad portion of  
said hand held phone module.

10 In one particular form of the invention the system  
controller communicates with said keypad portion via a serial  
interface. In an alternative preferred form said system  
controller communicates with said keypad via a cordless  
communication protocol selected from CT1/CT2/CT3 and DECT.

15 Preferably communications between said system  
controller and said keypad are at relatively low power and  
said base unit incorporates booster means for issuing a high  
power communications signal.

In a particular preferred form said base unit is  
20 incorporated within said hand held phone module. In a  
further particular preferred form the modes of operation  
thereof are limited to selection between cellular phone and  
trunked radio.

#### BRIEF DESCRIPTION OF THE DRAWINGS

25 Embodiments of the invention will now be described with  
reference to the accompanying drawings wherein:-

Fig. 1 is a block diagram of a base unit and  
handset according to a first embodiment of

the invention,

Fig. 2 is a diagram of the base unit and handset of Fig. 1 in a first mode of operation,

Fig. 3 is a diagram of the base unit and handset of Fig. 1 according to a second mode of operation,

5 Fig. 4 is a diagram of the base unit and handset of Fig. 1 according to a third mode of operation,

Fig. 5 is a diagram of the base unit and handset of Fig. 1 according to a fourth mode of operation,

10 Fig. 6 is a diagram of at least portions of a base unit and handset incorporated into a single casing in accordance with a second embodiment of the invention,

15 Fig. 7 is a block diagram of a base unit according to a third embodiment of the invention,

Fig. 8 is a block diagram of a hand set usable with any embodiment of the invention,

20 Fig. 9 is a logic diagram of the operation of the hand set of Fig. 8,

Fig. 10 is a block diagram of a further example of the invention,

25 Fig. 11 is a block diagram of a further example of the invention,

Fig. 12 is a block diagram of a further example of the invention, and

# 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.