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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/296,571	01/21/2003	Eveline Wesby Van Swaay	PA2652US	7523

22830 7590 03/22/2006

CARR & FERRELL LLP
2200 GENG ROAD
PALO ALTO, CA 94303

EXAMINER	
NGUYEN, NAM V	
ART UNIT	PAPER NUMBER
2635	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

NOVATEL EXHIBIT 1006

Notice of Abandonment	Application No.	Applicant(s)	
	10/296,571	WESBY VAN SWAAY, EVELINE	
	Examiner	Art Unit	
	Nam V. Nguyen	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on *7/11/05*.
   (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
   (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.
   (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
   (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
   (d) ☒ No reply has been received.

2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
   (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
   (b) ☐ The submitted fee of $_____ is insufficient. A balance of $_____ is due.
   The issue fee required by 37 CFR 1.18 is $_____. The publication fee, if required by 37 CFR 1.18(d), is $_____.
   (c) ☐ The issue fee and publication fee, if applicable, has not been received.

3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
   (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
   (b) ☐ No corrected drawings have been received.

4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.

5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.

6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. ☐ The reason(s) below:

BRIAN ZIMMERMAN
PRIMARY EXAMINER

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

OIPE IAP58
JAN 13 2006
PATENT & TRADEMARK OFFICE

TFW 2635

Practitioner's Docket No. 1503/104

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Eveline Wesby Van Swaay

Application No.: 10/296,571
Filed: January 21, 2003
For: Programmable Communicator

Group No.: 2635
Examiner: Nguyen, Nam V.

Mail Stop Ammendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT, PETITION AND FEE FOR EXTENSION OF TIME TO MAINTAIN PARENT CASE THAT IS TO BE ABANDONED WHEN FILING NEW APPLICATION CLAIMING ITS BENEFIT

1. The amendment in this case is a *bona fide* attempt by applicant to respond and to advance this application to final action. It comprises a separately filed continuation application.

   A copy of this amendment and petition is being filed with the papers constituting the filing of the separately filed application.

2. This is a petition under 37 C.F.R. section 1.136(a) for an extension of time to respond to the Office Action mailed July 11, 2005.

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10*
(When using Express Mail, the Express Mail label number is ***mandatory;***
Express Mail certification is optional.)

I hereby certify that, on the date shown below, this correspondence is being:

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37 C.F.R. § 1.8(a)

■ with sufficient postage as first class mail.

37 C.F.R. § 1.10*

☐ as "Express Mail Post Office to Addressee"
Mailing Label No. _____ **(mandatory)**

TRANSMISSION

☐ facsimile transmitted to the Patent and Trademark Office, (703) _____ - _____

Date: January 10, 2006

Signature

Robert M. Asher
(type or print name of person certifying)

** Only the date of filing (§ 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under § 1.8 continues to be taken into account in determining timeliness. See § 1.703(f). Consider "Express Mail Post Office to Addressee" (§ 1.10) or facsimile transmission (§ 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.*

01/17/2006 DEMMANU1 00000035 10296571

01 FC:2253 510.00 OP

3. Please abandon this application conditioned upon the granting of the petition and the granting of a filing date to the continuing application, so as to make the continuing application copending with this application. *(Notice of May 13, 1983, 1031 O.G. 11-12).*

4. Applicant is a small entity.

   The statement has already been filed in the parent application. This status is still proper and its benefit under 37 C.F.R. section 1.28(a) is hereby claimed.

5. Extension requested

   The proceedings herein are for a patent application and the provisions of 37 C.F.R. section 1.136 apply.

   Applicant petitions for an extension of three months time under 37 C.F.R. section 1.136(a) (fees: 37 C.F.R. section 1.17(a)(1)-(4)) for three months:

   Fee: $510.00

   If an additional extension of time is required, please consider this a petition therefor.

6. Fee Payment

   Attached is a check in the sum of $510.00.

7. Fee Deficiency

   The Office is hereby authorized to charge Deposit Account No. 19-4972 any additional fees that may be required by this paper.

Date: January 10, 2006

Robert M. Asher
Registration No. 30,445
BROMBERG & SUNSTEIN LLP
125 Summer Street
Boston, MA 02110-1618
US
617-443-9292
Customer No. 002101

01503/00104 458490.1

OIPE IAP58
JAN 0 5 2006
PATENT & TRADEMARK OFFICE

2635
IFW

Practitioner's Docket No. 1503/104 *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Eveline Wesby-Van Swaay

Application No.: 10/296,571
Filed: 01/21/03
For: Programmable Communicator

Group No.: 2635
Examiner: Nguyen, Nam V.

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

POWER OF ATTORNEY BY ASSIGNEE OF ENTIRE INTEREST (REVOCATION OF PRIOR POWERS)

As assignee of record of the entire interest of the above identified application,

REVOCATION OF PRIOR POWERS OF ATTORNEY

all powers of attorney previously given are hereby revoked and

NEW POWER OF ATTORNEY

the following practitioners are hereby appointed to prosecute and transact all business in the Patent and Trademark Office connected therewith.

Robert M. Asher, Registration No. 30,445
Robert M. Asher, Registration No. 30,445
Timothy M. Murphy, Registration No. 33,198
Steven G. Saunders, Registration No. 36,265
Karen A. Buchanan, Registration No. 37,790
Samuel J. Petuchowski, Registration No. 37,910
Jeffrey T. Klayman, Registration No. 39,250
John J. Stickevers, Registration No. 39,387
Elizabeth P. Morano, Registration No. 42,904
Jay Sandvos, Registration No. 43,900
Alexander J. Smolenski, Jr., Registration No. 47,953
John L. Conway, Registration No. 48,241
Barbara J. Carter, Registration No. 52,703
M. Brad Lawrence, Registration No. 54,418

SEND CORRESPONDENCE TO:	DIRECT TELEPHONE CALLS TO:
Customer No.: 002101	617-443-9292

Assignee:

Eveline Wesby-Van Swaay
Camden House, School Lane, Tiddington
Stratford-upon-Avon CV37 7AJ
United Kingdom

Recorded herewith

ASSIGNEE STATEMENT

Attached to this power is a "STATEMENT UNDER 37 C.F.R. § 3.73(b)."

Date: December 20th 2005

Signature
Eveline Wesby-van Swaay

Assignee

00002/KLW 454659.1

OIPE IAP58
JAN 0 5 2006
PATENT & TRADEMARK OFFICE

Practitioner's Docket No. 1503/104 *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Eveline Wesby-Van Swaay

Application No.: 10/296,571
Filed: January 21, 2003
For: Programmable Communicator

Group No.: 2635
Examiner: Nguyen, Nam V.

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT UNDER 37 C.F.R. § 3.73(b)-- ESTABLISHING RIGHT OF ASSIGNEE TO TAKE ACTION

1. The assignee(s) of the entire right, title and interest hereby seek(s) to take action in the PTO in this matter.

IDENTIFICATION OF ASSIGNEE

2. Name of assignee: Eveline Wesby-Van Swaay
   Type of assignee: Individual

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10*

*(When using Express Mail, the Express Mail label number is **mandatory;** Express Mail certification is optional.)*

I hereby certify that, on the date shown below, this correspondence is being:

MAILING

■ deposited with the United States Postal Service in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

37 C.F.R. § 1.8(a)
■ with sufficient postage as first class mail.

37 C.F.R. § 1.10*
☐ as "Express Mail Post Office to Addressee"
Mailing Label No. _____ **(mandatory)**

TRANSMISSION

☐ facsimile transmitted to the Patent and Trademark Office, (703) _____ - _____

Robert M. Asher
Signature

Date: January 3, 2006

Robert M. Asher
(type or print name of person certifying)

** Only the date of filing (§ 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under § 1.8 continues to be taken into account in determining timeliness. See § 1.703(f). Consider "Express Mail Post Office to Addressee" (§ 1.10) or facsimile transmission (§ 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.*

BASIS OF ASSIGNEE'S INTEREST

Ownership by the assignee is established as follows:

A.

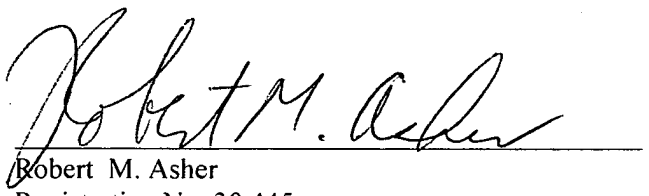
1. An assignment to the assignee of the matter identified above, which was recorded in the PTO at Reel 016938, Frame 0820.

COPIES OF DOCUMENTS IN CHAIN OF TITLE

Copies of the assignment(s) or other document(s) in the chain of title are attached as follows:

A1 and A2

Date: January 3, 2006



Robert M. Asher
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Boston, MA 02110-1618
US
617-443-9292
Customer No. 002101

01503/00104 454663.1

A1

OIPE IAP58 JAN 0 5 2006 PATENT & TRADEMARK OFFICE

Docketed

UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

DECEMBER 23, 2005

PTAS

500067510A

500067510A

KAREN L. WHITEHOUSE
125 SUMMER STREET
BROMBERG & SUNSTEIN LLP
BOSTON, MA 02110-1618

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT SERVICES DIVISION, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 12/23/2005

REEL/FRAME: 016938/0820
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).
DOCKET NUMBER: 1503/104

ASSIGNOR:
ACTINEON INC.

DOC DATE: 12/16/2005

ASSIGNEE:
WESBY-VAN SWAAY, EVELINE
CAMDEN HOUSE, SCHOOL LANE
TIDDINGTON, STRATFORD-UPON-AVON

UNITED KINGDOM
CV37 7AJ

SERIAL NUMBER: 10296571
PATENT NUMBER:
TITLE: PROGRAMMABLE COMMUNICATOR

FILING DATE: 01/21/2003
ISSUE DATE:

016938/0820 PAGE 2

MARCUS KIRK, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

OIPE IAP68 JAN 05 2006 PATENT & TRADEMARK OFFICE

PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

12/23/2005
500067510

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Actineon Inc.	12/16/2005

RECEIVING PARTY DATA

Name:	Eveline Wesby-van Swaay
Street Address:	Camden House, School Lane
City:	Tiddington, Stratford-upon-Avon
State/Country:	UNITED KINGDOM
Postal Code:	CV37 7AJ

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	10296571

CH $40.00 10296571

CORRESPONDENCE DATA

Fax Number: (617)443-0004
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
Phone: 617-443-9292
Email: kwhitehouse@bromsun.com
Correspondent Name: Karen L. Whitehouse
Address Line 1: 125 Summer Street
Address Line 2: Bromberg & Sunstein LLP
Address Line 4: Boston, MASSACHUSETTS 02110-1618

ATTORNEY DOCKET NUMBER:	1503/104
NAME OF SUBMITTER:	Robert M. Asher

Total Attachments: 2
source=1503 104#page1.tif
source=1503 104#page2.tif

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Company: 125 SUMMER STREET
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Pg#	Description
1	Cover Page
2	91.TXT
4	Document 1, Batch 577438

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Date and time of transmission: Friday, December 23, 2005 3:30:16 PM
Number of pages including this cover sheet: 04

A RightFAX® Communicated Document

ASSIGNMENT OF "PROGRAMMABLE COMMUNICATOR" INVENTION

In exchange for good and valuable consideration, the receipt of which is hereby acknowledged, Assignor Actineon Inc. ("Assignor" or "Actineon") hereby sells, assigns, and transfers to Assignee Eveline Wesby-van Swaay ("Assignee" or "Wesby-van Swaay"), and the successors, assigns, and legal representatives of Wesby-van Swaay, the entire right, title, and interest for the United States and its territorial possessions, and in all foreign countries, including all rights to claim priority, in and to any and all improvements which are disclosed in the invention entitled "Programmable Communicator" which is found in International Patent Application No. PCT/EP01/05738, and any legal equivalent thereof in a foreign country, including all rights to claim priority, and, in and to, all Letters Patent that have been or may be obtained for said invention by the above application or any continuation, division, renewal, or substitute thereof, and as to Letters Patent any reissue or re-examination thereof (collectively, the "Programmable Communicator Invention Rights").

Actineon hereby acknowledges that these Programmable Communicator Invention Rights are intended to include, but not be limited to, the entire right, title, and interest in and to United States Patent Application Publication No. 2004/0046637 A1; Canadian Patent Application Publication No. 2 409 851 A1; and International Patent Application Publication Nos. WO 01/91428 A2 and WO 01/91428 A3.

Actineon hereby further acknowledges that these Programmable Communicator Invention Rights are intended to include, but not be limited to, any and all rights, titles, and interests relating to a "Programmable Communicator" that Actineon previously was granted by Wesby-van Swaay and/or by Philip B. Wesby pursuant to that "Assignment Of Pre-Employment Works" document dated November 1, 2001, and/or that "International Patent Application Assignment" document dated October 26, 2002.

Actineon hereby further sells, assigns, and transfers to Wesby-van Swaay all rights of action, if any, to sue for past infringement of the Programmable Communicator Invention Rights, including the exclusive rights, if any, to recover and retain any damages arising from said past infringement. Accordingly, Actineon does not retain any rights to sue with regard to the Programmable Communicator Invention Rights, nor any rights to recovery for past infringement thereof.

1

Actineon hereby covenants, represents, and warrants that no other assignment, sale, agreement, or encumbrance has been or will be made or entered into which would conflict with any aspect of this Assignment.

Actineon hereby agrees to execute any additional documents that may be required to effect this Assignment.

This Assignment is made effective as of December 14, 2005.

Dated: December 16, 2005

ACTINEON INC.

By its Chief Executive Officer and the Chairman of its Board of Directors:

Patrick O'Hearn

Patrick O'Hearn

35027347.1

PA.DH

United States Patent and Trademark Office

Assignments on the Web > Patent Query

Patent Assignment Abstract of Title

NOTE:Results display only for issued patents and published applications. For pending or abandoned applications please consult USPTO staff.

Total Assignments: 1

Patent #: NONE **Issue Dt:** **Application #:** 10296571 **Filing Dt:** 01/21/2003

Publication #: US20040046637 **Pub Dt:** 03/11/2004

Inventor: Eveline Wesby Van Swaay

Title: Programmable communicator

Assignment: 1

Reel/Frame: 013948/0569 **Recorded:** 04/14/2003 **Pages:** 3

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: SWAAY, EVELINE WESBY-VAN **Exec Dt:** 10/26/2002

Assignee: ACTINEON INC.
1230 OAKMEAD PARKWAY
SUITE 306
SUNNYVALE, CALIFORNIA 94085

Correspondent: CARR & FERRELL LLP
2225 EAST BAYSHORE ROAD
SUITE 200
PALO ALTO, CA 94303

Search Results as of: 12/20/2005 05:15 PI

If you have any comments or questions concerning the data displayed, contact OPR / Assignments at 571-272-3350

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/296,571	01/21/2003	Eveline Wesby Van Swaay	PA2652US	7523

22830 7590 07/11/2005

CARR & FERRELL LLP
2200 GENG ROAD
PALO ALTO, CA 94303

EXAMINER	
NGUYEN, NAM V	
ART UNIT	PAPER NUMBER
2635	

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/296,571	WESBY VAN SWAAY, EVELINE	
	Examiner	Art Unit	
	Nam V. Nguyen	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 November 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/20/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The application of Wesby Van Swaay for a "programmable communicator" filed January 21, 2003 has been examined.

This application claims foreign priority based on the application 20001239 filed May 23, 2000 in Finland. Receipt is acknowledged of papers submitted under 35 U.S.C 119(a) – (d), which papers have been placed of record in the file.

This application claims priority to a 371 of PCT/EP01/05738, which is filed on May 18, 2001.

A preliminary amendment to the claims 2-67 has been entered and made of record. Claims 2-67 are cancelled.

Claim 1 is pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Borgstahl et al. (US# 6,424,623).

Referring to claim 1, Borgstahl et al. disclose a virtual queuing system using proximity-based short-range wireless links as recited in claim 1. See Figures 1-6 and 12-14 and respective portions of the apparatus and method.

Referring to claim 1, Borgstahl et al. disclose a method for programming a programmable communicator device (20 or 132) (i.e. a peer) comprising a digital mobile telephone circuit (40 and 48) (i.e. processor and cell phone circuit), a rechargeable battery (i.e. a self-contained power source), a compact antenna (36), a remotely pre-programmable identity module (42) (i.e. memory) (column 5 lines 1 to 34; see Figures 2-3 and 12-14), said programmable communicator device (20) being remotely pre-programmed by a programming transmitter (122) (i.e. another peer or a personal presence identifier) being a first mobile or fixed device (i.e. a cellular telephone) with at least one second mobile or fixed device to which said programmable

communicator device (20) is to be linked (26) (i.e. a wireless communication link) (column 3 line 26 to column 5 line 34; see Figures 1-3), said method being characterized by the steps of:

said programmable communicator device (20) (i.e. a peer) receiving a first message (26) comprising a coded number (68) (i.e. an authorization key) in order to determine the authenticity of said programming transmitter (122) (i.e. a personal presence identifier) (column 3 line 26 to column 4 line 31; column 5 lines 1 to 34; column 5 line 62 to column 6 line 27; see Figures 1 to 6 and 12 to 16),

comparing (step 80) said coded number (68) (i.e. an authorization key) with a preset number (i.e. an authorization number in personalization data 52 of memory 42): when said coded number (68) and preset number coincide (i.e. authorization), allowing said programming transmitter (122)) to proceed (steps 82 to 92) (i.e. to process service connection), when said coded number and preset number do not coincide (i.e. not authorization), cutting the communication (i.e. setup connection attempted failed) (column 6 line 28 to column 8 line 24; see Figure 6-7).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gromelski et al. (US# 6,377,161) disclose a method and apparatus in a wireless messaging system for facilitating an exchange of address information.

King (US# 6,308,083) discloses an integrated cellular telephone with programmable transmitter.

Schmidt et al. (US# 6,215,994) disclose a system and method for over the air programming of mobile stations.

Williams (US# 5,774,804) discloses a remote activation of mobile telephone by paging channel phantom numbers.

Grube et al. (US# 5,581,803) disclose a method of programming a radio identification code in a communication unit.

Stair et al. (US# 5,381,138) disclose an intelligent over-the-air programming.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam V Nguyen whose telephone number is 571-272-3061. The examiner can normally be reached on Mon-Fri, 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 571-272-3068. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications.

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system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nam Nguyen
July 7, 2005

MICHAEL HORABIK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

OIPE JC#97
JAN 20 2004
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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/296,571
Filing Date	371(c) date: January 21, 2003
First Named Inventor	Eveline Wesby Van Swaay
Art Unit	~~2682~~ 2635
Examiner Name	~~Unknown~~ N. NGUYEN
Attorney Docket Number	PA2652US

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
NN		US- 5,276,729	01-04-1994	Higuchi et al.	
		US- 5,742,666	04-21-1998	Alpert	
		US- 5,940,752	08-17-1999	Henrick	
		US- 5,802,460	09-01-1998	Parvulescu et al	
		US- 5,878,339	03-02-1999	Zicker et al.	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
NN		DE 197 07 681 C1	05-07-1998	Erbel et al		
		EP 0 996 302 A1	04-26-2000	Alcatel		
		JP 2000 115859	04-21-2000	Ericsson Inc.		

Examiner Signature	N. Nguyen	Date Considered	6/28/05

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

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Notice of References Cited	Application/Control No. 10/296,571	Applicant(s)/Patent Under Reexamination WESBY VAN SWAAY, EVELINE	
	Examiner Nam V. Nguyen	Art Unit 2635	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,381,138	01-1995	Stair et al.	340/7.41
	B	US-5,581,803	12-1996	Grube et al.	340/7.41
	C	US-5,774,804	06-1998	Williams, Ian C.	455/419
	D	US-6,215,994	04-2001	Schmidt et al.	455/419
	E	US-6,308,083	10-2001	King, Joseph D.	455/556.1
	F	US-6,377,161	04-2002	Gromelski et al.	340/7.45
	G	US-6,424,623	07-2002	Borgstahl et al.	370/230
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

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	P					
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	S					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims

Application/Control No.	Applicant(s)/Patent under Reexamination
10/296,571	WESBY VAN SWAAY, EVELINE
Examiner	**Art Unit**
Nam V. Nguyen	2635

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
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Claim		Date								
Final	Original	6/30/05								
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CONFIRMATION NO. 7523

SERIAL NUMBER	FILING OR 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/296,571	01/21/2003 RULE	340	2632	PA2652US

APPLICANTS

Eveline Wesby Van Swaay, Stratford Upon Avon, UNITED KINGDOM;

** CONTINUING DATA **********

This application is a 371 of PCT/EP01/05738 05/18/2001 yes

** FOREIGN APPLICATIONS **********

FINLAND 20001239 05/23/2000 yes

** SMALL ENTITY **

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☑ yes ☐ no	UNITED KINGDOM	3	1	1
35 USC 119 (a-d) conditions met ☑ yes ☐ no ☐ Met after Allowance				
Verified and Acknowledged Examiner's Signature Initials				

ADDRESS

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TITLE

Programmable communicator

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510		

Search Notes

Application/Control No.	Applicant(s)/Patent under Reexamination	
10/296,571	WESBY VAN SWAAY, EVELINE	
Examiner	**Art Unit**	
Nam V. Nguyen	2635	

SEARCHED			
Class	Subclass	Date	Examiner
340	7.41	7/5/2005	NN
340	7.3+	7/5/2005	NN
340	7.4+	7/5/2005	NN
340	539.19	7/5/2005	NN
455	418	6/29/2005	NN
455	419	6/29/2005	NN
455	420	6/29/2005	NN
455	410	6/29/2005	NN
455	411	6/29/2005	NN
455	54.2	7/5/2005	NN
709	220	7/5/2005	NN
713	201	7/5/2005	NN

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
Search East: USPAT; US-PUB; EPO; JPO and Derwent	6/29/2005	NN
Consult with Ed Holloway	7/5/2005	NN

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	18	(US-20040046637-$).did. or (US-6424623-$ or US-6418330-$ or US-6377161-$ or US-6308083-$ or US-6215994-$ or US-6138004-$ or US-6091948-$ or US-6081704-$ or US-6069896-$ or US-6044265-$ or US-5909183-$ or US-5774804-$ or US-5717387-$ or US-5613215-$ or US-5581803-$ or US-5483465-$ or US-5381138-$).did.	US-PGPUB; USPAT	AND	OFF	2005/07/06 09:33
L2	18	l1 and (program$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/07/06 09:33
S1	80	"5276729"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 09:53
S2	63	"5276729" and program$6	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/28 14:43
S3	51	"5742666"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 10:07
S4	16	"5940752"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 10:09
S5	30	"5802460"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 10:17
S6	33	"5878339"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 10:17
S7	669	455/419.CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 10:47
S8	495	S7 AND CODE$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 10:47

S9	44	S7 AND (incom$4 adj2 call) and database	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 11:03
S10	11	("5014345" | "5276729" | "5297191" | "5418524" | "5465391" | "5506837" | "5603084" | "5758291" | "5797100" | "5940752" | "6044265").PN.	US-PGPUB; USPAT; USOCR	AND	OFF	2005/06/29 10:59
S11	15	455/420.ccls. AND (incom$4 adj2 call) and database	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 11:03
S12	228	permit$4 same caller same list	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 11:39
S13	244	permit$4 same caller$2 same list	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 11:35
S14	8	S13 and ("340"/$.ccls. or "455"/$.ccls)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 11:39
S15	321	permit$4 same caller same database$2	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 11:39
S16	7	S15 and ("340"/$.ccls. or "455"/$.ccls)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 15:39
S17	128	"5020091"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 15:39
S18	123	"5046082"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 15:41
S19	0	S15 and S18	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:45
S20	61	"5046082" and compare$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:17

S21	9	"5774804"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:17
S22	143	"5159625"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:45
S23	0	S15 and S22	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:45
S24	13	"5159625" and permit$4 same caller$2	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:48
S25	35	programmable same wireless same communicator	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:50
S26	896	programmable same wireless same (telephone or cellular adj2 phone)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:51
S27	22	S26 and (sim adj2 card)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:54
S28	17	puk adj2 code$2	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/29 16:54
S29	670	455/419.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/30 12:10
S30	832	answer$4 same call and (memory) and (cell adj phone)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/30 12:11
S31	289	S30 and ("340"/$.ccls. or "455"/$.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/30 12:48
S32	242	S31 and (identifictation or code$2)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/30 12:13

S33	150	S31 and compar$4 and (identifictation or code$2)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/30 12:13
S34	26	S31 and (compar$4 same (identifictation or code$2))	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/30 12:48
S35	758	(cell$4 adj phone) and (compar$4 same (identifictation or code$2)) and answer$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/30 12:48
S36	216	S35 and ("340"/$.ccls. or "455"/$.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/30 12:49
S37	208	S36 and (memory or database)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/06/30 12:49
S38	86	340/7.41.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/07/05 09:42
S39	2	("5613215").URPN.	USPAT	AND	OFF	2005/07/05 10:09
S40	8	("4955049" | "4964163" | "4992783" | "5309501" | "5335265" | "5337345" | "5420910" | "5483465").PN.	US-PGPUB; USPAT; USOCR	AND	OFF	2005/07/05 10:10
S41	20	("5483465").URPN.	USPAT	AND	OFF	2005/07/05 10:11
S42	20	("5483465").URPN.	USPAT	AND	OFF	2005/07/05 10:14
S43	349	remote same program$4 same communication adj2 unit	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/07/05 15:44
S44	12	S43 and ("340"/$.ccls. and "455"/$.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/07/05 15:45
S45	8189	remote same program$4 and (portable same device)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/07/05 15:44
S46	76	S45 and ("340"/$.ccls. and "455"/$.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/07/05 15:45

S47	8	("20010007815" | "20020107742" | "20020154607" | "20030008647" | "20030114104" | "6104333" | "6282407" | "6456039").PN.	US-PGPUB; USPAT; USOCR	AND	OFF	2005/07/05 15:46
S48	11	("4392022" | "5138649" | "5201067" | "5442340" | "5479155" | "5583485" | "5614891" | "5680134" | "5686903" | "5699055" | "5717410").PN.	US-PGPUB; USPAT; USOCR	AND	OFF	2005/07/05 15:51
S49	49	("5909183").URPN.	USPAT	AND	OFF	2005/07/05 16:06
S50	9	"6510212"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/07/05 16:27
S51	20	"6069896"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	OFF	2005/07/05 16:27

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1. A method for programming a programmable communicator device comprising a digital mobile telephone circuit, a rechargeable battery, a compact antenna, a remotely pre-programmable identity module, said programmable communicator device being remotely pre-programmed by a programming transmitter being a first mobile or fixed device with at least one second mobile or fixed device to which said programmable communicator device is to be linked, said method being characterised by the steps of:

CLAIMS 2-67 CANCELED

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/296,571
Filing Date	371(c) date: January 21, 2003
First Named Inventor	Eveline Wesby Van Swaay
Art Unit	2632
Examiner Name	Unknown
Attorney Docket Number	PA2652US

Total Number of Pages in This Submission - 115

ENCLOSURES *(Check all that apply)*

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  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☒ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
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- ☐ After Allowance communication to Group
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Typed or printed name	Charles B. Katz, Reg. No. 36,564		
Signature		Date	January 14, 2004

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OIPE JC197 JAN 20 2004 PATENT & TRADEMARK OFFICE

IN THE

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):	Eveline Wesby Van Swaay
SERIAL NO.:	10/296,571
371(C) DATE:	January 21, 2003
TITLE:	Programmable Communicator
EXAMINER:	Unknown
GROUP ART UNIT:	2632
ATTY.DKT.NO.:	PA2652US

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INFORMATION DISCLOSURE STATEMENT
Under 37 C.F.R. §§ 1.56, and 1.97-1.98

SIR:

Pursuant to the provisions of 37 C.F.R. §§ 1.56 and 1.97-98 of the Rules of Practice in Patent Cases, enclosed herewith is form PTO-SB-08 listing references which were cited in an International Search Report, copies of which are enclosed. The Examiner is requested to make these references of official record in the application. The references cited may be material to examination of the application and are submitted in compliance with Applicant(s)'s duty of disclosure as defined by 37 C.F.R. § 1.56.

No representation is made or intended as to the completeness of this list, nor is the inclusion of any reference on this list an admission that it is prior art or pertinent to this application.

Applicants believe no fee is due with this submission. If a fee is due, however, the Commissioner is hereby authorized to charge any necessary fee to Account Number 06-0600. A copy of this statement is submitted in duplicate for this purpose.

Respectfully submitted,
Eveline Wesby Van Swaay

Dated: 1/14/04 By: _____

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CERTIFICATE OF MAILING

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PTO/SB/08a (05-03)
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(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/296,571
Filing Date	371(c) date: January 21, 2003
First Named Inventor	Eveline Wesby Van Swaay
Art Unit	2632
Examiner Name	Unknown
Attorney Docket Number	PA2652US

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 5,276,729	01-04-1994	Higuchi et al.	
		US- 5,742,666	04-21-1998	Alpert	
		US- 5,940,752	08-17-1999	Henrick	
		US- 5,802,460	09-01-1998	Parvulescu et al	
		US- 5,878,339	03-02-1999	Zicker et al.	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
		DE 197 07 681 C1	05-07-1998	Erbel et al		
		EP 0 996 302 A1	04-26-2000	Alcatel		
		JP 2000 115859	04-21-2000	Ericsson Inc.		

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

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If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

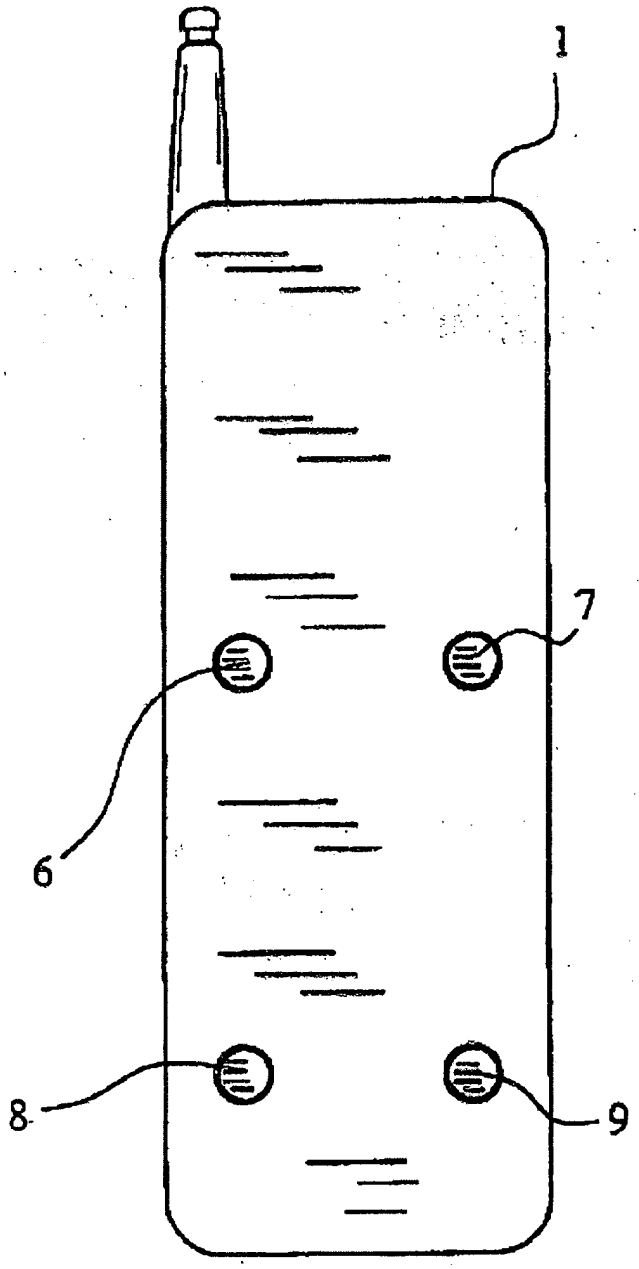
Mobile telephone for recording ECG signals

Patent number: DE19707681
Publication date: 1998-05-07
Inventor: ERBEL RAIMUND PROF DR MED (DE); SACK STEFAN DR MED (DE)
Applicant: ERBEL RAIMUND PROF DR MED (DE); SACK STEFAN DR MED (DE)
Classification:
- international: H04M1/00; H04M1/53; H04M11/04; H04Q7/14; G08B25/10; A61B5/0404; H04Q7/32
- european: H04M1/677; A61B5/00B2; A61B5/0404; G08B25/01D; H04M1/725F1K
Application number: DE19971007681 19970226
Priority number(s): DE19971007681 19970226

Also published as:
WO9838811 (A1)
EP0965115 (A1)
US6546232 (B1)
EP0965115 (B1)

Abstract of **DE19707681**

The invention relates to a mobile telephone comprising a housing, a transmitter, at least one receiver, a call number memory and buttons located on said housing (1). The inventive device is configured in such a way that at least one emergency call button (5) is mounted on the housing. Said call button (5) which stands out on account of its size and/or colour enables an emergency number stored in the call number memory to be dialled.



(19) BUNDESREPUBLIK DEUTSCHLAND

DEUTSCHES PATENTAMT

(12) **Patentschrift**

(10) **DE 197 07 681 C 1**

(51) Int. Cl.[6]:
H 04 M 1/00
H 04 M 1/53
H 04 M 11/04
H 04 Q 7/14
G 08 B 25/10
A 61 B 5/0404
// H04Q 7/32

(21) Aktenzeichen: 197 07 681.5-31
(22) Anmeldetag: 26. 2. 97
(43) Offenlegungstag: –
(45) Veröffentlichungstag der Patenterteilung: 7. 5. 98

Innerhalb von 3 Monaten nach Veröffentlichung der Erteilung kann Einspruch erhoben werden

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(56) Für die Beurteilung der Patentfähigkeit in Betracht gezogene Druckschriften:

DE	44 07 059 A1
DE	2 96 00 600 U1
GB	22 82 936 A
US	47 51 726
EP	06 79 041 A2
EP	00 97 741 A1

Katalog "Electonic Welt '96" Conrad Electronic, 92240 Hirschau, Aug.95, S.456 u. 490;

(54) Mobiltelefon

(57) Die Erfindung betrifft ein Mobiltelefon, mit einem Gehäuse (1), einem Sender, mindestens einem Empfänger, einem Rufnummernspeicher und mit am Gehäuse (1) angeordneten Tasten (2).
Erfindungsgemäß ist ein derartiges bekanntes Mobiltelefon dadurch ausgestaltet und weitergebildet, daß am Gehäuse (1) mindestens eine, bei Betätigung die Wahl einer im Rufnummernspeicher gespeicherten Notrufnummer veranlassende in Größe und/oder Farbe hervorgehobene Notruftaste (5) angeordnet ist.

DE 197 07 681 C 1

DE 197 07 681 C 1

Beschreibung

Die Erfindung betrifft ein Mobiltelefon mit einem Gehäuse, einem Sender, mindestens einem Empfänger, einem Rufnummernspeicher und mit am Gehäuse angeordneten Tasten, wobei am Gehäuse mindestens eine, bei Betätigung die Wahl einer im Rufnummernspeicher gespeicherten Notrufnummer veranlassende in Größe und/oder Farbe hervorgehobene Notruftaste angeordnet ist.

Ein Mobiltelefon der eingangs genannten Art ist bereits aus der EP 0 679 041 A2 bekannt. Bei dem bekannten Mobiltelefon wird nach dem Betätigen der Notruftaste selbsttätig über ein an sich bekanntes Mobilfunksystem eine Verbindung zu einer Zentralstelle hergestellt. In einem Speicher des Mobiltelefons gespeicherter Text wird nach dem Herstellen der Verbindung zur Zentralstelle übertragen. Die Zentralstelle übermittelt selbsttätig die Position des Mobiltelefons entweder durch Ortung mittels der Basisstationen des Mobilfunksystems oder mittels der von dem Mobiltelefon empfangener Positionsdaten, wenn letzteres mit einer eigenen Ortungseinheit versehen ist. Durch das bekannte Mobiltelefon ist es zwar möglich, den jeweiligen Patienten zu orten. Dies reicht jedoch bei Patienten mit Herz-Kreislauf-Erkrankungen regelmäßig nicht aus. Hier sind regelmäßig sofortige Hilfsmaßnahmen erforderlich.

Erkrankungen des Herz-Kreislauf-Systems stehen an der Spitze des gesamten Krankheitsgeschehens in Deutschland. Die koronare Herzerkrankung ist in den westlichen Industrienationen die häufigste Todesursache. In Deutschland sind beispielsweise etwa 300 000 Menschen jährlich von einen Herzinfarkt betroffen. Bei einem solchen Herzinfarkt sind die häufigsten Komplikationen mit meist tödlichem Ausgang Rhythmusstörung und Herzinsuffizienz. Dabei erleiden in Deutschland 60 000 Menschen jährlich einen plötzlichen Herztod. Dieser Herztod ist gekennzeichnet durch einen plötzlichen Herzstillstand, der ohne sofortige Maßnahmen der kardiopulmonalen Reanimation oder Wiederbelebung regelmäßig tödlich endet. Ursachen für den plötzlichen Herztod sind zu 80–90% das sogenannte Kammerflattern oder Kammerflimmern (tachykarde Herzrhythmusstörungen), zu 10–15% ein akuter Myokardinfarkt und zu 5% bradykarde Rhythmusstörungen. Die Überlebensrate der Patienten, die einen plötzlichen Herztod erleiden, liegt zwischen 5 und 20%. Für die Höhe der Überlebensrate ist ganz entscheidend maßgeblich, wie schnell geeignete Hilfsmaßnahmen ergriffen werden können.

Eine Vielzahl der Personen, die ein hohes Herzinfarktrisiko haben, sind sich nach entsprechenden Untersuchungen ihres Risikos bewußt und sind bestrebt, dieses Risiko zu minimieren, indem sie sich möglichst nicht in Situationen begeben, in denen die Ergreifung sofortiger Hilfsmaßnahmen nicht möglich ist. So vermeiden es die betroffenen Personen beispielsweise, sich ohne Begleitpersonen an Orte zu begeben, an denen die Wahrscheinlichkeit im Falle eines Herzinfarktes sofort aufgefunden zu werden gering ist, da sie in diesen Fällen damit rechnen müssen, daß ihre Überlebenschancen beim Eintritt eines plötzlichen Herztodes nahezu gleich null sind.

Aus der EP 0 097 741 ist bereits eine bioelektrische Einheit für Patienten mit Herz-Kreislauf-Erkrankungen bekannt. Die Einheit hat die Form eines Telefonhörers eines stationären Telefongeräts. Im Bereich der Ohr- und der Sprechmuschel befinden sich jeweils Aufnahmeelektroden für bioelektrische Signale, die in Audiosignale über einen Umwandler umgewandelt werden. Die bekannte Einheit kann ohne weiteres dazu verwendet werden, Herzsignale zu einer Aufnahmestation zur Analyse zu senden und dann entsprechende Instruktionen und Anweisungen von der Aufnahmestation empfangen, um die geeigneten Hilfsmaßnahmen einzuleiten.

Aufgabe der vorliegenden Erfindung ist es, ein Mobiltelefon der eingangs genannten Art derart auszugestalten und weiterzubilden, daß bei Patienten mit Herz-Kreislauf-Erkrankungen die Ergreifung sofortiger Hilfsmaßnahmen umgehend möglich ist.

Erfindungsgemäß ist die zuvor genannte Aufgabe dadurch gelöst, daß mindestens zwei – vorzugsweise vier – mit dem Gehäuse verbundene, die Aufnahme von Elektrokardiogramm- (EKG) Signalen ermöglichende Elektroden vorgesehen sind und ein die EKG-Signale auswertender, sendefähig transformierender und an den Sender übermittelnder EKG-Signalwandler vorgesehen ist. Bei einem derart ausgestalteten Mobiltelefon legt der Patient selbst oder eine Begleitperson die Elektroden auf die entkleidete Brust des Patienten, woraufhin ein EKG abgeleitet wird, das automatisch an die Überwachungszentrale übermittelt wird. Diese Ausgestaltung ermöglicht die Differenzialdiagnose eines akuten Herzinfarktes (ST-Streckenhebung) oder einer zugrundeliegenden Herzrhythmusstörung (Tachykardie, Bradykardie) bzw. eines elektrischen Herzstillstands (Asystolie). Die EKG-Erfassung und Übermittlung ermöglicht die Einschätzung der vitalen Bedrohung des Patienten und die Einleitung entsprechend geeigneter Notfallmaßnahmen. Auf Grundlage des übermittelten EKG ist auch eine Laien-Reanimation durch eine Begleitperson oder eine zufällig in der Nähe befindliche Person über das Mobiltelefon beeinflußbar und steuerbar.

Dabei ist weiterhin bei einer ersten Alternative vorgesehen, daß die EKG-Elektroden auf der den Tasten abgewandten Rückseite des Gehäuses angeordnet sind. In diesem Fall wird ein EGK einfach dadurch aufgenommen, daß das Mobiltelefon mit seiner Rückseite auf die entkleidete Brust des Patienten gelegt wird. Eine entsprechende Handhabung ist hierbei denkbar einfach.

Alternativ zu der Anordnung der EKG-Elektroden auf der Rückseite des Gehäuses ist vorgesehen, daß die EKG-Elektroden auf einem im Ruhezustand mit dem Gehäuse unmittelbar verbundenen und im abgenommenen Zustand über ein Kabel mit dem Gehäuse verbundenen Träger angeordnet sind. Bei einer derartigen Ausgestaltung ist das Anlegen des Trägers an die entkleidete Brust des Patienten aufgrund einer vorzugsweise entsprechend angepaßten Form nochmals optimiert und es wird gleichzeitig die Möglichkeit gegeben, ein EKG beispielsweise auch während einer Laien-Reanimation aufzunehmen, wobei gleichzeitig eine Begleitperson in Sprechverbindung mit der Überwachungszentrale zur Steuerung der Laien-Reanimation steht.

Eine erste vorteilhafte Ausgestaltung erfährt die Erfindung dadurch, daß eine die Übermittlung von eine Identifikation ermöglichenden Daten bei der Betätigung der Notruftaste bewirkende Identifikationseinrichtung vorgesehen ist. Durch eine solche Identifikation ist gewährleistet, daß die Überwachungszentrale sofort über die beispielsweise in einem EDV-System gespeicherten Patientendaten auch für den Fall, daß der Patient bewußtlos ist, gezielte Notfallmaßnahmen einleiten kann. Mit der genannten Maßnahme ist beispielsweise auch eine Patientenidentifikation möglich, wenn der bewußtlose Patient von einer unbeteiligten Person aufgefunden und der Notruf von dieser Person abgesetzt worden ist. Eine solche Identifikation ist beispielsweise über die Rufnummer des Mobiltelefons möglich, die bei einigen Mobilfunknetzen bei der Herstellung einer Verbindung standardmäßig übertragen wird.

Ist weiter eine die Freigabe von Positionsdaten bei der Betätigung der Notruftaste bewirkende Freigabeeinrichtung vorgesehen, so ist gewährleistet, daß die Position des Patien-

ten auch für den Fall festgestellt werden kann, in dem der Patient lediglich sozusagen mit letzter Kraft die Notruftaste betätigt hat. Eine derartige Ausgestaltung ermöglicht es auch in einer solchen Situation den Patienten aufzufinden und Soforthilfemaßnahmen einzuleiten. Einige Mobilfunknetze ermöglichen technisch eine solche Positionsbestimmung allein aufgrund der Tatsache, daß diese Mobilfunknetze in sogenannte Zellen aufgeteilt sind, und festgestellt werden kann, aus welcher Zelle des Mobilfunknetzes der Notruf getätigt wurde. In diesem Fall bedarf es keiner gesonderten Einrichtung zur Positionsbestimmung.

Eine sehr genaue Positionsbestimmung wird dadurch ermöglicht, daß ein externe Positionssignale empfangender und auswertender Positionsempfänger und ein die Signale des Positionsempfängers sendefähig transformierender und an den Sender übermittelnder Positionssignalwandler vorgesehen ist. Mit Hilfe eines solchen Positionsempfängers ist es beispielsweise möglich, aufgrund der Signale des Global-Positioning-Systems (GPS) die Position des Patienten auf wenige Meter genau zu bestimmen. Diese Signale werden dann über den Positionssignalwandler dem Sender zugeführt, der sie wiederum an die Überwachungszentrale übermittelt, so daß entsprechend in der Überwachungszentrale hochpräzise Angaben über die Position des Patienten vorliegen.

Schließlich erfährt das erfindungsgemäße Mobiltelefon eine weitere vorteilhafte Ausgestaltung dadurch, daß ein das Verlassen des Empfangs-/Sende-Bereiches des Mobilfunknetzes detektierender und die Ausgabe eines Warnsignals veranlassender Empfangsstärkensensor vorgesehen ist. Hierdurch ist gewährleistet, daß der Patient stets darüber informiert ist, ob im Augenblick tatsächlich eine Verbindung zur Überwachungszentrale im Falle eines Notrufes möglich ist.

Im einzelnen gibt es also verschiedene Möglichkeiten, das erfindungsgemäße Mobiltelefon auszugestalten und weiterzubilden. Dazu wird verwiesen einerseits auf die dem Patentanspruch 1 nachgeordneten Patentansprüche, andererseits auf die Beschreibung eines bevorzugten Ausführungsbeispiels in Verbindung mit der Zeichnung. In der Zeichnung zeigt

Fig. 1 ein Ausführungsbeispiel eines erfindungsgemäßen Mobiltelefons in einer Frontansicht und

Fig. 2 das Ausführungsbeispiel eines erfindungsgemäßen Mobiltelefons in einer Rückansicht.

Das in **Fig.** 1 in einer Frontansicht dargestellte Ausführungsbeispiel eines erfindungsgemäßen Mobiltelefons weist auf ein Gehäuse **1**, nicht dargestellt und im Gehäuse angeordnet einen Sender, mindestens einen Empfänger und einen Rufnummernspeicher und am Gehäuse **1** angeordnete Tasten **2**. Darüber hinaus weist das Mobiltelefon ein LCD-Display **3** und eine Antenne **4** auf. Erfindungsgemäß ist am Gehäuse **1** eine, bei Betätigung die Wahl einer im Rufnummernspeicher gespeicherten Notrufnummer veranlassende, in Größe und Farbe hervorgehobene Notruftaste **5** angeordnet. In dem dargestellten Ausführungsbeispiel ist die Notruftaste **5** deutlich größer als die üblichen Tasten **2**. Zur weiteren Kenntlichmachung ihrer Funktion ist die Notruftaste **5** herzförmig ausgestaltet und im Ausführungsbeispiel rot abgesetzt hervorgehoben.

Die gemäß verschiedenen Ausgestaltungen des erfindungsgemäßen Mobiltelefons vorgesehenen Identifikations- und Freigabe-Einrichtungen, Positionsempfänger, Positionssignalwandler, EKG-Signalwandler und Empfangsstärkensensor sind als elektronische Baueinheiten ausgeführt und, in der Zeichnung nicht dargestellt, im Gehäuse **1** angeordnet.

In **Fig.** 2 der Zeichnung ist schließlich das Ausführungsbeispiel eines erfindungsgemäßen Mobiltelefons in einer Rückansicht dargestellt. In der Rückansicht ist deutlich zu erkennen, daß auf der den Tasten abgewandten Rückseite des Gehäuses **1** vier EKG-Elektroden **6**, **7**, **8**, **9** angeordnet sind, die es bei dem mit der Rückseite auf die entkleidete Brust eines Patienten gelegten Mobiltelefon ermöglichen, ein EKG abzuleiten.

Weitere denkbare Ausgestaltungen des erfindungsgemäßen Mobiltelefons sind beispielsweise eine zusätzliche Beschriftung der Notruftaste **5** etwa mit dem Wort "Notruf" und/oder die Anbringung von Befestigungsmöglichkeiten am Gehäuse **1**, die über ein Umhängeband das Tragen des erfindungsgemäßen Mobiltelefons auf der Brust ermöglichen.

Patentansprüche

1. Mobiltelefon mit einem Gehäuse (**1**), einem Sender, mindestens einem Empfänger, einem Rufnummernspeicher und mit am Gehäuse (**1**) angeordneten Tasten (**2**), wobei am Gehäuse (**1**) mindestens eine, bei Betätigung die Wahl einer im Rufnummernspeicher gespeicherten Notrufnummer veranlassende in Größe und/oder Farbe hervorgehobene Notruftaste (**5**) angeordnet ist, **dadurch gekennzeichnet**, daß mindestens zwei – vorzugsweise vier – mit dem Gehäuse (**1**) verbundene, die Aufnahme von EKG-Signalen ermöglichende Elektroden (**6**, **7**, **8**, **9**) vorgesehen sind und ein die EKG-Signale auswertender, sendefähig transformierender und an den Sender übermittelnder EKG-Signalwandler vorgesehen ist, und daß die EKG-Elektroden (**6**, **7**, **8**, **9**) auf der den Tasten (**2**) abgewandten Rückseite des Gehäuses (**1**) angeordnet sind oder daß die EKG-Elektroden (**6**, **7**, **8**, **9**) auf einem im Ruhestand mit dem Gehäuse (**1**) unmittelbar verbundenen, im abgenommenen Zustand über ein Kabel mit dem Gehäuse (**1**) verbundenen Träger angeordnet sind.

2. Mobiltelefon nach Anspruch 1, dadurch gekennzeichnet, daß eine die Übermittlung von eine Identifikation ermöglichenden Daten bei der Betätigung der Notruftaste (**5**) bewirkende Identifikationseinrichtung vorgesehen ist.

3. Mobiltelefon nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß eine die Freigabe von Positionsdaten bei der Betätigung der Notruftaste (**5**) bewirkende Freigabeeinrichtung vorgesehen ist.

4. Mobiltelefon nach Anspruch 3, dadurch gekennzeichnet, daß ein externe Positionssignale empfangender und auswertender Positionsempfänger und ein die Signale des Positionsempfängers sendefähig transformierender und an den Sender übermittelnder Positionssignalwandler vorgesehen ist.

5. Mobiltelefon nach einem der Ansprüche 1 bis 4, dadurch gekennzeichnet, daß ein das Verlassen des Empfangs-/Sende-Bereiches des Mobilfunknetzes detektierender und die Ausgabe eines Warnsignals veranlassender Empfangsstärkensensor vorgesehen ist.

Hierzu 1 Seite(n) Zeichnungen

Nummer: DE 197 07 681 C1
Int. Cl.[6]: H 04 M 1/00
Veröffentlichungstag: 7. Mai 1998

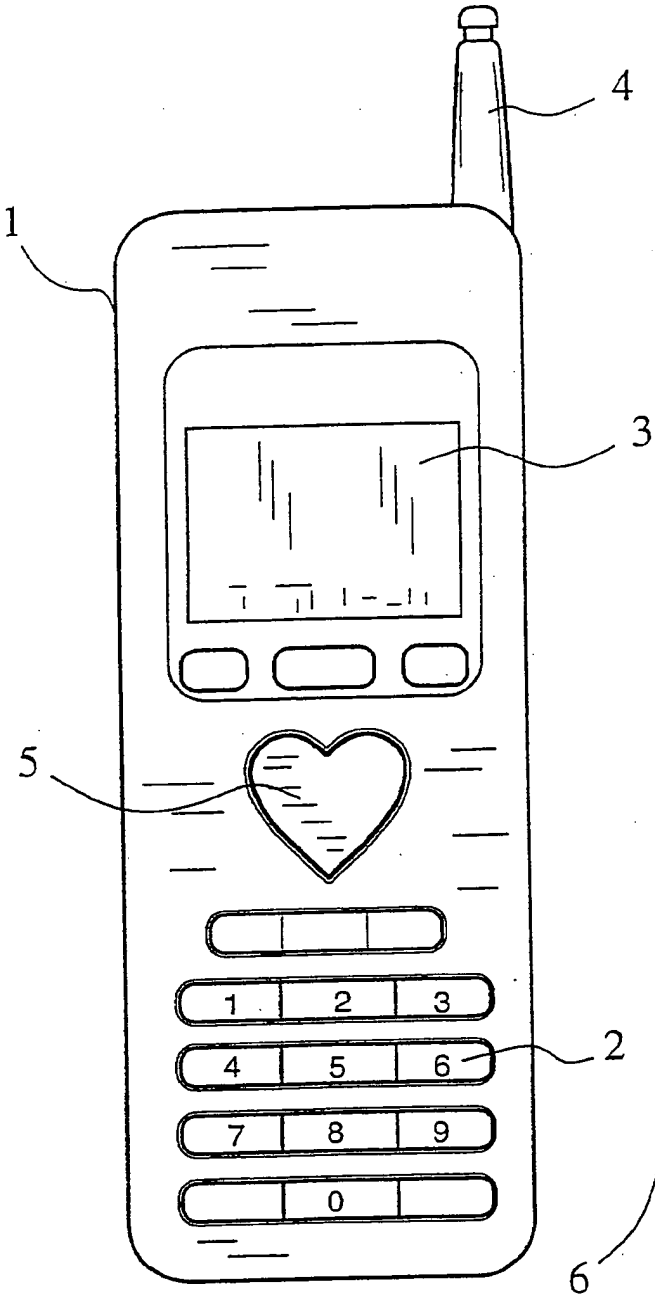


Fig. 1

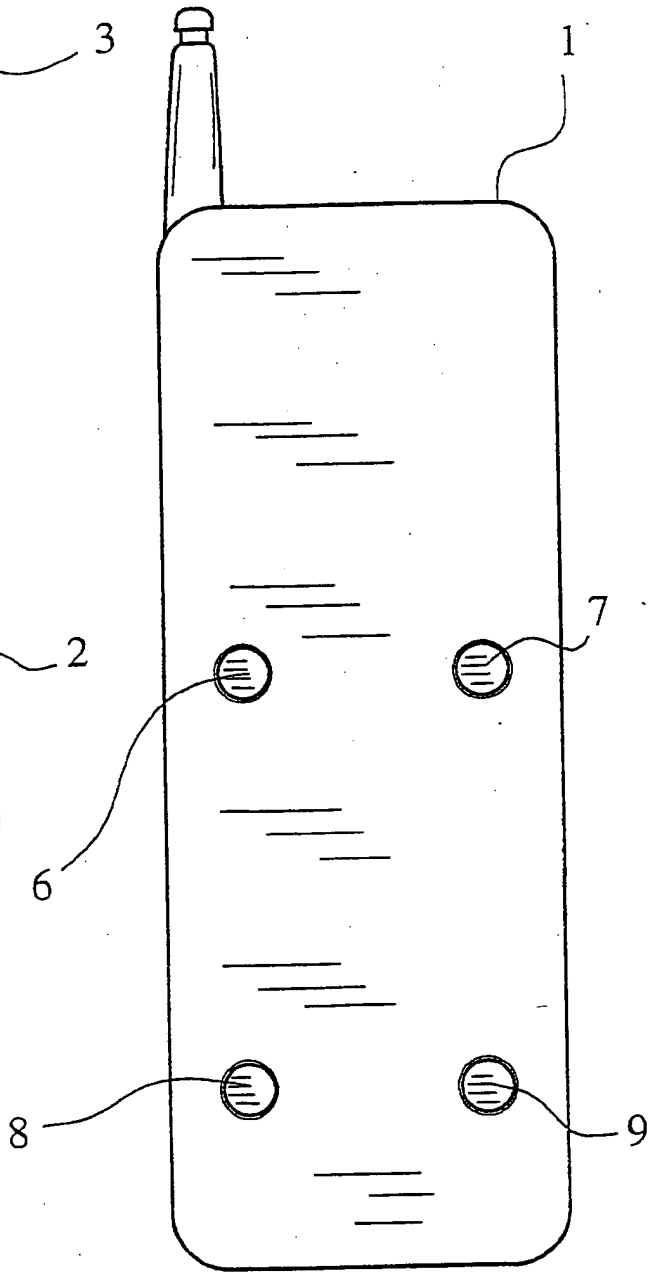


Fig. 2

Method for remote updating of the software of a mobile terminal

Patent number: EP0996302
Publication date: 2000-04-26
Inventor: HENRY PASCAL (FR); THIL HERVE (FR)
Applicant: CIT ALCATEL (FR)
Classification:
- international: H04Q7/32
- european: H04Q7/32A
Application number: EP19990402529 19991014
Priority number(s): FR19980013212 19981021

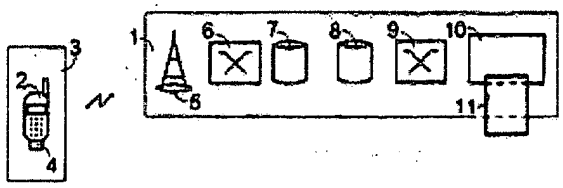
Also published as:
US2001046854 (A1)
JP2000134669 (A)
FR2785136 (A1)

Cited documents:
EP0562890

Abstract of **EP0996302**

The logic module setting method acts on a radio telephone (2) and the setting is sent from a base station, using processing (11) at the server centre, using short message exchanges (SMS). The exchange of presettable messages uses reciprocal authentication at the mobile telephone and the server.

FIG. 1



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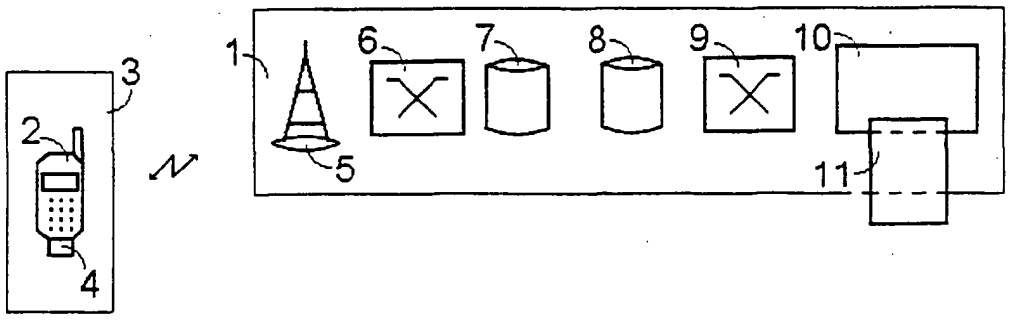
(54) Procédé de mise à jour à distance du logiciel d'un terminal radiotelephonique

(57) Procédé pour la mise à jour du logiciel d'un terminal radiotéléphonique (2), de type GSM ou équivalent, par l'intermédiaire d'une station de base (5), radiotéléphonique, auprès duquel le terminal est radiotéléphoniquement localisé, et à partir des données fournies par une plate-forme de programmation (11) intervenant au niveau d'un centre serveur (10) auquel la station de base est reliée dans le cadre d'un réseau fixe de télécommunications.

Une mise à jour de terminal est réalisée par un échange transparent de messages radiotéléphoniques courts, de type SMS ou équivalent, à l'initiative de la plate-forme de programmation et en coopération avec le centre serveur.

FIG. 1



EP 0 996 302 A1

Description

[0001] L'invention concerne un procédé destiné à permettre la mise à jour à distance du logiciel d'un terminal radiotéléphonique de réseau cellulaire et plus particulièrement d'un terminal radiotéléphonique mobile de type GSM.

[0002] De tels terminaux téléphoniques sont classiquement fournis à leurs utilisateurs avec une programmation déterminée qui est fonction des besoins de ces utilisateurs et des choix faits tant par eux que pour eux.

[0003] Pour diverses raisons, il faut pouvoir modifier les programmations après livraison des terminaux à leurs utilisateurs, par exemple à des fins d'amélioration du service rendu, de mise à jour d'éléments logiciels soumis à évolution ou de mise en service d'options nouvelles ou nouvellement requises.

[0004] A cet effet, il a été initialement prévu de demander aux utilisateurs d'apporter les terminaux radiotéléphoniques dont ils disposent en un lieu où une mise à jour peut être effectuée, toutefois c'est une solution que l'on s'efforce actuellement d'éviter.

[0005] Une autre solution est fournie dans le document EP-A-478231 qui décrit un procédé pour programmer un terminal radiotéléphonique par des signaux transmis par voie radio, depuis un centre serveur de mise à jour, suite à la mise du terminal dans un mode de programmation par l'utilisateur. Cette solution est notamment utilisée pour permettre à des utilisateurs d'obtenir des codes d'autorisation pour des services de mobile spécifiques. Elle convient bien lorsque la demande de mise à jour est effectuée à la demande de l'utilisateur, mais elle n'est pas satisfaisante lorsque cette demande ne provient pas de lui et doit être réalisée le plus tôt possible.

[0006] Encore une autre solution est présentée dans la demande de brevet EP-A-562890 qui décrit un procédé de mise à jour d'informations contenues dans une carte SIM d'un terminal mobile de type GSM en utilisant les canaux de signalisation, c'est-à-dire la fonction SMS (*Short Message Service*).

[0007] Néanmoins, cette solution présente l'inconvénient majeur de ne pas être sécurisé. Autrement dit, la carte SIM d'un terminal peut être mise à jour, de façon erronée, soit par erreur, soit par malveillance.

[0008] Un procédé sécurisé permettant une mise à jour d'un terminal, sans qu'il soit nécessaire de faire intervenir l'utilisateur et sans qu'il soit nécessaire que soit établie une connexion d'appel, serait avantageux.

[0009] L'invention propose donc un procédé pour la mise à jour du logiciel d'un terminal radiotéléphonique, de type GSM ou équivalent, par l'intermédiaire d'une station de base, radiotéléphonique, auprès duquel le terminal est radiotéléphoniquement localisé, et à partir d'une plate-forme de programmation intervenant au niveau d'un centre serveur auquel la station de base est reliée dans le cadre d'un réseau fixe de télécommunications.

[0010] Selon une caractéristique du procédé selon l'invention, les données de mise à jour de terminal sont transférées par un échange transparent de messages radiotéléphoniques courts, de type SMS ou équivalent, à l'initiative de la plate-forme de programmation et en coopération avec le centre serveur, après authentifications réciproques du terminal cible et de la plate-forme.

[0011] Selon une caractéristique d'une forme préférée de mise en oeuvre du procédé selon l'invention, un échange pour mise à jour avec un terminal comporte les opérations suivantes :

- envoi d'un message court d'éveil d'agent, de type MT, à destination du terminal, ce message comportant un en-tête caractéristique de mise à jour et des données pour le rappel radiotéléphonique de la plate-forme par le terminal;
- envoi d'un accusé de réception par message court, de type MO, à destination de la plate-forme par le terminal, suite à la réception d'un message d'éveil, cet accusé de réception contenant le numéro d'appel radiotéléphonique du terminal et une définition synthétique de la présente configuration matérielle et/ou logicielle du terminal;
- envoi d'un ou de plusieurs messages successifs, de type MT, au terminal pour la mise à jour, cet envoi contenant notamment les données de mise à jour, précédées par l'en-tête de mise à jour et par la nouvelle définition synthétique de configuration résultant de la mise à jour.

[0012] L'invention, ses caractéristiques et ses avantages sont précisés dans la description qui suit en liaison avec les figures évoquées ci-dessous.

[0013] La figure 1 est un schéma synoptique relatif au dispositif permettant de transmettre des messages courts par radio à des terminaux radiotéléphoniques à partir d'un centre serveur dans un système radiotéléphonique.

[0014] La figure 2 présente schématiquement les étapes essentielles pour un échange de mise à jour du logiciel d'un terminal selon l'invention par l'intermédiaire d'un centre serveur et à l'initiative d'une plate-forme de programmation.

[0015] Le système radiotéléphonique 1, schématisé en figure 1, est conçu pour assurer l'établissement de communications, dans le cadre d'un réseau radiotéléphonique, entre des terminaux radiotéléphoniques, tel que le terminal mobile 2. Le procédé selon l'invention est ici décrit dans le cadre d'un réseau radiotéléphonique cellulaire par exemple un réseau GSM, DCS ou PCS.

[0016] Le système 1 est supposé permettre la gestion d'un réseau de terminaux radiotéléphoniques 2, et en particulier des communications entre terminaux, il peut aussi permettre la mise en communication des terminaux du réseau avec d'autres terminaux de communication, desservis par d'autres systèmes qui sont reliés

de manière appropriée au réseau radiotéléphonique que gère le système 1.

[0017] Les terminaux radiotéléphoniques 2 gérés par un même système 1 dans le cadre d'un réseau radiotéléphonique constituent un ensemble 3 relevant classiquement d'un prestataire de service déterminé qui exploite le système 1 pour les opérations relatives aux communications radiotéléphoniques concernant les terminaux 2.

[0018] Chaque terminal radiotéléphonique 2 comporte, comme connu et non illustré ici, un émetteur-récepteur radio de signaux numériques ou numérisés incluant une interface d'émission-réception de signaux voix-données, une interface de commande manuelle homme-terminal et un ensemble de commande incorporant au moins un processeur et diverses mémoires, mortes et/ou vives. Le sous-ensemble constitué par ces mémoires stocke une partie des programmes nécessaires au fonctionnement du terminal, une autre partie est classiquement stockée dans un sous-ensemble mémoire comporté par un module d'identification d'abonné 4 amovible que l'utilisateur doit ajouter au terminal pour pouvoir l'exploiter. Un tel module d'identification est par exemple constitué par une carte SIM exploitable en liaison avec l'ensemble de commande du terminal, une fois mise en place.

[0019] Dans le cadre de l'invention, il est prévu que les caractéristiques logicielles et matérielles d'un terminal à un instant déterminé soient traduites sous forme d'informations numérisées qui sont mises en mémoire au niveau de ce terminal, c'est-à-dire dans le terminal lui-même et/ou dans le module d'identification qui lui est associé, suivant les cas. Les logiciels des terminaux 2 et des modules d'identification 4 sont réalisés de manière à permettre une transmission radiotéléphonique par un terminal d'informations relatives aux caractéristiques, matérielles et/ou logicielles, présentes de configuration de ce terminal. Ces informations sont combinées pour constituer une définition synthétique de configuration, dite SYNTHER, susceptible d'être émise par le terminal, sous le contrôle de l'ensemble de commande du terminal, suite à une demande émanant du système 1 par voie radiotéléphonique. Dans la forme de réalisation envisagée ici, cette définition de configuration SYNTHER est supposée traduire ces informations sous une forme standardisée qui regroupe les caractéristiques matérielles et logicielles essentielles d'un terminal 2. Elle est supposée transmise dans le cadre de procédures d'échange radiotéléphonique de messages courts qui ne sont pas développées ici dans la mesure où, normalisées, elles ont fait l'objet de diverses publications.

[0020] Comme connu, les communications radiotéléphoniques impliquant un terminal 2, dans le cadre du réseau GSM auquel il appartient, s'effectuent par l'intermédiaire d'une station radiotéléphonique de base 5 du système 1 auprès de laquelle ce terminal s'est localisé et à portée radio de laquelle il est situé. Tels seront donc les échanges réalisés aux fins de mise à jour logicielle avec un terminal 2 dans le cadre du procédé selon l'invention.

[0021] Pour ces communications, la station de base 5, dite BTS, fait partie d'un des sous-systèmes radio, dit BSS, du système 1. Elle comporte un ou plusieurs équipements émetteurs-récepteurs radio d'interface avec les terminaux 2 et elle est supervisée par un contrôleur de gestion de ressource radio, dit BSC, qui assure aussi un premier niveau de concentration de circuits de communication vers un des centres de commutation de services mobiles 6, dit MSC, d'un sous-réseau fixe de communication, non représenté, du système 1.

[0022] Dans le cas du terminal 2 considéré et de la procédure de mise à jour, le centre de commutation 6 concerné est celui qui supervise la station de base 5 auprès de laquelle le terminal 2 est radiotéléphoniquement localisé et sous la responsabilité duquel ce terminal 2 se trouve à ce moment. Une base de données 7, dite VLR, est associée à chaque centre de commutation 6 pour stocker des données, relatives aux terminaux dits présents dans la mesure où ils sont alors radiotéléphoniquement localisés auprès d'une des stations de base supervisées par le centre 6. Comme il est connu, les différents abonnés d'un réseau de type GSM sont aussi répertoriés au niveau d'un enregistreur de localisation nominal 8, dit HLR. Cet enregistreur 8 mémorise les caractéristiques de chaque abonné du réseau et notamment son numéro d'identité international IMSI, son numéro d'annuaire et son profil d'abonnement, et il communique avec les différentes bases 7 du système, dans le cadre des procédures de localisation des différents terminaux par rapport aux stations de base fixes du réseau.

[0023] Les centres de commutation 6 du système 1 sont aussi reliés à un centre de commutation 9 ayant une fonction passerelle exploitée pour un service bidirectionnel de messages courts, dits SMS, à destination des terminaux à partir d'un serveur 10, dit SC.

[0024] Ce serveur 10 comporte des moyens de communication par lequel il est notamment relié au centre de commutation 9, un ensemble de commande et des moyens de stockage de données en particulier pour la mémorisation des messages courts destinés aux terminaux, de manière à permettre leur conservation jusqu'au moment où ces terminaux sont à même de les recevoir. Cette conservation a notamment lieu lorsqu'un terminal est hors d'atteinte, par exemple lorsqu'il est hors tension ou hors couverture. La communication s'effectue alors dès que le terminal se manifeste d'une manière ou d'une autre au niveau du réseau.

[0025] Les messages courts destinés aux terminaux du réseau radiotéléphonique sont susceptibles d'être fournis par différentes sources. Ils comportent classiquement une partie d'en-tête où est notamment identifié le destinataire, une partie prévue pour un volume déterminé de données de commande et une partie prévue pour des données d'affichage destinées à apparaître

sur l'écran que comporte classiquement un terminal.

[0026] Dans le cas de messages courts de mise à jour de logiciel, il est prévu une intervention d'une source constituée par une plate-forme de programmation 11 qui produit les données correspondant aux informations de mise à jour, par exemple sous forme usuelle d'un lot de données prévu pour au moins un terminal ou plus généralement plusieurs terminaux similairement configurés.

[0027] Cette plate-forme 11, qui est apte à communiquer avec le serveur 10, peut être incluse dans le système 1 ou encore lui être extérieure comme schématisé sur la figure 1. Elle est donc agencée pour pouvoir entrer en communication avec l'ensemble de commande et avec les moyens de stockage du serveur 10, soit directement si elle est intégrée dans ce serveur soit via les moyens de communication dont ce serveur dispose.

[0028] Selon l'invention et comme déjà indiqué, il est prévu que la mise à jour d'un terminal s'effectue suite à un échange de données, sous forme de messages courts entre la plate-forme de programmation 11 et le terminal 2 par l'intermédiaire du serveur 10, sans imposer une d'intervention de l'utilisateur au niveau du terminal.

[0029] Une opération d'identification du ou des terminaux destinés à faire l'objet d'une mise à jour est donc nécessaire. Elle implique donc que soient répertoriés les éléments constitutifs matériels et/ou logiciels, propres aux terminaux du réseau qui sont concernés par une mise à jour, pour que soient déterminés ceux de ces terminaux qui comportent ces éléments et qui sont donc concernés par la mise à jour.

[0030] Les opérations nécessaires pour de telles identifications ne sont pas développées ici dans la mesure où elles n'ont qu'un rapport indirect avec l'objet de l'invention. Il suffit de savoir qu'un lien d'identification individuel est défini au niveau du système 1 en tenant compte des données individuelles d'identification et de localisation stockées aux niveaux des bases de données 7 et de l'enregistreur 8 et des données de définition des caractéristiques logicielles et matérielles pour chaque terminal. En effet, il est usuel que ces données de définition relatives aux terminaux ne soient pas ou pas toutes stockées au niveau du système 1, si ce n'est au niveau des terminaux eux-mêmes.

[0031] Le procédé de mise à jour selon l'invention implique donc un échange transparent qui est initié pour un terminal dont les caractéristiques logicielles et matérielles présentes ont été obtenues de celui ou de ceux qui les détiennent, afin de pouvoir réaliser une vérification de conformité en liaison avec le terminal où ces caractéristiques sont aussi stockées.

[0032] Selon l'invention, une procédure de transfert de données de mise à jour vers un terminal commence par l'envoi d'un message court, dit d'éveil d'agent au terminal destinataire visé, à l'initiative de la plate-forme de programmation 11 et par l'intermédiaire du serveur de messages courts 10. Ce message d'éveil est de type MT (module terminated), par exemple SMS-MT, il comporte un en-tête caractéristique signalant qu'il s'agit d'une opération de mise à jour. Ce message contient éventuellement des données d'affichage permettant de fournir une information sur l'écran du terminal relativement à la mise à jour.

[0033] Le message d'éveil contient aussi des données destinées à permettre au terminal de répondre par message court de type MO (mobile originated), par exemple SMS-MO. Ces données fournissent au terminal des indications relatives à l'origine du message qu'il a reçu, dans l'exemple proposé ces données correspondent au numéro du centre serveur de messages courts 10 et celui du service de ce centre qui identifie la plate-forme de programmation 11.

[0034] Une opération d'authentification de la plate-forme par le terminal est réalisée.

[0035] Un message court d'accusé de réception est transmis en retour vers le centre serveur par le terminal, si le message court d'éveil a été transféré avec succès au terminal destinataire depuis le centre serveur et via la station de base auprès de laquelle ce terminal est localisé. Le procédé est temporairement interrompu par le centre serveur dans les conditions habituelles prévues lorsqu'un terminal est hors d'atteinte ou si le transfert n'a pas été réalisé de manière satisfaisante. Il est notamment interrompu, si l'opération d'authentification de la plate-forme de programmation par le terminal a échoué.

[0036] Le message d'accusé de réception produit par un terminal contient le numéro d'appel radiotéléphonique du terminal et la définition synthétique SYNTHER spécifiant ses présentes caractéristiques de configuration, matérielles et logicielles, essentielles. Il peut alternativement être envisagé de ne transmettre qu'une partie de ces caractéristiques, si cela s'avère suffisant.

[0037] Ce message d'accusé de réception est transféré par le terminal vers le centre serveur 10, via la station de base 5 auprès de laquelle il est alors radiotéléphoniquement localisé. Ce transfert s'effectue de manière transparente, sans que l'utilisation du terminal par un utilisateur ne soit affectée.

[0038] L'envoi d'un ou de plusieurs messages contenant les données de mise à jour peut être effectué par l'intermédiaire du centre serveur, à réception du message d'accusé de réception et après authentification du terminal cible par vérification de la conformité de la définition de configuration SYNTHER reçue du terminal avec celle prise en compte pour ce terminal à l'occasion du lancement de la procédure de transfert. L'en-tête caractéristique de signalisation de la mise à jour est à nouveau transmis vers le terminal 2 dans le cadre du premier message de type MT de transmission des données de mise à jour qu'émet le centre serveur vers ce terminal. Cet en-tête précède des données correspondant à tout ou partie de l'ensemble formé par les données de mise à jour suivant la taille de cet ensemble.

[0039] Une autre mise en oeuvre consiste à ne pas

procéder à des vérifications de la configuration SYNTHER, mais à décider en fonction de celle-ci de l'opportunité d'une mise à jour. Ainsi, la plate-forme de programmation peut n'avoir aucune connaissance (ou une connaissance partielle) de la configuration d'un parc de terminaux mobiles. Souhaitant en faire une mise à niveau des différentes versions d'un module logiciel (par exemple), on envoi sur le réseau un message d'éveil d'agent comme décrit précédemment. Les terminaux répondent en fournissant leurs configurations SYNTHER. En fonction de ces configurations, la plate-forme peut décider quels terminaux mobiles nécessitent une mise à jour, parmi l'ensemble des terminaux mobiles du parc cible.

[0040] Les données de mise à jour sont accompagnées par des données correspondant à la nouvelle définition de configuration SYNTHER établie pour le terminal à partir de la définition jusqu'ici en cours et de la ou des modifications entraînée(s) par la mise à jour, pour enregistrement au niveau du terminal.

[0041] Dans l'exemple illustré sur la figure 2, des données supplémentaires sont jointes pour permettre au terminal de vérifier qu'il est bien le destinataire prévu du ou des messages de mise à jour. Ces données supplémentaires de contrôle sont par exemple celles de la définition de configuration SYNTHER telle que préalablement envoyée par le terminal au centre serveur à réception du message d'éveil. Elles sont prises en compte et traitées par l'ensemble de commande du terminal éventuellement en relation avec l'ensemble de commande à processeur et mémoires que comporte le module d'identification alors associé à ce terminal. Les données de mise à jour, reçues dans une mémoire du terminal, sont enregistrées, pour mise en exploitation, en mémoire permanente du terminal et/ou du module d'identification alors associé à ce terminal, lorsque les vérifications effectuées sont satisfaisantes.

[0042] Dans une forme de réalisation également illustrée sur la figure 2, un message court d'accusé de bonne réception de mise à jour est transmis par le terminal vers le centre serveur 10, suite à la réussite de la vérification effectuée par ce terminal. Ce message, de type MO, comporte ici des données correspondant au numéro d'appel propre à ce terminal et la nouvelle définition de configuration SYNTHER qui vient d'être reçue du centre serveur par le terminal.

[0043] Si l'une des étapes de transmission prévues dans le procédé de mise à jour selon l'invention n'est pas réalisée de manière satisfaisante et risque de conduire à une erreur soit au niveau du terminal, du module d'identification associé à ce terminal ou au niveau du centre serveur et/ou de la plate-forme de programmation concernée, les modifications envisagées ne sont pas effectuées et les données correspondant à la situation précédant la tentative de mise à jour sont conservées jusqu'à réussite d'une nouvelle tentative de mise à jour.

[0044] Il est prévu que la réalisation effective d'une opération de mise à jour pour un terminal déterminé soit signalée à l'utilisateur par affichage d'une information appropriée sur l'écran du terminal, si besoin est.

[0045] L'exploitation du procédé de mise à jour au profit de terminaux radiotéléphoniques d'un réseau n'implique généralement qu'une programmation additionnelle au niveau des moyens logiciels respectivement prévus dans ces terminaux, pour assurer l'exploitation de la procédure de transmission par messages courts au cours des différentes étapes de déroulement du procédé. De ce fait la structure matérielle d'un terminal 2 n'est pas développée ici dans la mesure où elle est susceptible d'être tout à fait classique et donc bien connue de l'homme de métier.

[0046] Il est notamment prévu au moins un agent au niveau du terminal pour repérer le code caractéristique d'un en-tête de mise à jour au niveau d'un message court et pour piloter les opérations réalisées par le terminal pour permettre le déroulement des étapes du procédé de mise à jour.

Revendications

1. Procédé pour la mise à jour du logiciel d'un terminal radiotéléphonique (2), notamment de type GSM, par l'intermédiaire d'une station de base (5), radiotéléphonique, auprès de laquelle ledit terminal est radiotéléphoniquement localisé, et à partir des données fournies par une plate-forme de programmation (11) intervenant au niveau d'un centre serveur (10) auquel la station de base est reliée dans le cadre d'un réseau de télécommunications, les données de mise à jour du terminal étant transférées par un échange de messages courts, de type SMS ou équivalent, à l'initiative de la plate-forme de programmation et en coopération avec le centre serveur, ce procédé étant caractérisé en ce que ledit échange de messages courts comporte des messages préalables pour l'authentification réciproque dudit terminal cible et de ladite plate-forme de programmation.

2. Procédé selon la revendication 1, dans lequel ledit échange de messages courts comporte les opérations suivantes :

   - envoi d'un message court d'éveil d'agent, de type MT, à destination du terminal, ce message comportant un en-tête caractéristique de mise à jour et des données pour le rappel radiotéléphonique de la plate-forme par le terminal;
   - envoi d'un accusé de réception par message court, de type MO, à destination de la plate-forme par le terminal, suite à la réception d'un message d'éveil, cet accusé de réception contenant préférablement le numéro d'appel radiotéléphonique du terminal et une définition syn-

thétique (SYNTHER) de la présente configuration matérielle et/ou logicielle du terminal;

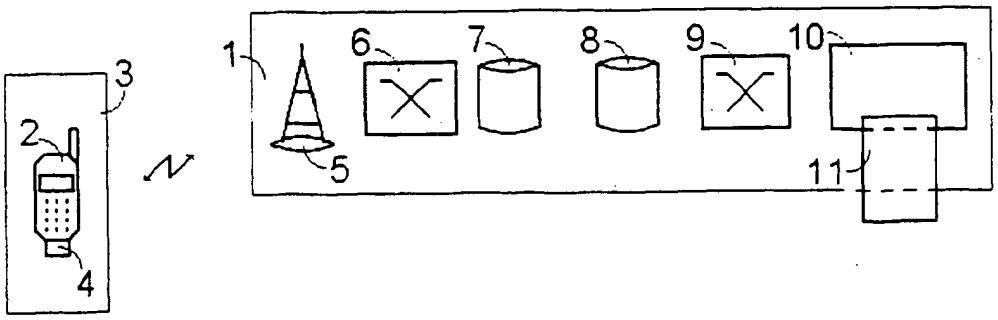
- envoi d'un ou de plusieurs messages successifs, de type MT, au terminal pour la transmission de l'information de mise à jour, cet envoi contenant notamment les données de mise à jour, précédées par l'en-tête de mise à jour et par la nouvelle définition synthétique de configuration résultant de la mise à jour.

3. Procédé, selon la revendication 2, dans lequel l'envoi de données effectué par la plate-forme au terminal pour une mise à jour contient aussi la définition synthétique de configuration reçue du terminal.

4. Procédé, selon l'une des revendications 1 à 3, dans lequel il est prévu un envoi par le terminal d'un message d'accusé de réception de mise à jour, de type MO, suite à la mise à jour, ce message comportant préférablement le numéro d'appel radiotéléphonique du terminal accompagné de la nouvelle définition synthétique de configuration reçue dans le cadre de la mise à jour.

5. Terminal radiotéléphonique, de type GSM ou équivalent, caractérisé en ce qu'il comporte des moyens logiciels pour la mise en oeuvre du procédé selon l'une des revendications précédentes 1 à 4.

FIG. 1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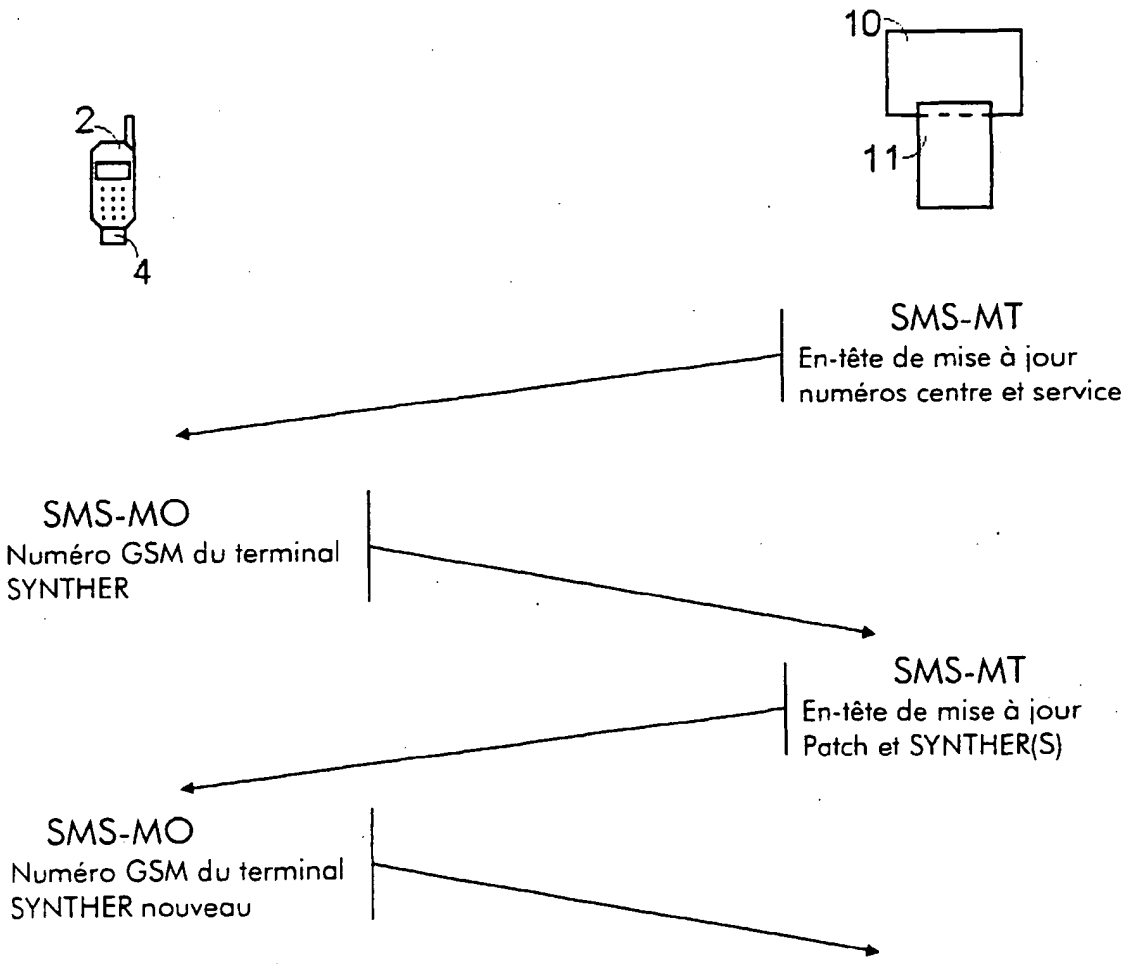
11

FIG. 2


10
11
2
4
SMS-MT
En-tête de mise à jour
numéros centre et service
SMS-MO
Numéro GSM du terminal
SYNTHER
SMS-MT
En-tête de mise à jour
Patch et SYNTHER(S)
SMS-MO
Numéro GSM du terminal
SYNTHER nouveau

Office européen des brevets

RAPPORT DE RECHERCHE EUROPEENNE

Numéro de la demande
EP 99 40 2529

DOCUMENTS CONSIDERES COMME PERTINENTS

Catégorie	Citation du document avec indication, en cas de besoin, des parties pertinentes	Revendication concernée	CLASSEMENT DE LA DEMANDE (Int.Cl.7)
X	EP 0 562 890 A (HUTCHISON MICROTEL LIMITED) 29 septembre 1993 (1993-09-29) * colonne 2, ligne 33 - colonne 7, ligne 10 *	1-5	H04Q7/32
A	COLLESI S ET AL: "SMS BASED APPLICATIONS FOR GSM NETWORKS" TECHNICAL REPORTS - CSELT, vol. 23, no. 3, 1 juin 1995 (1995-06-01), pages 337-349, XP000573777 * page 339, colonne de droite, ligne 5 - page 340, colonne de droite, ligne 18 *	2,3	

DOMAINES TECHNIQUES RECHERCHES (Int.Cl.7)

H04Q

Le présent rapport a été établi pour toutes les revendications

Lieu de la recherche	Date d'achèvement de la recherche	Examinateur
LA HAYE	14 janvier 2000	Lõpez-Pérez, M-C

CATEGORIE DES DOCUMENTS CITES

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EPO FORM 1503 03.82 (P04C02)

ANNEXE AU RAPPORT DE RECHERCHE EUROPEENNE RELATIF A LA DEMANDE DE BREVET EUROPEEN NO. EP 99 40 2529

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14-01-2000

Document brevet cité au rapport de recherche	Date de publication	Membre(s) de la famille de brevet(s)	Date de publication
EP 0562890 A	29-09-1993	AUCUN	

EPO FORM P0460

Pour tout renseignement concernant cette annexe : voir Journal Officiel de l'Office européen des brevets, No.12/82

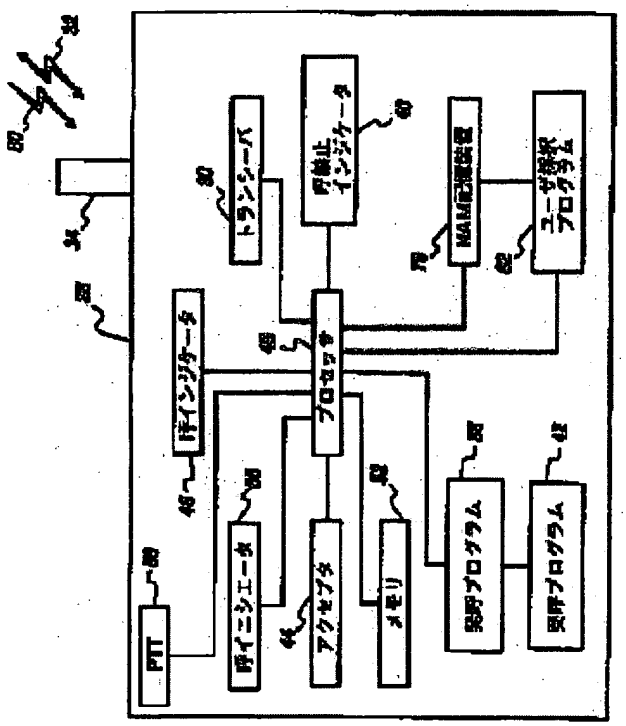
MOBILE STATION AND METHOD FOR AUTOMATICALLY REVISING USER SELECTION INFORMATION STORED IN ITS MEMORY

Patent number: JP2000115859
Publication date: 2000-04-21
Inventor: PAUL SCHMIDT; THOMAS GAHAGEN
Applicant: ERICSSON INC
Classification:
- **international:** H04Q7/38
- **european:**
Application number: JP19990248883 19990902
Priority number(s):

Also published as:
US6215994 (B1)

Abstract of **JP2000115859**

PROBLEM TO BE SOLVED: To obtain a mobile station that sends/receives communication signal by air propagation. SOLUTION: This mobile station 28 is provided with a memory 52 that stores user selection information, a receiver 44 that receives an air propagation information signal including the user selection information, and a user selection program 82 in the mobile station to revise the user selection information in the memory according to the user selection information in the reception air propagation information signal. The mobile station 28 is located for from a master control unit that is selectively started to transmit air propagation information including the user selection information input in the master control unit.



(19)日本国特許庁（ＪＰ）　(12)公開特許公報（Ａ）　(11)特許出願公開番号
特開2000－115859
（P2000－115859A）
(43)公開日　平成12年４月21日(2000.4.21)

(51)Int.Cl.'	識別記号	Ｆ Ｉ		テーマコード'（参考）
Ｈ０４Ｑ　7/38		Ｈ０４Ｂ　7/26	１０９Ｍ	
		Ｈ０４Ｑ　7/04	Ｄ	

審査請求　未請求　請求項の数24　ＯＬ　（全 12 頁）

(21)出願番号　特願平11－248883

(22)出願日　平成11年９月２日(1999.9.2)

(31)優先権主張番号　１４８１２９

(32)優先日　平成10年９月４日(1998.9.4)

(33)優先権主張国　米国（ＵＳ）

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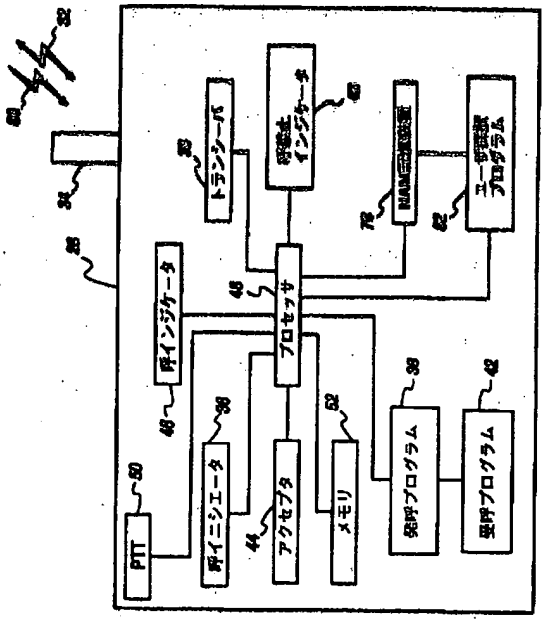
(54)【発明の名称】　移動局およびそのメモリ内に格納されるユーザ採択情報を自動的に変更する方法

(57)【要約】
【課題】　空中伝搬により通信信号を送受信する移動局を提供する。
【解決手段】　移動局２８はユーザ採択情報を格納するメモリ５２、ユーザ採択情報を含む空中伝搬情報信号を受信するようにされた受信機４４、および受信空中伝搬情報信号内のユーザ採択情報に従ってメモリ内のユーザ採択情報を変更するようにされた移動局内のユーザ採択プログラム８２を含んでいる。移動局２８はマスターコントロールユニットにおける選択ユーザ採択情報入力を含む空中伝搬情報を送信するように選択的に始動可能なマスターコントロールユニットから遠隔地にある。



【特許請求の範囲】
【請求項１】　空中伝搬により通信信号を送受信する移動局であって、
ユーザ採択情報を格納するメモリと、
ユーザ採択情報を含む空申伝搬情報信号を受信するようにされた受信機と、
受信した空申伝搬情報信号内のユーザ採択情報に従ってメモリ内のユーザ採択情報を変更するようにされた移動局内のユーザ採択プログラムと、を含む移動局。
【請求項２】　請求項１記載の移動局であって、前記受信機が、Ｒ－Ｄａｔａトランスポートネットワークを介して空中伝搬情報信号を受信するようにされている、移動局。
【請求項３】　請求項１記載の移動局であって、前記メモリ内に格納されるユーザ採択情報が、グループ電話番号情報および標準電話番号情報を含み、前記ユーザ採択プログラムが、受信ユーザ情報信号に応答して、グループ電話番号情報を変更しかつ標準電話番号情報を変更するようにされている、移動局。
【請求項４】　請求項３記載の移動局であって、前記メモリ内に格納されるグループ電話番号情報がグループ電話番号を含む、移動局。
【請求項５】　請求項４記載の移動局であって、前記グループ電話番号情報が各グループ電話番号に関連するアルファニューメリック識別子を含む、移動局。
【請求項６】　請求項４記載の移動局であって、前記グループ電話番号情報が各グループ電話番号に対するローム受信イネーブルフラグおよびローム発信イネーブルフラグをさらに含み、前記ローム受信イネーブルフラグは関連するグループ電話番号から前記移動局への呼の受信を選択的にイネーブル／ディスエーブルし、前記ローム発信イネーブルフラグは前記移動局から関連するグループ電話番号への呼の発信を選択的にイネーブル／ディスエーブルする、移動局。
【請求項７】　請求項３記載の移動局であって、前記メモリ内に格納される標準電話番号情報が標準電話番号を含む、移動局。
【請求項８】　請求項７記載の移動局であって、標準電話番号情報が各標準電話番号に関連するアルファニューメリック識別子をさらに含む、移動局。
【請求項９】　請求項４記載の移動局であって、前記ユーザ採択プログラムが、受信したユーザ情報信号に応答して、前記メモリにグループ電話番号を追加したり削除したりするようにされている、移動局。
【請求項１０】　請求項９記載の移動局であって、前記メモリの選択された量が、グループ電話番号情報を格納するのに割り当てられ、前記ユーザ採択プログラムが、グループ電話番号を追加した受信ユーザ情報信号に応答して、割り当てられる前記メモリの選択された量を増加するようにされている、移動局。
【請求項１１】　請求項１記載の移動局であって、前記メモリ内に格納されるユーザ採択情報が、呼を受信する前記移動局の能力を制限するように選択的に設定可能な受信ロックユーザ採択情報と、呼を発信する前記移動局の能力を制限するように選択的に設定可能なダイヤルロックユーザ採択情報とを含み、前記ユーザ採択プログラムが、受信したユーザ採択信号に応答して、受信ロックおよびダイヤルロックユーザ採択情報を変更するようにされている、移動局。
【請求項１２】　呼を送受信する移動局の能力を選択的に制御するシステムであって、
呼を送受信する選択移動局の能力を規定する選択ユーザ採択情報を含む空中伝搬情報信号を送信するために選択的に動作可能なマスターコントロールユニットと、
前記マスターコントロールユニットから遠隔の移動局であって、
前記移動局に対するユーザ採択情報を格納するメモリと、
前記マスターコントロールユニットからの空中伝搬情報信号を受信するようにされた受信機と、
前記マスターコントロールユニットから受信する空中伝搬情報信号内の選択ユーザ採択情報に従って前記メモリ内のユーザ採択情報を変更するようにされている前記移動局内のユーザ採択プログラムと、
を含む移動局と、
を含むシステム。
【請求項１３】　請求項１２記載のシステムであって、前記マスターコントロールユニットが、Ｒ－Ｄａｔａトランスポートネットワークを介して空申伝搬情報信号を送信する、システム。
【請求項１４】　請求項１２記載のシステムであって、前記ユーザ採択情報が、グループ電話番号情報および標準電話番号情報を含み、
前記ユーザ採択プログラムが、受信した情報信号に応答して、前記メモリ内のグループ電話番号情報および標準電話番号情報を変更するようにされている、システム。
【請求項１５】　請求項１４記載のシステムであって、前記グループ電話番号情報がグループ電話番号を含む、システム。
【請求項１６】　請求項１５記載のシステムであって、前記グループ電話番号情報が各グループ電話番号に対するローム受信イネーブルフラグおよびローム発信イネーブルフラグをさらに含み、前記ローム受信イネーブルフラグは関連するグループ電話番号から前記移動局への呼の受信を選択的にイネーブル／ディスエーブルし、前記ローム発信イネーブルフラグは前記移動局から関連するグループ電話番号への呼の発信を選択的にイネーブル／ディスエーブルする、システム。
【請求項１７】　請求項１２記載のシステムであって、前記メモリ内に格納されるユーザ採択情報が、呼を受信

する前記移動局の能力を制限するように選択的に設定可能な受信ロックユーザ採択情報と、呼を発信する前記移動局の能力を制限するように選択的に設定可能なダイヤルロックユーザ採択情報とを含み、
前記ユーザ採択プログラムが、受信した情報信号に応答して、受信およびダイヤルロックユーザ採択情報を変更するようにされている、システム。
【請求項１８】 請求項１２記載のシステムであって、前記マスターコントロールユニットが、
呼を送受信する選択移動局の能力を規定するユーザ採択情報を選択的に入力するユーザ制御可能入力装置と、
ユーザ制御可能入力装置から入力されるユーザ採択情報を受信し、該ユーザ採択情報を含む空中伝搬情報信号を選択移動局へ送信するメッセージセンターと、を含む、システム。
【請求項１９】 請求項１８記載のシステムであって、前記ユーザ制御可能入力装置が、ディスプレイ、メモリ、コンピュータの動作を制御するユーザ入力装置、およびユーザ採択再構成プログラムを有するコンピュータを含む、システム。
【請求項２０】 ワイヤレス通信システムに使用する移動局のメモリ内に格納されたユーザ採択情報を自動的に変更する方法であって、
（ａ）ユーザ採択情報を含む空中伝搬情報信号を受信するステップと、
（ｂ）受信した空中伝搬情報信号内のユーザ採択情報に従ってメモリ内のユーザ採択情報を自動的に変更するステップと、を含む方法。
【請求項２１】 請求項２０記載の方法であって、前記メモリ内に格納されるユーザ採択情報が、グループ電話番号情報および標準電話番号情報を含み、ステップ
（ｂ）が、受信したユーザ情報信号に応答して、グループ電話番号情報および／もしくは標準電話番号情報を自動的に変更するステップを含む、方法。
【請求項２２】 請求項２１記載の方法であって、前記メモリの選択された量が、グループ電話番号情報を格納するのに割り当てられ、ステップ（ｂ）が、受信したユーザ情報信号に応答して、前記メモリの選択された量を自動的に変更するステップを含む、方法。
【請求項２３】 請求項２０記載の方法であって、前記メモリ内に格納されるユーザ採択情報が、呼を受信する前記移動局の能力を制限するように選択的に設定可能な受信ロックユーザ採択情報と、呼を発信する前記移動局の能力を制限するように選択的に設定可能なダイヤルロックユーザ採択情報とを含み、ステップ（ｂ）が、受信したユーザ採択信号に応答して受信ロックおよびダイヤルロックユーザ採択情報を自動的に変更するステップを含む、方法。
【請求項２４】 呼を送受信する移動局の能力を選択的に制御する方法であって、前記移動局はユーザ採択情報を格納するメモリを含み、
マスターコントロールユニットにおいて、呼を送受信する選択移動局の能力を規定する選択ユーザ採択情報を含む空中伝搬情報信号を送信するステップと、
前記選択移動局において、選択ユーザ採択情報を含む送信された空中伝搬情報信号を受信するステップと、
受信した空中伝搬情報信号内の選択ユーザ採択情報に従って、前記メモリ内のユーザ採択情報を自動的に変更するステップと、を含む方法。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】本発明は移動通信局のプログラミングに向けられ、特に特定ユーザ情報による移動局のプログラミングに向けられている。
【０００２】
【従来の技術】移動局のプログラミングはかなりよく知られている。移動局（たとえば、セルラー電話機）を購入したら、ユーザは一般的に電話機をサービスプロバイダ（Ｃｅｌｌｕｌａｒ　Ｏｎｅ，Ｕ．Ｓ．Ｃｅｌｌｕｌａｒ，等）へ持ち込んでそれを始動させる。ユーザが口座を開設すると、サービスプロバイダはユーザの電話機をＮＡＭ（番号割当てモジュール）情報によりプログラムして、サービスプロバイダにより提供されるシステム内で作動するように電話機を構成する。始動されると、サービスプロバイダにより提供される強化された特徴を付加したい場合、あるいは既に加入している強化された特徴を消去したい場合に、ユーザは移動局をサービスプロバイダへ持ち込んで強化された特徴を自分の口座に付加したりそこから削除しなければならない。
【０００３】また、一般的に、移動局にはＲ－Ｄａｔａ（アール・データ）トランスポート機構を介して空中伝搬（ｏｖｅｒ　ｔｈｅ　ａｉｒ）によりＮＡＭ情報を受信する能力がある。一般的にＮＡＭ情報はさまざまなレベルに分類され、セキュリティその他の理由から空中伝搬により移動局へ送信できるのは決まった情報だけである。空中伝搬によるＮＡＭ情報の伝送はレベルには依存せず、送られるＮＡＭ情報の特定のタイプに依存する。前記したように、ＮＡＭ情報は限定はしないがＩＳ－１３６システム等のその中で作動するセルラー通信システムに移動局がどのようにインタラクトしアクセスするかを一般的に制御する。
【０００４】例えば、ベンダーから移動局（例えば、セルラー電話機）を購入するユーザが始動のために電話機をサービスプロバイダ（Ｃｅｌｌｕｌａｒ　Ｏｎｅ，Ｕ．Ｓ．Ｃｅｌｌｕｌａｒ，等）へ物理的に持ち込まずに自分の電話機を始動させたいことがある。サービスプロバイダのサービスショップがユーザから地理的に遠すぎたり、ユーザに電話機を持ち込んで始動させるための時間がないことがある。ユーザは購入したセルラー電話機以外の電話機により随意サービスプロバイダとコンタ

クトして、クレジットカード番号を教えてサービスプロバイダに空中伝搬によりセルラー電話機を始動させることができる。始動は基本的にサービスプロバイダがそのシステム内でインタラクトする電話機を構成するNAM情報を空中伝搬によりダウンロードすることからなる。それにより、ユーザは時間およびサービスプロバイダのサービスショップへ物理的に足を運ぶ不便さから免れる。ダウンロードされたNAM情報のいくらかは同機に複製することができる。しかしながら、前記したように、全てのNAM情報を空中伝搬により送信することはできない。

【0005】仕事で使うために会社が従業員にセルラー電話機のような移動局を配る場合、会社は従業員が移動局をそのホームシステムから持ち出す、すなわち、ローミングしている時に従業員が発呼もしくは受呼するのを望まないことがある。あるいは、従業員がそのホームシステムから移動局を持ち出している時は、従業員が決まった呼しか発信もしくは受信しないことを望むことがある。現在、この種のユーザ採択情報はメニュー駆動されるため、会社は従業員に命令して移動局をそのサービスショップへ物理的に持ち込んで再構成させなければならない。それは会社および遠隔地の従業員の両方にとって非常に不便である。

【0006】同じ不便さは家族の構成員、すなわち、子供達のために移動局を購入する両親にもつきまとう。離れた大学にいて900#呼出し、長距離呼出し、等を行うことにより両親の寛容さを乱用する子供の両親は、これらの料金を背負い込み続けるかサービスプロバイダに電話機を使用不能にさせるしか方法がない。両氏にとって従来の有線電話機へのアクセスがない非常事態において移動局は非常に役立つため、両親は電話機を使用不能とすることには躊躇し、自分の子供がかける電話の料金を背負い込み続けるしかないことがある。

【0007】

【発明が解決しようとする課題】本発明は前記した問題点の1つ以上を克服することに向けられている。

【0008】

【課題を解決するための手段】空中伝搬により通信信号を送受信する移動局が提供され、移動局はユーザ採択（ｐｒｅｆｅｒｅｎｃｅ）情報を格納するメモリ、ユーザ採択情報を含む空中伝搬情報信号を受信するようにされた受信機、および受信空中伝搬情報信号内のユーザ採択情報に従ってメモリ内のユーザ採択情報を変更するようにされた移動局内のユーザ採択プログラムを含んでいる。

【0009】一形式において、受信機はＲ－ｄａｔａトランスポートネットワークを介して空中伝搬情報信号を受信するようにされている。

【0010】もう1つの形式において、メモリ内に格納されるユーザ採択情報はグループ電話番号情報および標準電話番号情報を含み、ユーザ採択プログラムは受信ユーザ情報信号に応答してグループ電話番号情報を変更しかつ標準電話番号情報を変更するようにされている。

【0011】別の形式では、メモリ内に格納されるグループ電話番号情報はグループ電話番号および各グループ電話番号に関連するアルファニューメリック識別子を含んでいる。

【0012】もう1つの形式では、グループ電話番号情報はさらに各グループ電話番号に対するローム受信イネーブルフラグおよびローム発信イネーブルフラグを含み、ローム受信イネーブルフラグは関連するグループ電話番号からの移動局における呼の受信を選択的にイネーブル／ディスエーブルし、ローム発信イネーブルフラグは関連するグループ電話番号への移動局における呼の発信を選択的にイネーブル／ディスエーブルする。

【0013】別の形式では、メモリ内に格納される標準電話番号情報は標準電話番号および各標準電話番号に関連するアルファニューメリック識別子を含んでいる。

【0014】もう1つの形式では、ユーザ採択プログラムは受信ユーザ情報信号に応答してグループ電話番号をメモリに追加および削除するようにされている。

【0015】さらにもう1つの形式では、予め選定された量のメモリがグループ電話番号情報を格納するために割り当てられ、ユーザ採択プログラムはグループ電話番号を追加した受信ユーザ情報信号に応答して割り当てられる選定された量のメモリを増大するようにされている。

【0016】さらにもう1つの形式では、メモリ内に格納されるユーザ採択情報は、着呼を受信する移動局の能力を制限するように選択的に設定可能な受信ロックユーザ採択情報と、呼を発信する移動局の能力を制限するように選択的に設定可能なダイヤルロックユーザ採択情報とを含み、ユーザ採択プログラムは、受信ユーザ採択信号に応答して、受信ロックおよびダイヤルロックユーザ採択情報を変更するようにされている。

【0017】また、移動局の発呼および／もしくは受呼能力を選択的に制御するシステムも提供され、それは選択移動局の発呼および／もしくは受呼能力を規定する選択ユーザ採択情報を含む空中伝搬情報信号を送信するように選択的に始動可能なマスターコントロールユニットを含んでいる。マスターコントロールユニットから遠隔の移動局はそのユーザ採択情報を格納するメモリ、マスターコントロールユニットからの空中伝搬情報信号を受信するようにされた受信機、およびマスターコントロールユニットからの空中伝搬情報信号内に受信される選択ユーザ採択情報に従ってメモリ内のユーザ採択情報を変更するようにされたユーザ採択プログラムを含んでいる。

【0018】一形式では、マスターコントロールユニットは空中伝搬情報信号をＲ－ｄａｔａトランスポートネ

ットワークを介して伝送する。

【0019】もう1つの形式では、ユーザ選択情報はグループ電話番号情報および標準電話番号情報を含み、ユーザ選択プログラムは受信情報信号に応答してメモリ内のグループ電話番号情報および標準電話番号情報を変更するようにされている。

【0020】さらにもう1つの形式では、グループ電話番号情報はさらに各グループ電話番号に対するローム受信イネーブルフラグおよびローム発信イネーブルフラグを含み、ローム受信イネーブルフラグは関連するグループ電話番号からの移動局における呼の受信を選択的にイネーブル／ディスエーブルし、ローム発信イネーブルフラグは関連するグループ電話番号への移動局における呼の発信を選択的にイネーブル／ディスエーブルする。

【0021】さらにもう1つの形式では、メモリ内に格納されるユーザ選択情報は移動局の着呼受信能力を制限するように選択的に設定可能な受信ロックユーザ選択情報、および移動局の呼発信能力を制限するように選択的に設定可能なダイヤルロックユーザ選択情報を含み、ユーザ選択プログラムは、受信情報信号に応答して、受信およびダイヤルロックユーザ選択情報を変更するようにされている。

【0022】もう1つの形式では、マスターコントロールユニットは選択移動局の発呼および／もしくは受呼能力を規定するユーザ選択情報を選択的に入力するユーザ可制御入力装置、およびユーザ可制御入力装置から入力ユーザ選択情報を受信し、ユーザ選択情報を含む、空中伝搬情報信号を選択移動局へ送信するメッセージセンターを含んでいる。

【0023】さらにもう1つの形式では、ユーザ可制御入力装置はディスプレイ、メモリおよびコンピュータの動作を制御するユーザ入力装置、およびコンピュータ内で作動するユーザ選択再構成プログラム有するコンピュータを含んでいる。

【0024】本発明のもう1つのアスペクトにおいて、ユーザ選択情報を格納するメモリを含むワイヤレス通信システムで使用する移動局に、（a）ユーザ選択情報を含む空中伝搬情報信号を受信するステップと、（b）受信空中伝搬情報信号内のユーザ選択情報に従ってメモリ内のユーザ選択情報を自動的に変更するステップとを含む、メモリ内に格納されたユーザ選択情報を自動的に変更する方法が提供される。

【0025】一形式では、メモリ内に格納されるユーザ選択情報はグループ電話番号情報および標準電話番号情報を含み、ステップ（b）は受信ユーザ情報信号に応答してグループ電話番号情報および／もしくは標準電話番号情報を自動的に変更するステップを含んでいる。

【0026】もう1つの形式では、メモリ内に格納されるグループ電話番号情報はグループ電話番号、各グループ電話番号に対するローム受信イネーブルフラグを含み、ローム受信イネーブルフラグは関連するグループ電話番号からの移動局における呼の受信を選択的にイネーブル／ディスエーブルし、さらに各グループ電話番号に対するローム発信イネーブルフラグを含み、ローム発信イネーブルフラグは関連するグループ電話番号への移動局における呼の発信を選択的にイネーブル／ディスエーブルする。

【0027】もう1つの形式では、標準電話番号情報は標準電話番号を含んでいる。

【0028】さらにもう1つの形式では、グループ電話番号情報を格納するための選定量のメモリが割り当てられ、ステップ（b）は受信ユーザ情報信号に応答して選定量のメモリを自動的に変更するステップを含んでいる。

【0029】さらにもう1つの形式では、メモリ内に格納されるユーザ選択情報は移動局の着呼受信能力を制限するように選択的に設定可能な受信ロックユーザ選択情報、および移動局の呼発信能力を制限するように選択的に設定可能なダイヤルロックユーザ選択情報を含み、ステップ（b）は、受信ユーザ選択信号に応答して、受信ロックおよびダイヤルロックユーザ選択情報を自動的に変更するステップを含んでいる。

【0030】移動局の発呼および受呼能力を選択的に制御する方法も提供される。この方法は選択移動局の発呼および／もしくは受呼能力を規定する選択ユーザ選択情報を含む空中伝搬情報信号をマスターコントロールユニットにおいて送信するステップと、選択ユーザ選択情報を含む送信空中伝搬情報信号を選択移動局において受信するステップと、受信空中伝搬情報信号内の選択ユーザ選択情報に従ってメモリ内のユーザ選択情報を自動的に変更するステップと、を含んでいる。

【0031】移動局の改善された使用制御を提供することが本発明の目的である。

【0032】所有者がその移動局の他人による使用を選択的に制御できるようにすることも本発明の目的である。

【0033】所有者がその移動局を迅速かつ容易に使用構成できるようにすることが本発明のもう1つの目的である。

【0034】雇用者が所有する移動局の従業員による私用を所有者が容易に制限できるようにすることが本発明のさらにもう1つの目的である。

【0035】雇用者が所有する移動局に関連するコストを最小限に抑えることが本発明のさらにもう1つの目的である。

【0036】

【発明の実施の形態】図1について、本発明を利用できる通信システムを一般的に10に示す。移動局12，14，16は移動交換局（MSC）18を介して互いに通信することができる。便宜上、移動局12，14，16

とMSC18との間に通信リンクを確立する基地局および基地局コントローラは図1から省かれている。移動局12，14，16は公衆交換電話網（PSTN）22を介して陸上回線局20と通信することもできる。

【0037】グループ呼出しサーバ（GCS）24がMSC18と連絡されている。GCS24は本質的に会議呼出しブリッジであり通信システム10内の多くのMSC18間の共用リソースとすることができる。

【0038】GCS24により移動局、陸上回線電話機、等のさまざまな終端装置間でグループ電話呼出しを行うことができる。グループ電話呼出しは本質的に少なくとも3人の加入者間の会議呼出しである。グループには陸上回線局、移動局、および／もしくはダイヤル可能な10桁番号を有しセルラー網および／もしくはPSTNを介してアクセス可能な任意のタイプの通信装置を含むことができる。GCS24は各グループ電話番号および特定グループ内の全構成員の個別の電話番号リストを含むグループ番号データベース（図示せず）を有している。

【0039】特定グループが移動局12，14，16、陸上回線局20および発信局26をその構成員として含むものとする。発信局26は基地局（図示せず）を介してMSC18と連絡された移動局、もしくはPSTN（図示せず）を介してMSC18と連絡された陸上回線局とすることができる。発信局26がグループ電話番号をダイヤルすることによりグループを呼び出すと、グループ電話番号がMSC18へ送られる。GCS24はMSC18からグループ電話番号を受信してそのデータベース内のグループのさまざまな番号を識別し、MSC18を介して各グループ構成員へ別々の呼を発生する。次に、MSC18は各端末ユニット（terminal unit）、すなわち、移動局12，14，16および陸上回線局20へ別々の呼出しを送る。各端末ユニットへの呼出しが接続されると、GCS24は会議呼出しブリッジへの音声経路を含むことになる。

【0040】図2に本発明による移動局を28に示す。移動局28はアンテナ34を介して情報信号32を送受信するトランシーバ30、ユーザによる呼出しを開始する呼イニシエータ36、どの発呼を送信できるかを決定する発呼プログラム38、発呼プログラム38に応答して特定の発呼が禁止されることをユーザに知らせる呼禁止インジケータ40、移動局28によりどの呼を受信できるかを決定する受呼プログラム42、受呼プログラム42に応答して移動局28がある着呼を受け入れられるようにするアクセプタ44、およびアクセプタ44に応答して着呼を有することをユーザに知らせる呼インジケータ46を含んでいる。前記した全要素の動作がプロセッサ48により制御される。

【0041】また、移動局28はそれを至急ラジオと同様に利用できるようにするプッシュトーク（PTT）ボタン50も含むことができる。例えば、PTTボタン50を押下すると送信が行われ、移動局28のマイクロフォン（図示せず）の音が強められてスピーカ（図示せず）の音が弱められ、ユーザは音声信号を送ることができる。PTTボタン50を解放すると、マイクロフォンの音が弱められてスピーカの音が強められユーザは着信音声信号を聞くことができる。

【0042】移動局28はやはりプロセッサ48により制御されるメモリ52も含んでいる。メモリ52はユーザが電話番号およびそれに関連するアルファニューメリックタグ（アルファタグ）（例えば、名称）をプログラムすることができる電話帳として利用される記憶エリアである。好ましくは、メモリ52は移動局28のパワーアップおよびパワーダウンに耐える非揮発性メモリである。

【0043】図3にメモリ52の構造を示す。メモリ52はメモリ位置識別番号を格納する第1のエリア54を含んでいる。第2のエリア56は電話番号を格納する。図3に示すように、第1の25メモリ位置、すなわち、グループメモリエリア58がグループ電話番号に割り当てられており、残りのメモリ位置（26～130）が従来の電話番号に利用されるが、本発明に他の割当て方式を使用することもできる。第3のエリア60は各電話番号に関連するアルファタグを格納する。アルファタグは特定の電話番号を容易に識別するために一般的にユーザにより設定されるアルファニューメリック文字の記号列である。第4のエリア62は各グループ電話番号に対するローム発信イネーブルフラグ（ROEF）を格納する。ROEFは2つの状態"0"および"1"を有する2進ビットとすることができる。ROEFが状態"1"であれば、ローム発信がイネーブルされ移動局28はローミングしながらその特定のグループ電話番号へのグループ呼出しを行うことができる。ROEFが状態"0"であれば、移動局28はローミングしながらその特定のグループ電話番号へのグループ呼出しを行うことができない。

【0044】メモリ52内の第5のエリア64は各グループ電話番号に対するローム受信イネーブルフラグ（RREF）を格納する。RREFも2つの状態"0"および"1"を有する2進ビットとすることができる。RREFが状態"1"であれば、ローム受信がイネーブルされ移動局28はローミングしながらその特定のグループ電話番号からのグループ呼出しを受け入れることができる。RREFが状態"0"であれば、ローム発信がディスエーブルされ移動局28はローミングしながらその特定のグループ電話番号からのグループ呼出しを受信することができない。もちろん、ROEFおよびRREFのイネーブルおよびディスエーブル状態は逆にすることができる。

【0045】メモリ52はダイヤルロック66および受

信ロック６８も格納することができる．ダイヤル６６および受信６８ロックは移動局２８の使用をさらに制御するために選択的に設定することができる．

【００４６】ダイヤルロック６６は呼を発信、もしくはダイヤルアウト、する移動局２８の能力を制限する．移動局２８のダイヤルロック６６における発呼を制限するためにさまざまな選択を始動させることができ、制約はしないが、それには下記のものが含まれる．

（ａ） 全てを許可する（どんな番号でもダイヤルできる）、（ｂ） 全てを制限する（いかなる番号もダイヤルできない）、（ｃ） 市内＋８００＃（したがって、ローミング呼出しを制限する）、（ｄ） メモリのみ、（ｅ） 市内＋８００＃＋メモリのみ、（ｆ） 国際呼出しを制限する、（ｇ） ９００＃呼出しを制限する、（ｈ） オペレータ呼出しを制限する、（ｉ） グループのみ（ＲＯＥＦ＝１のグループメモリエリア５８［図３の位置１－２５］からしか呼を発信できない）．

【００４７】受信ロック６８は着呼を受信する移動局２８の能力を制御する．移動局２８が選択的にある呼しか受信できないようにするために受信ロック６８においてさまざまな選択を始動させることができ、制約はしないが、それには下記のものが含まれる．

（ａ） 全てを許可する

（ｂ） 全てを禁止する、（ｃ） メモリのみ（ページングメッセージ内の発呼者回線ＩＤがいずれかのメモリ位置に格納された電話番号と一致する呼しか受け入れられない）、（ｄ） グループのみ（ページングメッセージ内の発呼者回線ＩＤがＲＲＥＦ＝１を有するグループ電話番号と一致する呼しか受け入れられない）．

【００４８】発呼者回線ＩＤ特徴はセルラー電話機ユーザもしくは陸上回線電話機ユーザに対して着呼を発信した発呼者回線ＩＤアタッチメント装置を有するかどうかを識別する既知の特徴である．呼が向けられるユーザは発呼者の電話番号、もしくは特定のグループ向け呼出しの場合はグループ電話番号、を含み着呼のページメッセージ内の定められたユーザへ送られる発呼者回線ＩＤフィールドを介して呼発信者のアイデンティティーを知る．

【００４９】ＲＯＥＦおよびＲＲＥＦは移動局２８がローミング状態である時しか作用しないことがお判りであろう．ローミングは本質的に移動局２８がそのホームシステムの外部にあることを意味する．ローミングの概念を図４に示す．

【００５０】図４は別々のワイヤレス通信システム、すなわち、セルラーシステム７０，７２，７４，７６を示す．各システム７０，７２，７４，７６は異なる地理的エリアをサービスし、したがって、異なる地理的境界を含んでいる．移動局が特定の通信システムの地理的境界内にある時は、その特定の通信システムを使用してその呼を送受信する．

【００５１】どのようにローミングが生じるかを示すために，移動局２８はそのホームシステムとしてシステム７０を有する、すなわち、移動局２８のユーザは通信システム７０と取引しているものとする，移動局２８はシステム７０の地理的境界の外側を移動する時は，ローミングしているとみなされる．すなわち，移動局２８は位置Ａへ移動するとシステム７２内をローミングしており、位置Ｂへ移動するとシステム７４内をローミングしており、同様に、位置Ｃへ移動するとシステム７６内をローミングしている．

【００５２】図２に戻って，移動局２８はＮＡＭ（番号割当てモジュール）情報を格納するためのＮＡＭ記憶エリア７８を含んでいる．ＮＡＭ情報は端末、すなわち移動局、をネットワークすなわちシステム内で作動するように構成する．ＮＡＭ情報は移動局２８がユーザインターフェイスを介してどのように作動するかには関係しない．

【００５３】移動局２８にはＮＡＭ情報が移動する情報ハイウェイと考えることができるＲ－Ｄａｔａトランスポートネットワークを介してＮＡＭ情報を空中伝搬により受信する能力がある．空中伝搬により伝送されるＮＡＭ情報メッセージはそれをＯＡＡ（空中伝搬始動）メッセージとして識別するデータストリームの始のヘッダー内の情報要素によりＳＭＳ（ショートメッセージサービス）とは異なっている．移動局２８はヘッダー内の情報要素を調べて着信情報をＳＭＳもしくはＯＡＡとして識別し、データを適切に処理する．

【００５４】本発明による移動局２８には信号８０を介して空中伝搬によりユーザデータ、すなわち選択、情報を受信する能力もある．好ましくは、このユーザデータ情報も既設のＲ－Ｄａｔａトランスポートネットワークを介して伝送され、さまざまな電話番号（グループおよび標準）および図３に関して前記したダイヤルおよび受信ロック情報からなっている．したがって、Ｒ－Ｄａｔａトランスポートネットワークを介して信号８０を受信する場合、ＮＡＭ記憶エリア７８へのアクセスを有しプロセッサ４８により制御される移動局２８内のユーザ選択プログラム８２により、信号８０がＮＡＭ情報を含むかユーザデータ情報を含むかが確認されそれに従って信号８０（その中のデータ）が処理される．

【００５５】ユーザ選択プログラム８２の動作について検討する前に、Ｒ－Ｄａｔａトランスポートネットワークを介してのユーザデータ情報の発生および伝送について検討する．

【００５６】Ｒ－Ｄａｔａトランスポートネットワークを介してユーザデータ情報を発生して伝送するシステムを図５に一般的に８４で示す．基本的な前提は移動局２８から遠隔の個人が移動局２８の使用を構成もしくは制限したいということである．例えば、従業員にセルラー電話機を提供する会社は従業員によるそのセルラー電話

機の使用を制限したいことがある。会社は特定の電話機がある時（グループ呼や構内呼）しか発信もしくは受信できないように制限したり、また／あるいは前記したように各電話機に異なるダイヤルおよび受信ロック特徴を設定したいことがある。本発明により、各従業員が自分のセルラー電話機を会社もしくはサービスプロバイダのサービスショップへ持ち込んで再構成するのではなく、会社がこのユーザ選択情報を空中伝播により特定の各セルラー電話機へダウンロードして本質的にその移動局の使用を制御することができる。

【００５７】好ましい形式では、インターネットブラウザアプリケーション８６が移動局２８から遠隔のコンピュータ（図示せず）内に含まれる。おそらく、コンピュータは会社の構内に配置される。インターネットブラウザアプリケーション８６はインターネット８８を介したＧＣＳ２４へのリンクを有し、ＧＣＳ２４データベースの中を調べてその中に格納されたさまざまなグループおよび各グループの構成員を調べることができ、雇用者がＧＣＳ２４データベースへアクセスしてグループを追加／削除しかつ／もくしはグループ内の構成員を追加／削除できるようにする。ＧＣＳ２４データベースを修正した後で、修正情報はメッセージセンター９０、ＭＳＣ１８、基地局９２、および空中信号８０を介して関連する移動局２８へ通される。

【００５８】例えば、グループＡが構成員ａ，ｂ，ｃ，ｄを含むものとする。雇用者がグループＡ内にさらに構成員ｅ，ｆを含めたい場合、雇用者はインターネットブラウザアプリケーション８６およびインターネット８８を介してＧＣＳ２４へアクセスし、構成員ｅ，ｆの電話番号をグループＡに追加することにより構成員ｅ，ｆをグループＡに含めるようにＧＣＳ２４データベースを再構成する。したがって、その後構成員"ａ"がグループＡへ呼出しを開始すると、ＧＣＳ２４は構成員ｂ，ｃ，ｄ，ｅ，ｆへページメッセージを送る。

【００５９】また、雇用者はこの変更をメッセージセンター９０へ知らせ、メッセージセンター９０はＲ－Ｄａｔａトランスポートネットワークを使用して構成員ｅ，ｆへそれらの移動局２８のメモリ５２内にグループＡを含めるのに十分なグループ情報を含む信号８０（その詳細については後述する）をＭＳＣ１８および基地局９２を介して送る。恐らく構成員ａ，ｂ，ｃ，ｄはそれらの各移動局のメモリ内にグループＡに対する電話番号その他の関連情報を既に格納しているため、なんら信号を受信する必要がないことがお判りであろう。

【００６０】もう１つの例として、グループＢは構成員ｘ，ｙ，ｚを含むものとする。さらに、雇用者は構成員ｗ，ｘ，ｙしか含まないようにグループＢを修正したいものとする。雇用者はインターネットブラウザアプリケーション８６およびインターネット８８を介してＧＣＳ２４へアクセスし、構成員ｗの電話番号をグループＢに付加し構成員ｚの電話番号をグループＢから削除することによりグループＢを修正する。この修正もインターネットブラウザアプリケーション８６からメッセージセンター９０へ送られ、前記したようにそこから構成員ｗ，ｚへ適切な信号が送られる。構成員ｗは自分をグループＢ内に含めるのに十分なグループ情報を受信し、構成員ｚはそのメモリから削除されたグループＢに関する全ての情報を有する。

【００６１】構内電話番号、関連するアルファタグ、ダイヤルロック６６および受信ロック６８を含むメモリ５２内に格納される他のユーザ選択情報（図３）の修正は前記したように行われ、唯一の違いは他の情報がグループ関係ではないためＧＣＳ２４にアクセスする必要がないことである。

【００６２】Ｒ－Ｄａｔａトランスポートネットワーク両端間でメッセージセンター９０により移動局２８へ送られるユーザデータ情報を含む信号８０の構造を図６に示す。（信号８０は移動局２８で受信されプロセッサ４８を介してユーザ選択プログラム８２へ送られる）。信号８０は一般的にヘッダーフィールド９４（１バイト）、グループメモリ割当てフィールド９６（１バイト）、送信グループ位置９８に対する番号フィールド（１バイト）、送信グループ情報１００（２０バイト／グループ）、送信標準位置１０２に対する番号フィールド（１バイト）、送信標準情報１０４（１９バイト／標準位置）、受信ロックフィールド１０６（１バイト）および任意ロックフィールド１０８（１バイト）を含むいくつかの可変長データフィールドを含んでいる。前記フィールドは全てユーザインターフェイスを介して作動する移動局２８を構成するユーザデータ情報を含んでいる。各フィールドに対する前記したバイト長は例にすぎず、他のビット／バイトフィールド長が考えられる。

【００６３】次に、図２，３，６および７についてユーザ選択プログラム８２の動作について説明する。信号８０を受信すると（ブロック１１０）ユーザ選択プログラム８２はヘッダー情報９４を解析して信号８０がユーザデータ情報を含むかどうかを確認する（ブロック１１２）。ユーザ選択プログラム８２がヘッダー情報９４から信号８０はＮＡＭ情報信号であることを確認すると、信号はＮＡＭ記憶エリア７８へ送られて（ブロック１１４）処理される。

【００６４】ブロック１１２において信号８０がユーザデータ情報を含むことをヘッダー９４が示す場合には、グループメモリ割当てフィールド９６が解析されて追加グループ電話番号に対して追加グループメモリモリアを割り当てるべきかどうかが確認される（ブロック１１６）。グループメモリ割当てフィールド９６内で０以外の値が見つかる場合には（図３に示す例では、メモリ５２内に１３０のメモリ位置が含まれるためこの値も１３０より大きくはない）、ユーザ選択プログラム８２は

その必要のメモリをグループ情報へ向けて割り当てる（ブロック１１８）．例えば，グループメモリ割当てフィールド９６が番号３０を含む場合，ユーザ選択プログラム８２はブロック１１８においてグループ情報に対してさらに５つのメモリ位置を割り当てて，グループメモリ位置の総数を３０とする．必ずしも１対１の対応ではないが，グループメモリへ向けた割当ては標準メモリ位置から得られることをお判り願いたい．

【００６５】前記した再割当て後のメモリ５２の典型的な割当て構造を図８に示す．グループメモリ５２'は３０グループメモリ位置に増加しているが，メモリ位置の総数は１２７へ減少しており（グループ番号がさらにメモリを必要とするため），標準メモリ位置は減少することがお判りであろう．

【００６６】ブロック１１６においてグループメモリ割当てフィールド９６内に０が見つかる場合，それは現在のグループメモリ割当てが完璧であることを示し，ユーザ選択プログラム８２はブロック１２０へ進んで送信グループ位置フィールド９８内の情報を解析することによりなんらかのグループ情報が送信されているかどうかを確認する．例えば，フィールド９８内に２が見つかる場合には，ユーザ選択プログラム８２は２つのグループに関連する情報が信号内に含まれていることを知る．一般的にグループ当たり２０バイトの情報が割り当てられるため，ユーザ選択プログラム８２は送信される第１のグループに関連する情報に対しては次の２０バイトを調べ，送信される第２のグループに関連する情報に対しては次の２０バイトを調べることを知っている（ブロック１２３）．図３に示すように，グループ情報は位置番号５４，グループ電話番号５６，アルファタグ６０，ＲＯＥＦ６２，およびＲＥＥＦ６４からなっている．

【００６７】ブロック１２３においてグループ情報が変更された後で，すなわちブロック１２０においていかなるグループも送信されていないことが確認されると（フィールド９８において０が見つかった），ユーザ選択プログラム８２はブロック１２４においてフィールド１０３を解析することによりなんらかの標準メモリ位置が送信されているかどうかを確認する．フィールド１０２内に０以外の値が見つかる場合には，ユーザ選択プログラム８２はある数の標準メモリ位置に関連する情報が送信されていることを知りブロック１２６へ進む．例えば，フィールド１０２内に５が送信される場合，ユーザ選択プログラム８２は５つの標準メモリ位置に関連する情報が送信されていることを知る．一般的に各標準メモリ位置に対して１９バイトが割り当てられるため，ユーザ選択プログラム８２はブロック１２６において送信標準メモリ位置に関連する情報について次の９５バイト（５×１９）を調べることを知っている．標準情報は位置番号５４，標準電話番号５６およびアルファタグ６０からなっている．

【００６８】ブロック１２６においてユーザ選択プログラム８２が標準情報を変更した後で，すなわちブロック１２４においていかなる標準メモリ位置も送信されていないことが確認されると（フィールド１０２において０が見つかった），ユーザ選択プログラム８２はブロック１２８において受信フィールド１０６を解析する．

【００６９】ブロック１２８において受信ロック選択を修正すべきことが確認されると，ユーザ選択プログラム８２はブロック１３０へ進んで受信ロック６８内に適切な選択を設定する．完了後，すなわちブロック１２８において修正不要であることが確認されると（受信ロックフィールド１０６内に０が見つかる），ユーザ選択プログラムはブロック１３２においてダイヤルロック選択フィールド１０８を解析する．

【００７０】ブロック１３２においてダイヤルロック選択を修正すべきことが確認されると，ユーザ選択プログラム８２はブロック１３４へ進んでダイヤルロック６６内に適切な選択を設定する．完了後，すなわちブロック１３２において修正不要であることが確認されると（ダイヤルロックフィールド１０８内に０が見つかる），ユーザ選択プログラム８２が終了する（ブロック１３６）．

【００７１】前記した例におけるバイト割当ては単なる代表例にすぎず，本発明の精神および範囲内で信号８０の特定の構成を再構成することができる．

【００７２】さらに，移動局２８にはメモリ５２内に含まれるいかなる情報も変更できないうちに入力しなければならないセキュリティコードが一般的に設けられることをお判り願いたい．従業員が自分達の移動局を私用のために再構成することがないように，このセキュリティコードは従業員には開示されない．信号８０がユーザ選択情報を含むことを感知すると，ユーザ選択プログラム８２はセキュリティコードをバイパスもしくは模倣で，メモリ５２内のユーザ選択情報が信号８０内の送信情報に従って変更されるようにすることができる．

【００７３】本発明は所有者にその移動局の改善された使用制御を提供する．所有者は移動局をサービスショップへ物理的に持ち込んだりさらに／もしくはサービスプロバイダーからの応答を必要とすることなくその移動局を使用するように構成かつ再構成することができる．それは従業員に移動局を提供している雇用者であって，従業員がこの特権を乱用して雇用者の移動局を私用に使いすぎている雇用者にとって特に有用である．雇用者は，自分の都合で，選択した移動局をある番号の呼出ししか受信および／もしくは送信できないように容易かつ迅速に構成することができ，またその全てを従業員が電話機をサービスショップへ物理的に持ち込んで再構成させることなく行うことができる．したがって，雇用者はこのような移動局に関連するそのコストを最小限に抑えることができる．

【0074】図面を詳細に参照して本発明を説明してきたが、本発明の精神および範囲を逸脱することなくさまざまな修正を行えることをご理解願いたい。

【図面の簡単な説明】

【図1】本発明を利用できる標準通信システムのブロック図。

【図2】本発明の移動局のブロック図。

【図3】図2に示すメモリの拡大図。

【図4】4つの別々のワイヤレス通信システムおよび別々のシステム内の移動局のローミングを示す図。

【図5】R-Datatransportネットワークの両端間で移動局へユーザデータ情報を発生して送信するシステムのブロック図。

【図6】図5に示すシステムにより送信されるユーザデータ情報を含む信号の典型的な構造を示す図。

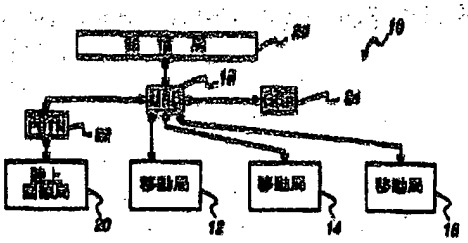
【図7】図2に示す移動局によるユーザデータ情報を含む信号の受信および処理を示すフロー図。

【図8】移動局メモリの修正バージョンの拡大図。

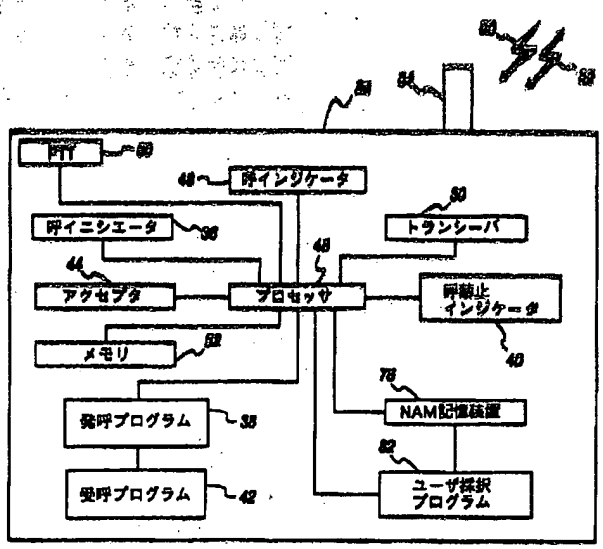
【符号の説明】

10　通信システム
12，14，16，28　移動局
18　移動交換局
20　陸上回線局
22　公衆交換電話網
24　グループ呼出しサーバ
26　発信局
30　トランシーバ
32，80　通信信号
34　アンテナ
36　呼イニシエータ
38　発呼プログラム
40　呼禁止イニシエータ
42　受呼プログラム
44　アクセプタ
46　呼表示器
48　プロセッサ
50　プッシュトークボタン
52　メモリ
54　第1のエリア
56　第3のエリア
58　グループメモリエリア
60　第3のエリア
62　第4のエリア
64　第5のエリア
66　ダイヤルロック
68　受信ロック
70，72，74，76　セルラーシステム
78　NAM記憶エリア
82　ユーザ選択プログラム
84　R-Datatransportネットワーク
86　インターネットブラウザアプリケーション
88　インターネット
90　メッセージセンター
92　基地局

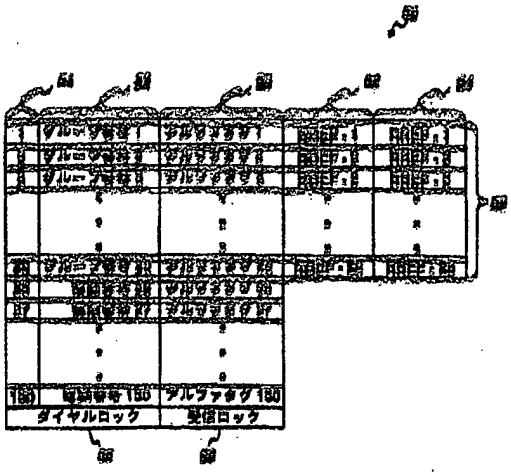
【図1】



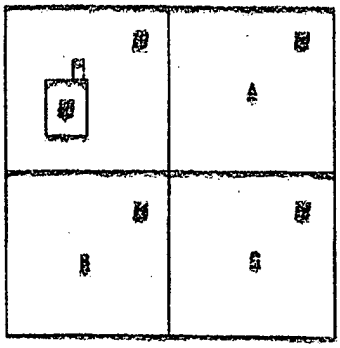
【図2】



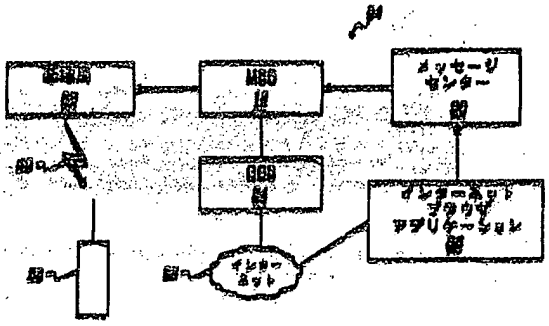
【図3】


ダイヤルロック
受信ロック

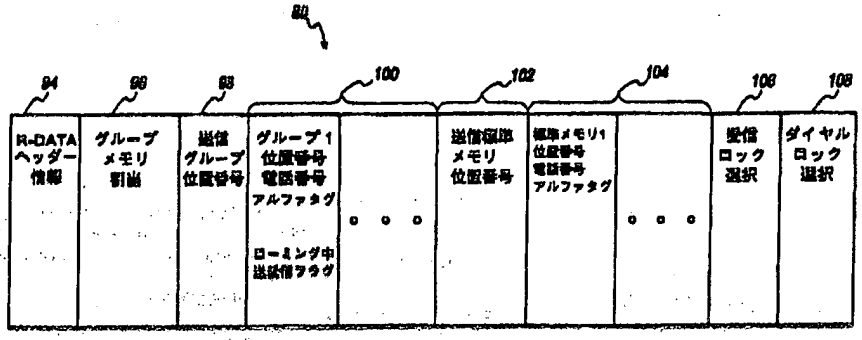
【図4】



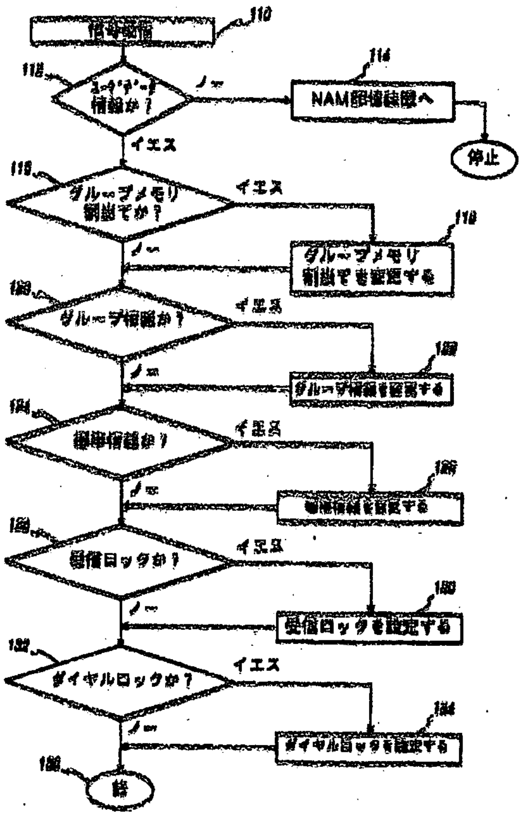
【図5】


MSC
メッセージセンター
インターネット

【図6】


R-DATAヘッダー情報
グループメモリ割当
送信グループ位置番号
グループ1位置番号
電話番号
アルファタグ
ローミング中送信可フラグ
送信禁止メモリ位置番号
標準メモリ1位置番号
電話番号
アルファタグ
受信ロック選択
ダイヤルロック選択

【図7】



【図8】

58

54'	56	60	62	64
1	グループ番号1	アルファタグ1	ROEF・1	RREF・1
2	グループ番号2	アルファタグ2	ROEF・2	RREF・2
3	グループ番号3	アルファタグ3	ROEF・3	RREF・3
	・・・	・・・	・・・	・・・
29	グループ番号29	アルファタグ29	ROEF・29	RREF・29
30	グループ番号30	アルファタグ30	ROEF・30	RREF・30
31	個別番号31	アルファタグ31		
32	個別番号32	アルファタグ32		
	・・・	・・・		
196	個別番号196	アルファタグ196		
197	個別番号197	アルファタグ197		
ダイヤルロック		受信ロック		

52 (rows 1–30) 66 68

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/296,571	Eveline Wesby Van Swaay	PA2652US

INTERNATIONAL APPLICATION NO.	
PCT/EP01/05738	
I.A. FILING DATE	PRIORITY DATE
05/18/2001	05/23/2000

22830
CARR & FERRELL LLP
2225 EAST BAYSHORE ROAD
SUITE 200
PALO ALTO, CA 94303

CONFIRMATION NO. 7523

371 ACCEPTANCE LETTER

OC000000010525985

Date Mailed: 07/21/2003

NOTICE OF ACCEPTANCE OF APPLICATION UNDER 35 U.S.C 371 AND 37 CFR 1.495

The applicant is hereby advised that the United States Patent and Trademark Office in its capacity as a Designated / Elected Office (37 CFR 1.495), has determined that the above identified international application has met the requirements of 35 U.S.C. 371, and is ACCEPTED for national patentability examination in the United States Patent and Trademark Office.

The United States Application Number assigned to the application is shown above and the relevant dates are:

01/21/2003	01/21/2003
DATE OF RECEIPT OF 35 U.S.C. 371(c)(1), (c)(2) and (c)(4) REQUIREMENTS	DATE OF RECEIPT OF ALL 35 U.S.C. 371 REQUIREMENTS

A Filing Receipt (PTO-103X) will be issued for the present application in due course. **THE DATE APPEARING ON THE FILING RECEIPT AS THE " FILING DATE" IS THE DATE ON WHICH THE LAST OF THE 35 U.S.C. 371 REQUIREMENTS HAS BEEN RECEIVED IN THE OFFICE. THIS DATE IS SHOWN ABOVE.** *The filing date of the above identified application is the international filing date of the international application (Article 11(3) and 35 U.S.C. 363).* Once the Filing Receipt has been received, send all correspondence to the Group Art Unit designated thereon.

The following items have been received:

- Indication of Small Entity Status
- Copy of the International Application filed on 11/22/2002
- Copy of the International Search Report filed on 11/22/2002
- Copy of IPE Report filed on 11/22/2002
- Copy of Annexes to the IPER filed on 01/21/2003
- Preliminary Amendments filed on 11/22/2002
- Oath or Declaration filed on 01/21/2003
- Request for Immediate Examination filed on 11/22/2002
- Copy of references cited in ISR filed on 11/22/2002
- U.S. Basic National Fees filed on 11/22/2002

The following defects have been observed:

- Annexes have not been entered because the annexes are not a page for page substitution.

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

KAREN M WILLIAMS
Telephone: (703) 305-3688

PART 3 - OFFICE COPY

FORM PCT/DO/EO/903 (371 Acceptance Notice)

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Eveline Wesby Van Swaay
INT'L APPL. NO.:	PCT/EP01/05738
U.S. SERIAL NO.:	10/296,571
U.S. FILING DATE:	November 22, 2002
INT'L. FILING DATE:	May 18, 2001
INT'L PRIORITY DATE:	May 23, 2000
TITLE:	Programmable Communicator
ATTY.DKT.NO.:	PA2652US

CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Box PCT, Commissioner for Patents, Washington, D.C. 20231, on the date printed below:

Date: March 31, 2003

Scott S. Kokka

BOX PCT
COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

RESPONSE TO NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. §371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

Sir or Madam:

In response to the Notification of Missing Requirements mailed on March 10, 2003, please find attached the required Declaration of the inventors, in compliance with 37 C.F.R. §1.497(a) and (b), identifying the application by international application

number and international filing date. Also, please note that the Declaration was originally filed with the U.S. Patent and Trademark Office on January 13, 2003 and received by the Office of Initial Patent Examination on January 21, 2003, as indicated on the date stamp of the return postcard. Copies of the originally filed documents are included for your review.

If the Examiner has any questions regarding this case, the Examiner is invited to contact Applicant's undersigned representative at the number given below.

Respectfully submitted,

Eveline Wesby-Van Swaay

Date: March 31, 2003 By: _____

Scott S. Kokka, Reg. No. 51,893
Carr & Ferrell LLP
2225 East Bayshore Road, Suite 200
Palo Alto, CA 94303
Phone: (650) 812-3400
Fax: (650) 812-3444

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents, Box PCT
United States Patent and Trademark Office
Washington, D.C. 20231
www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/296,571	Eveline Wesby Van Swaay	PA2652US

INTERNATIONAL APPLICATION NO.	
PCT/EP01/05738	
I.A. FILING DATE	PRIORITY DATE
05/18/2001	05/23/2000

Scott S Kokka
Carr & Ferrell
2225 E Bayshore Rd
Suite 200
Palo Alto, CA 94303

CONFIRMATION NO. 7523

371 FORMALITIES LETTER

OC000000009618706

Date Mailed: 03/10/2003

NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as an Elected Office (37 CFR 1.495):

- U.S. Basic National Fees
- Indication of Small Entity Status
- Priority Document
- Copy of IPE Report
- Copy of references cited in ISR
- Copy of the International Application
- Copy of the International Search Report
- Preliminary Amendments
- Request for Immediate Examination

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.

ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTH FROM THE DATE OF THIS NOTICE OR BY 22 or 32 MONTHS (where 37 CFR 1.495 applies) FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

KAREN M WILLIAMS

Telephone: (703) 305-3688

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/296,571	PCT/EP01/05738	PA2652US

FORM PCT/DO/EO/905 (371 Formalities Notice)

Please type a plus sign (+) inside this box → [+]

PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/296,571
Filing Date	November 22, 2002
First Named Inventor	Eveline Wesby Van Swaay
Group Art Unit	Unknown
Examiner Name	Unknown
Total Number of Pages in This Submission: 13	Attorney Docket Number: PA2652US

ENCLOSURES *(check all that apply)*

- [ ] Fee Transmittal Form
  - [ ] Fee Attached
- [ ] Amendment / Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Assignment Papers *(for an Application)*
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
- [ ] After Allowance Communication to Group
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to Group (*Appeal Notice, Brief, Reply Brief*)
- [ ] Proprietary Information
- [ ] Status Letter
- [x] Other Enclosure(s) *(please identify below)*:

Copy of Notification of Missing Requirements Under 35 U.S.C. 371; Response to Notification of Missing Requirements Under 35 U.S.C. 371; Declaration and Power of Attorney; Copies of previously filed (1/13/03) documents for Declaration (6 pgs.)

Remarks

Total page number does not include postcard.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm *or* Individual name	Carr & Ferrell LLP Cust. No. 22830
Signature	Reg. No. 51,893
Date	March 31, 2003

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: March 31, 2003

Typed or printed name	Scott S. Kokka, Reg. No. 51,893		
Signature		Date	March 31, 2003

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	Unknown
Filing Date	November 22, 2002
First Named Inventor	Eveline Wesby-Van Swaay
Group Art Unit	Unknown
Examiner Name	Unknown
Total Number of Pages in This Submission: 5	Attorney Docket Number: PA2652US

ENCLOSURES *(check all that apply)*

- [X] Fee Transmittal Form
  - [X] Fee Attached
- [ ] Amendment / Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Assignment Papers *(for an Application)*
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
- [ ] After Allowance Communication to Group
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- [ ] Proprietary Information
- [ ] Status Letter
- [X] Other Enclosure(s) *(please identify below)*:

Postcard;
Declaration and Power of Attorney;
Check for $65.00

Remarks

Total page number does not include postcard and check.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

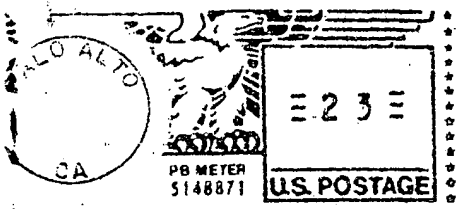
Firm *or* Individual name	Carr & Ferrell LLP Cust. No. 22830
Signature	Reg. No. 51,893
Date	January 13, 2003

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: January 13, 2003

Typed or printed name	Scott S. Kokka, Reg. No. 51,893		
Signature		Date	January 13, 2003

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



CARR & FERRELL *LLP*
Attention: Patent Department
2225 East Bayshore Road
Suite 200
Palo Alto, CA 94303

Patent/Serial No.: Unknown 10/296,571 Issue/Filing Date: November 22, 2002
Title: Programmable Communicator
Inventor(s)/Applicant(s): Eveline Wesby-Van Swaay
Docket No.: PA2652US Atty/Sec. Initials: SSK/dcg
Date Mailed: January 13, 2003 Delivery Method: First Class Mail

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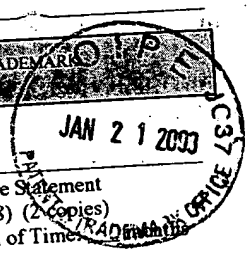

- ☒ Transmittal/Cover: PTO/SB/21 ; 1 pages
- ☐ Provisional Appl.: ___ pages (incl. drawings)
- ☐ Utility Specification: ___ pages (incl. claims & abstract)
- ☐ Continuation/Divisional Specification.: ___ pgs
- ☐ Design Specification: ___ pages
- ☐ Drawings: ___ # of sheets incl. ___ FIGs.
- ☒ Declaration & POA: 2 pages
- ☒ Fee Transmittal (PTO/SB/17) (2 copies)
- ☒ Check in the amount of $ 65.00
- ☐ Assignment & Assign. Cover Sheet ___ pgs.
- ☐ Amendment/Response ___ pages.
- ☐ Other: ___
- ☒ Certificate of Mailing
- ☐ Express Mail No. ___
- ☐ Information Disclosure Statement
- ☐ IDS form (PTO/SB/08) (2 copies)
- ☐ Petition for Extension of Time
- ☐ Petition for: ___
- ☐ Issue Fee Transmittal (2 copies)
- ☐ PCT Application: ___ pgs of specification (w/claims & abstract)
- ☐ PCT Demand ___ pages
- ☐ PCT Request ___ pages

DT07 Rec'd PCT/PTO 21 JAN 2003

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PTO/SB/17 (01-03)
Approved for use through 04/30/2003. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($)65.00

Complete if Known	
Application Number	Unknown
Filing Date	November 22, 2002
First Named Inventor	Eveline Wesby-Van Swaay
Examiner Name	Unknown
Art Unit	Unknown
Attorney Docket No.	PA2652US

METHOD OF PAYMENT *(check all that apply)*

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 06-0600

Deposit Account Name: Carr & Ferrell, LLP

The Commissioner is authorized to: *(check all that apply)*

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☐ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($) 0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below	Fee Paid
Total Claims	0	- 20 =		x	= 0
Independent Claims		- 3 =		x	= 0
Multiple Dependent					= 0

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	84	2201	42	Independent claims in excess of 3
1203	280	2203	140	Multiple dependent claim, if not paid
1204	84	2204	42	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
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1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
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1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 65

SUBMITTED BY				(Complete *(if applicable)*)	
Name *(Print/Type)*	Scott S. Kokka	Registration No. *(Attorney/Agent)*	51,893	Telephone	(650) 812-3467
Signature				Date	January 13, 2003

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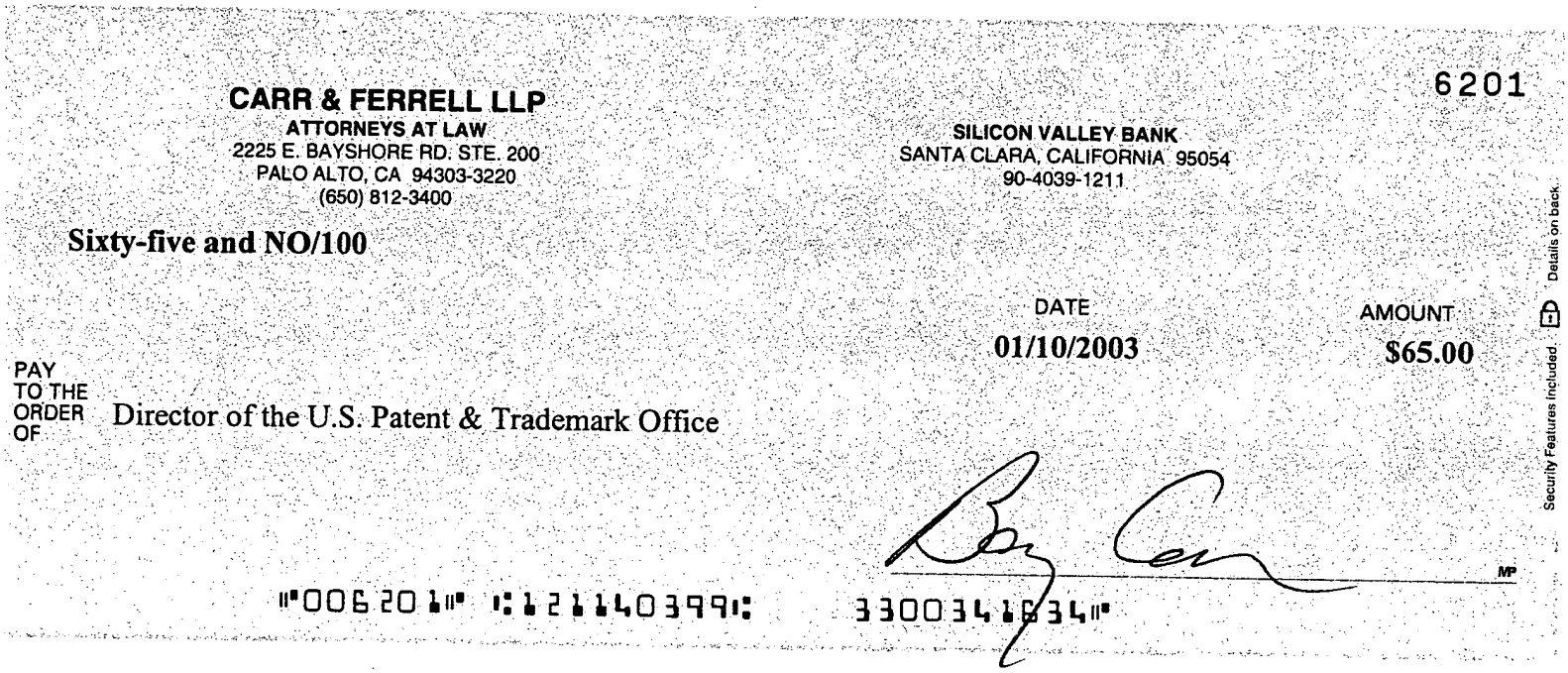
CARR & FERRELL LLP
ATTORNEYS AT LAW

Director of the U.S. Patent & Trademark Office 01/10/2003 6201

INVOICE DATE	INVOICE NUMBER/REFERENCE	INVOICE AMOUNT	DISCOUNT	BALANCE
01/10/2003	CKREQ\DCG . Reddie & Grose/PA 2652: declaration fee	$65.00	$0.00	$65.00

Check Number: 6201 **Check Total:** $65.00



6201

CARR & FERRELL LLP
ATTORNEYS AT LAW
2225 E. BAYSHORE RD. STE. 200
PALO ALTO, CA 94303-3220
(650) 812-3400

SILICON VALLEY BANK
SANTA CLARA, CALIFORNIA 95054
90-4039-1211

Sixty-five and NO/100

DATE
01/10/2003

AMOUNT
$65.00

PAY TO THE ORDER OF Director of the U.S. Patent & Trademark Office

MP

⑈006201⑈ ⑆121140399⑆ 3300341834⑈

Details on back. Security Features Included.

ATTORNEY'S DOCKET NO.: PA2652US

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled

"Programmable Communicator"

the specification of which:

| | is attached hereto.
|X| was filed on November 22, 2002 as a U.S. National Phase Application with U.S. Application No. pending of PCT International Application No. PCT/EP01/05738 and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

POWER OF ATTORNEY: I hereby appoint the attorney(s) and/or agent(s) associated with the customer number **22830** to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

SEND ALL CORRESPONDENCE TO:

Scott S. Kokka
CARR & FERRELL *LLP*
2225 East Bayshore Road, Suite 200
Palo Alto, CA 94303
TEL: (650) 812-3400
FAX: (650) 812-3444

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first inventor: Eveline Wesby Van Swaay Citizenship: Dutch

Inventor's signature: _____ Dated: 12.12.2002

Residence Address: CAMDEN HOUSE, SCHOOL LANE, TIDDINGTON,

Mailing Address: STRATFORD UPON AVON, CV37 7AJ, UNITED KINGDOM

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents, Box PCT
United States Patent and Trademark Office
Washington, D.C. 20231
www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/296,571	Eveline Wesby Van Swaay	PA2652US

INTERNATIONAL APPLICATION NO.	
PCT/EP01/05738	
I.A. FILING DATE	PRIORITY DATE
05/18/2001	05/23/2000

Scott S Kokka
Carr & Ferrell
2225 E Bayshore Rd
Suite 200
Palo Alto, CA 94303

CONFIRMATION NO. 7523

371 FORMALITIES LETTER

OC000000009618706

Date Mailed: 03/10/2003

NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as an Elected Office (37 CFR 1.495):

- U.S. Basic National Fees
- Indication of Small Entity Status
- Priority Document
- Copy of IPE Report
- Copy of references cited in ISR
- Copy of the International Application
- Copy of the International Search Report
- Preliminary Amendments
- Request for Immediate Examination

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.

ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTH FROM THE DATE OF THIS NOTICE OR BY 22 or 32 MONTHS (where 37 CFR 1.495 applies) FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

KAREN M WILLIAMS

Telephone: (703) 305-3688

PART 2 - OFFICE COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/296,571	PCT/EP01/05738	PA2652US

FORM PCT/DO/EO/905 (371 Formalities Notice)

OIPE
JAN 21 2003
PATENT & TRADEMARK OFFICE

PCT 9

DT07 Rec'd PCT/PTO 21 JAN 2003

Please type a plus sign (+) inside this box → [+]

PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	Unknown 10,296,571
Filing Date	November 22, 2002
First Named Inventor	Eveline Wesby-Van Swaay
Group Art Unit	Unknown
Examiner Name	Unknown
Total Number of Pages in This Submission: 5	Attorney Docket Number: PA2652US

ENCLOSURES *(check all that apply)*

- [X] Fee Transmittal Form
  - [X] Fee Attached
- [ ] Amendment / Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Assignment Papers *(for an Application)*
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
- [ ] After Allowance Communication to Group
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- [ ] Proprietary Information
- [ ] Status Letter
- [X] Other Enclosure(s) *(please identify below)*:

Postcard;
Declaration and Power of Attorney;
Check for $65.00

Remarks

Total page number does not include postcard and check.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Carr & Ferrell LLP Cust. No. 22830
Signature	Reg. No. 51,893
Date	January 13, 2003

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: January 13, 2003

Typed or printed name	Scott S. Kokka, Reg. No. 51,893		
Signature		Date	January 13, 2003

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

O I P E
JAN 21 2003
PATENT & TRADEMARK OFFICE

PTO/SB/17 (01-03)
Approved for use through 04/30/2003. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($)65.00

Complet if Known	
Application Number	Unknown
Filing Date	November 22, 2002
First Named Inventor	Eveline Wesby-Van Swaay
Examiner Name	Unknown
Art Unit	Unknown
Attorney Docket No.	PA2652US

METHOD OF PAYMENT *(check all that apply)*

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 06-0600

Deposit Account Name: Carr & Ferrell, LLP

The Commissioner is authorized to: *(check all that apply)*

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☐ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($) 0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below	Fee Paid
Total Claims	0 - 20 =		x		=0
Independent Claims	- 3 =		x		=0
Multiple Dependent					=0

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
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SUBTOTAL (2) ($) 0

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
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8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
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1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 65

SUBMITTED BY				(Complete *if applicable*)	
Name *(Print/Type)*	Scott S. Kokka	Registration No. *(Attorney/Agent)*	51,893	Telephone	(650) 812-3467
Signature				Date	January 13, 2003

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UIPE JC37 JAN 21 2003 PATENT & TRADEMARK OFFICE

PTO/SB/17 (01-03)
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☒ Applicant claims small entity status. See 37 CFR 1.27

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Complete if Known	
Application Number	Unknown
Filing Date	November 22, 2002
First Named Inventor	Eveline Wesby-Van Swaay
Examiner Name	Unknown
Art Unit	Unknown
Attorney Docket No.	PA2652US

METHOD OF PAYMENT *(check all that apply)*

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 06-0600

Deposit Account Name: Carr & Ferrell, LLP

The Commissioner is authorized to: *(check all that apply)*

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☐ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

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***or number previously paid, if greater; For Reissues, see above*

FEE CALCULATION (continued)

3. ADDITIONAL FEES

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Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 65

SUBMITTED BY				(Complete *if applicable*)	
Name (Print/Type)	Scott S. Kokka	Registration No. (Attorney/Agent)	51,893	Telephone	(650) 812-3467
Signature				Date	January 13, 2003

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O I P E JC37
JAN 21 2003
PATENT & TRADEMARK OFFICE

ATTORNEY'S DOCKET NO.: PA2652US

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled

"**Programmable Communicator**"

the specification of which:

| | is attached hereto.
| X | was filed on November 22, 2002 as a U.S. National Phase Application with U.S. Application No. pending of PCT International Application No. PCT/EP01/05738 and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

POWER OF ATTORNEY: I hereby appoint the attorney(s) and/or agent(s) associated with the customer number 22830 to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

SEND ALL CORRESPONDENCE TO:

Scott S. Kokka
CARR & FERRELL *LLP*
2225 East Bayshore Road, Suite 200
Palo Alto, CA 94303
TEL: (650) 812-3400
FAX: (650) 812-3444

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first inventor: Eveline Wesby Van Swaay Citizenship: Dutch

Inventor's signature: [signature] Dated: 12.12.2002

Residence Address: CAMDEN HOUSE, SCHOOL LANE, TIDDINGTON, STRATFORD UPON AVON, CV37 7AJ,

Mailing Address: UNITED KINGDOM

GBX

PATENT COOPERATION TREATY

10/296571

12 MAR 03

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and Administrative Instructions, Section 422)

To:

ROBSON, Aidan, John
Reddie & Grose
16 Theobalds Road
London WC1X 8PL
United Kingdom

Date of mailing (day/month/year)
18 mars 2003 (18.03.03)

Applicant's or agent's file reference
AJR/ABS/43104

IMPORTANT NOTIFICATION

International application No.
PCT/EP01/05738

International filing date (day/month/year)
18 mai 2001 (18.05.01)

1. The following indications appeared on record concerning:

[X] the applicant [X] the inventor [ ] the agent [ ] the common representative

Name and Address
WESBY-VAN SWAAY, Eveline
Viinirinne 8A
FIN-02630 Espoo
Finland

State of Nationality: NL
State of Residence: FI
Telephone No.:
Facsimile No.:
Teleprinter No.:

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

[ ] the person [ ] the name [ ] the address [ ] the nationality [ ] the residence

Name and Address
ACTINEON INC.
1230 Oakmead Parkway
Suite 306
Sunnyvale, CA 94085
United States of America

State of Nationality: NL
State of Residence: FI
Telephone No.:
Facsimile No.:
Teleprinter No.:

3. Further observations, if necessary:
The person in box 1 is now applicant/inventor for the purposes of the United States of America only, and the person in box 2 is applicant for the purposes of all designated States except the United States of America.

4. A copy of this notification has been sent to:

[X] the receiving Office
[ ] the International Searching Authority
[ ] the International Preliminary Examining Authority
[ ] the designated Offices concerned
[X] the elected Offices concerned
[ ] other:

The International Bureau of WIPO
34, chemin d s Colombett s
1211 Gen va 20, Switz rland
Facsimile No. (41-22) 740.14.35

Authorized officer
Catherine MARQUIS (Fax 338-87-20)
Telephone No. (41-22) 338 9142

DT06 Rec'd PCT/PTO 22 NOV 2002

OIPE NOV 22 2002 PATENT & TRADEMARK OFFICE

FORM PTO-1390 (REV. 10-2001) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY 'S DOCKET NUMBER	
PA2652US	
U.S. APPLICATION NO. (If known, see 37 CFR 1.5)	
Unknown	10/296571

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/EP01/05738	18 May 2001	23 May 2000

TITLE OF INVENTION
Programmable Communicator

APPLICANT(S) FOR DO/EO/US
WESBY-VAN SWAAY, Eveline

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [x] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. [ ] This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. [x] This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. [x] The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. [x] A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. [x] is attached hereto (required only if not communicated by the International Bureau).
   b. [ ] has been communicated by the International Bureau.
   c. [ ] is not required, as the application was filed in the United States Receiving Office (RO/US).
6. [ ] An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
   a. [ ] is attached hereto.
   b. [ ] has been previously submitted under 35 U.S.C. 154(d)(4).
7. [x] Amendments to the claims of the International Aplication under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. [ ] are attached hereto (required only if not communicated by the International Bureau).
   b. [ ] have been communicated by the International Bureau.
   c. [ ] have not been made; however, the time limit for making such amendments has NOT expired.
   d. [x] have not been made and will not be made.
8. [ ] An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).
9. [ ] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. [ ] An English lanugage translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. [ ] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. [ ] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. [x] A FIRST preliminary amendment.
14. [ ] A SECOND or SUBSEQUENT preliminary amendment.
15. [ ] A substitute specification.
16. [ ] A change of power of attorney and/or address letter.
17. [ ] A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
18. [ ] A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. [ ] A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. [ ] Other items or information:

Express Mail Certificate EV194330045US

DT04 Rec'd PCT/PTO 22 NOV 2002

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
Unknown 10/296571	PCT/EP01/05738	PA2652US

21. [X] The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):

		CALCULATIONS PTO USE ONLY
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO	**$1040.00**	
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO	**$890.00**	
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO	**$740.00**	
International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4)	**$710.00**	
International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4)	**$100.00**	
ENTER APPROPRIATE BASIC FEE AMOUNT =		$ 890.00
Surcharge of **$130.00** for furnishing the oath or declaration later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(e)).		$

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	$
Total claims	1 - 20 =	0	x **$18.00**	$ 0.00
Independent claims	1 - 3 =	0	x **$84.00**	$ 0.00
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ **$280.00**	$ 0.00

TOTAL OF ABOVE CALCULATIONS =	$ 890.00
[X] Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2. +	$ 445
SUBTOTAL =	$ 445
Processing fee of **$130.00** for furnishing the English translation later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(f)).	$
TOTAL NATIONAL FEE =	$ 445
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property +	$
TOTAL FEES ENCLOSED =	$ 445
Amount to be refunded:	$
charged:	$

a. [X] A check in the amount of $ 445.00 to cover the above fees is enclosed.

b. [ ] Please charge my Deposit Account No. _____ in the amount of $ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. [X] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 06-600. A duplicate copy of this sheet is enclosed.

d. [ ] Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Carr & Ferrell LLP
2225 E. Bayshore Rd.
Suite 200
Palo Alto, CA 94303

SIGNATURE

Scott S. Kokka

NAME

51,893

REGISTRATION NUMBER

FORM PTO-1390 (REV 9-2001) page 2 of 2

DT06 Rec'd PCT/PTO 22 NOV 2002

OIPE NOV 22 2002 PATENT & TRADEMARK OFFICE

FORM PTO-1390 (REV. 10-2001) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

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ATTORNEY 'S DOCKET NUMBER	
PA2652US	
U.S. APPLICATION NO. (If known, see 37 CFR 1.5)	
Unknown	10/296571

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/EP01/05738	18 May 2001	23 May 2000

TITLE OF INVENTION
Programmable Communicator

APPLICANT(S) FOR DO/EO/US
WESBY-VAN SWAAY, Eveline

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [x] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. [ ] This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. [x] This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. [x] The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. [x] A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. [x] is attached hereto (required only if not communicated by the International Bureau).
   b. [ ] has been communicated by the International Bureau.
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7. [x] Amendments to the claims of the International Aplication under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. [ ] are attached hereto (required only if not communicated by the International Bureau).
   b. [ ] have been communicated by the International Bureau.
   c. [ ] have not been made; however, the time limit for making such amendments has NOT expired.
   d. [x] have not been made and will not be made.
8. [ ] An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).
9. [ ] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
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Items 11 to 20 below concern document(s) or information included:

11. [ ] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. [ ] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. [x] A FIRST preliminary amendment.
14. [ ] A SECOND or SUBSEQUENT preliminary amendment.
15. [ ] A substitute specification.
16. [ ] A change of power of attorney and/or address letter.
17. [ ] A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
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19. [ ] A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. [ ] Other items or information:

Express Mail Certificate EV194330045US

DT04 Rec'd PCT/PTO 22 NOV 2002

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
Unknown 10/296571	PCT/EP01/05738	PA2652US

21. [X] The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):

		CALCULATIONS PTO USE ONLY
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ENTER APPROPRIATE BASIC FEE AMOUNT =		$ 890.00
Surcharge of **$130.00** for furnishing the oath or declaration later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(e)).		$

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	
Total claims	1 - 20 =	0	x **$18.00**	$ 0.00
Independent claims	1 - 3 =	0	x **$84.00**	$ 0.00
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ **$280.00**	$ 0.00
TOTAL OF ABOVE CALCULATIONS =				$ 890.00
[X] Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.			+	$ 445
SUBTOTAL =				$ 445
Processing fee of **$130.00** for furnishing the English translation later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				$
TOTAL NATIONAL FEE =				$ 445
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property +				$
TOTAL FEES ENCLOSED =				$ 445
			Amount to be refunded:	$
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Suite 200
Palo Alto, CA 94303

SIGNATURE

Scott S. Kokka

NAME

51,893

REGISTRATION NUMBER

10/296571

DT04 Rec'd PCT/PTO 22 NOV 2002

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Eveline Wesby-Van Swaay
INT'L APPL. NO.:	PCT/EP01/05738
U.S. SERIAL NO.:	Unknown/Filed Herewith
U.S. FILING DATE:	November 22, 2002
INT'L. FILING DATE:	May 18, 2001
INT'L PRIORITY DATE:	May 23, 2000
TITLE:	Portable Communicator
EXAMINER:	Unknown
ART UNIT:	Unknown
ATTY.DKT.NO.:	PA2652US

COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Submitted herewith, please find a National Stage Submission to the United States Designated/Elected Office under 35 U.S.C. §371 claiming priority from International Application Number PCT/EP01/05738. Please enter this preliminary amendment and consider the following remarks prior to the examination of the above-identified patent application.

In the Claims:

Please cancel claims 2 through 67.

In the Specification:

Immediately following the heading, *Brief Summary of the Invention*, insert the following:

According to the present invention there is provided a programmable communicator device comprising a digital mobile telephone circuit (10), a rechargeable battery (30), a compact antenna (20), a remotely pre-programmable identity module, and a digital processing device,

said programmable communicator device being remotely pre-programmed by a programmable transmitter being a first mobile or fixed device via a coded transmission which includes the identification number of at least one second mobile or fixed device to which the programmable communicator device is to be linked and an authorisation code to verify that the user is authorised to program the programmable communicator device,

wherein, the first and second mobile or fixed devices subsequently communicate bidirectionally via the programmable communicator.

According to the present invention there is further provided a method for programming a programmable communicator comprising the steps of;

remotely sending a coded transmission to the programmable communicator from a programming transmitter being a first mobile or fixed device, the transmission

including the identification number of at least one second mobile or fixed device to which the programmable communicator is to be linked and an authorisation code,

decoding the transmission,

linking the programmable communicator to the second mobile or fixed device identified in the transmission in dependence on receipt of a correct authorisation code,

establishing a bidirectional communication link between the first and second devices via the programmable communicator.

Remarks

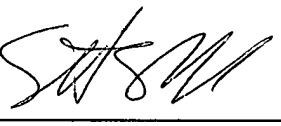
Claims 2-67 have been cancelled in the present application. Claim 1 is currently pending. The specification has been amended to include paragraphs on page 17 immediately following the heading, *Brief Summary of the Invention*. No new matter is being added.

If the Examiner has any questions regarding this case, the Examiner is invited to contact Applicant's undersigned representative at the number given below.

Respectfully submitted,

Eveline Wesby-Van Swaay

Date: NOV. 22, 2002

By: 

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3/PRTS 10/296571

DT04 Rec'd PCT/PTO 22 NOV 2002

PROGRAMMABLE COMMUNICATOR

DESCRIPTION

BACKGROUND OF THE INVENTION

The invention relates to a programmable wireless communications apparatus. More particularly, it relates to a programmable wireless communications apparatus, which can provide an improved means of communication between children and their parents, between elderly persons and caring relatives, and between mentally less-able individuals and supervising adults. In addition, the invention provides a solution for smart clothes applications, which may comprise a telecommunications means within the lining of a jacket or other article of clothing, as well as a solution for user-programmable data tags which convey information from remotely located devices such as vending machines. The invention relates to and significantly improves upon a previously filed patent application claiming Finnish priority of 9th September 1997 entitled a Portable Hotlink Communicator published as international patent application PCT/GB98/02715.

In this previously filed application, is taught the invention of using a mobile phone comprising a programmable identity module such as a SIM card, in the context of the GSM telecommunications standard, to program the number of any mobile or fixed telephone to which the Hotlink communicator, comprising a similar type of programmable identity

module, is to be linked. Existing and known methods of communication between the mobile phone and Hotlink communicator for the purpose of programming comprise the obvious choice of data calls such as the Short Message Service in the GSM telecommunications standard. Alternatively a PDA type communicator might call up a web page to instruct a network element to program the programmable identity module of the Hotlink with the number of any fixed or mobile telephone to which the Hotlink communicator is to be linked.

This use of a separate mobile phone to program the number to which the Hotlink may call is particularly useful and convenient should a parent wish to change the number if the parent must leave shortly and want that the Hotlink is connected immediately to the mobile phone or fixed line of another parent or supervising neighbour.

The current invention builds upon the teaching of this earlier application and extends the concept significantly that it has more general and suitable application to both the child Hotlink communicator and also to the field of programmable wireless data communication tags for the purpose of providing information about the status of a vending machine or other piece of technical equipment such as a home appliance or a device to monitor whether a door is open or closed.

In addition to this, the current invention relates directly to programmable wireless data communication tags, which comprise the means to be interfaced directly with other technical equipment such that each tag can be programmed remotely by any means to be linked to any fixed or mobile telephone to enable data to be sent to or from the device and to allow a person to make a voice call connection to the linked telephone.

Today parents are concerned whether to provide a young child with a mobile phone or not. The concern relates to the cost of the mobile phone should it be lost or stolen and also to the cost of the use of the mobile phone. Clearly there is a need to provide a means to limit the cost of calling and also to provide a means to prevent the child dialling overseas numbers for extensive periods of time.

In the context of mobile phone operators, there exists a need to provide a simple and effective communication device, which can provide the means for family tariffing such that subscriptions for children can be related to the subscriptions of their parents' mobile phones. An improved child Hotlink

communicator, which restricts the usage of the mobile phone and thereby does not generate high charges through uncontrolled calling, is clearly a solution to the family tariffing challenge.

Parents are often concerned about the whereabouts of their children and new positioning technologies are being developed for locating mobile phones. These solutions include self-positioning solutions and remote positioning solutions. One example of a self-positioning solution includes the satellite-based Global Positioning System technology in which the mobile phone comprising a GPS signal processing circuit is able to determine the coordinates of its own position by processing signals received from satellites and communicate these coordinates to a location centre associated with the network. One example of a remote positioning solution is the method taught in US patent 5,051,741 claiming priority of 27th March 1990 in which the mobile phone is paged and caused to transmit a response which is processed by communication stations such as time-of-arrival measurement units associated with the network of master stations or base stations.
This remote positioning method has the advantage that the position of the mobile phone can be determined by making use of existing signalling between the mobile phone and the network without requiring any changes to the mobile phone, which would increase its cost. The generic network-based, remote-positioning architecture method of US 5,051,741 may make use of time of arrival methods or phase difference calculations to increase the resolution of the area or sector within which the mobile phone is located.

While the location of the mobile phone itself is a good indication of the present location of the person carrying the mobile phone, an improvement would be a means to lock the mobile phone to the child, such that use of the mobile phone positioning technologies would then determine the position of the child.

In addition to these concerns about the failures of existing mobile communications technology to provide an improved and more secure method of instant communication between a parent and a young child, and the means to determine the position of the child, there is additional concern that the battery of the communicator may drain its power without the parent knowing, or may be removed, which would prevent the communicator from receiving calls or dialling to the programmed fixed or mobile number to which the communicator is linked.

In addition to these specific communication problem needs, there is a growing yet unsubstantiated concern about the potentially harmful effect of electromagnetic radiation from mobile phones upon the developing brains of young children. Within this context, there is an opportunity to design a communication device for children, which positions the radiating electromagnetic field of a communication device away from the close proximity of the brain. In this regard, parents who maintain the belief that mobile telephones present a health risk due to the radiating antenna may rest secure in the knowledge that this risk can be significantly reduced.

In a separate context, there exists a growing need for a mobile telephone solution, which is cost effective to manufacture, but which is versatile such that it can form the basis for a smart clothes tag or communications application platform. In this context the requirement is for an embedded mobile phone platform comprising no keypad or display, which may be sewn into the lining of a jacket, or other article of clothing, having only the call button protruding and a simple pin connection to recharge the battery. The problem with prior art solutions is that unless the smart clothes tag can be user-programmable to call any fixed or mobile number by making use of an acceptable method such as via an SMS data call or via a BlueTooth radio transmission from a mobile phone or intelligent PDA, the solution is impractical to implement.

In security applications where emergency service personnel carry hand-held primary communications devices such as conventional mobile phones, a back-up communications device such as a smart clothes embedded tag can be of great value in the instance that the primary communications device is lost or broken.

In sports areas such as on lakes where there may be people using canoes, a smart clothes communications tag embedded in a life vest may serve to alert a central control point that a person is in difficulty and also to alert other persons in the area to go to their rescue.

In an additional application area, skiers in difficulty would benefit from a smart clothes user-programmable communications tag attached to their clothing, which is pre-programmed to be linked with a fixed or mobile telephone and need only have its protruding button pressed to make communication with a central alarm point.

In an additional application area there exists the need for a user-programmable remote wireless communications data tag, which can be used to relay information about the status of a remote piece of technical equipment such as a vending machine. Home networks could be simplified by making use of the existing mobile network infrastructure to relay data about the status of a home appliance or to indicate whether a door is open or closed. Packet switched technologies such as GPRS may be used as the radio access technology to communicate the status of the technical equipment.

In an additional application area there exists the need for a versatile communications platform, which can be combined with remote health monitoring technology to assist doctors with remote diagnosis of patients.

In an additional application there is the need for a versatile communications which is able to work effectively when the network is temporarily overloaded such that it has the means to store a sound message as a sound byte or convert it using voice recognition software such that it can be forwarded as soon as the network capacity becomes less loaded.

Further to these limitations of existing technologies, and so far as is known, no portable communication apparatus is presently available which serves to offer an improved programmable communicator which is directed towards the specific needs of this problem area as outlined.

10/296571
DT04 Rec'd PCT/PTO 22 NOV 2002

OBJECTS OF THE INVENTION

Accordingly, it is an object of the present invention to provide an improved programmable communications apparatus, which can be remotely programmed by any mobile phone or IP device such that it can be linked to any particular fixed or mobile phone or IP device.

It is a further object of the present invention to provide a programmable communications apparatus, which may be programmed at close range using infrared light or a BlueTooth radio connection, or via a terminal-to-terminal network based data call such as the GSM SMS short message service or via a GPRS packet data communication.

It is a further object of the present invention to provide a programmable communications apparatus, which may be programmed by a mobile or fixed device which is able to call up an Internet web page and which comprises the means to instruct the network to reprogram the communications apparatus with the mobile or fixed number to which the programmable communications device is to be linked.

It is a further object of the present invention to provide a programmable communications apparatus, which may be programmed via the Internet such that the network communicates with a device in the vicinity of the programmable communications apparatus which itself causes the said apparatus to be programmed using any means such as wireless communication, infrared light or a BlueTooth radio link.

It is a further object of the present invention to provide a plurality of programmable communications apparatuses, which may be simultaneously programmed by a mobile or fixed device which is able to call up an Internet web page and select one or more apparatuses of the said plurality and cause each of the selected number of apparatuses to be linked to the identical mobile or fixed telephone.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises a processing means to process coded transmissions and permit only transmissions comprising a coded number, which determines the authenticity of the message, to be allowed to program the number to which the said apparatus be linked.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises a wrist strap, or an attachment such as in the case of the smart clothes application, and a first alarm means which can be programmed such that it can cause a message to be sent to the fixed or mobile number to which the said apparatus is linked in the case that the wrist strap be broken or undone or in the case that the said attachment be broken or displaced from an initial position of equilibrium.

It is a further object of the present invention to provide a programmable communications apparatus, which may have a separate pressure sensitive means or displaceable means which becomes activated in the pressed position or displaced position respectively such that it is able to generate an alarm or data message when pressure is removed or when the displacement returns to the non-displaced position. Such a feature serves, by way of example, to replace the need for the wrist strap feature of the previous object such that when the wrist worn communicator is removed from the wrist the pressure sensitive means or displaceable means can provide the required alarm message.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises a heat sensor, which can detect that the communicator is adjacent to a heat source such as the skin of a child and the means to generate an alarm message if the heat source is removed.

It is a further object of the present invention to provide a programmable communications apparatus, which has the means to detect any other detectable physical characteristic of the human skin, which may be used to trigger an alarm if the means is moved away from the skin.

It is a further object of the present invention to provide a programmable communications apparatus for a security application, which comprises an infrared heat detector and which is able to generate an alarm message if a change in the level of infrared radiation is detected.

It is a further object of the present invention to provide a programmable communications apparatus, which may form part of a home network of devices, which is used to monitor a domestic appliance such as a washing machine or a device to monitor whether a door or window is open or closed and to react to a change in status of said appliance or device by sending an alarm message or data message to a linked fixed or mobile telephone or internet IP address to indicate a current status of said appliance or device. In addition the said apparatus may be incorporated in a bicycle frame or attached to a bicycle for monitoring movement of the bicycle.

It is a further object of the present invention to provide a programmable communications apparatus, which has a memory means to store sound as a sound byte for a certain period of time such as the voice of the child wearing the programmable communicator and the means to send this sound to the telephone number to which the said apparatus is linked.

It is a further object of the present invention to provide a programmable communications apparatus, which has a means to store and transmit a sound byte in response to receiving a sound above a predetermined threshold such that a person who is in distress may shout out and the distress call is processed by the programmable communicator and forwarded to the fixed or mobile telephone or IP address to which the said communicator is linked.

It is a further object of the present invention to provide a programmable communications apparatus, which is able to make a call to a linked fixed or mobile telephone or IP address and which if it detects that the telephone number is engaged or does not answer or that the IP address is invalid, the said apparatus has the means to select any other telephone number or IP address in the permitted callers list such that it can be connected to said other telephone or IP device.

It is a further object of the present invention to provide a programmable communications apparatus, which is able to store a sound byte or store a data record and send the sound byte or data record to any other telephone number or IP address in the permitted callers list after a certain interval of time in the instance that the primary number or IP address is engaged or connection is not able to be made at that time due to the network capacity not being sufficient at that time. The feature may also include a continuous retry feature such that the attempt to send the sound byte or data record is continued until the sound byte or data record is successfully sent.

It is a further object of the present invention to provide a programmable communications apparatus, which has the means to convert a voice message into text and send this as a data message to a fixed or mobile telephone or IP address to which the said apparatus is linked.

It is a further object of the present invention to provide a programmable communications apparatus, which is able to receive data from a plurality of data monitoring devices, which may be connected by

any wired or wireless means, and that each of said devices has an associated status condition, such that the programmable communications apparatus can transmit data from said devices on request or periodically to a fixed or mobile telephone or IP address to which the said apparatus is linked.

It is a further object of the present invention to provide a programmable communications apparatus, in which the said first alarm means may communicate directly with a central communications point in the network.

It is a further object of the present invention to provide a programmable communications apparatus, in which the said first alarm means may communicate directly with a web page and write information to that page or cause an E-mail to be sent to a specific address.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises a second alarm means, which can be programmed to cause a message to be sent to the fixed or mobile number to which the said apparatus is linked in the case that the battery is low in power or in the case that the battery is removed or in the case that the communicator be switched off.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises a second alarm means, which can be programmed to send a message periodically comprising any status message such as the current power status of the battery.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises a battery charger adapter-pin such that the apparatus can make use of suitable battery chargers of other mobile phones.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises the means to be interrogated remotely by another fixed or mobile telephone or network connected device, such that different codes are used to obtain different data from the said apparatus. In the context of remote health monitoring, by way of example, a doctor could send different codes from her mobile terminal and obtain different data on blood pressure and the heart rate of the person wearing the apparatus associated with a health monitoring system. The said apparatus may make use of physical monitoring means associated with said apparatus for providing information about the skin temperature and blood pressure and other characteristics of the human body.

It is a further object of the present invention to provide a programmable communications apparatus, which has application to smart clothes such that it provides a secondary communications means for emergency service personnel.

It is a further object of the present invention to provide a programmable communications apparatus, which is suitable for attachment to a life vest. A further object of this application includes a water-enabled communications apparatus, which may be used to communicate with a portable central communications unit.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises a GPS signal processing circuit and the means to respond to an authenticated request to determine its own position and send data relating to its position to the linked fixed or mobile telephone or to a location determination centre or to a specified web page.

It is a further object of the present invention to provide a programmable communications apparatus, which may be securely attached to a device such as a bicycle, which may be used for communication and for determining the position of the bicycle.

It is a further object of the present invention to provide a programmable communications apparatus, which is suitable for young children such that it comprises an auto-answer facility to connect the caller immediately with an associated microphone and loudspeaker to avoid the need that the child must press a button to answer the call. This application also includes the feature, which returns the programmable communicator automatically to idle state as soon as the caller to the child terminates the call remotely. This avoids the need that the child must terminate the call. It also prevents the child from terminating the call by accident.

It is a further object of the present invention to provide a programmable communications apparatus, which can be used with mobile location based services such that it is possible for an authenticated person to access a web page, either on a hand-held terminal or fixed device, which shows the position of the programmable communications apparatus as an icon on a

map after its position has been determined by its own GPS signal processing circuitry or remotely by the network.

Other objects and advantages of this invention will become apparent from the description to follow when read in conjunction with the accompanying drawings.

BRIEF SUMMARY OF THE INVENTION

Certain of the foregoing and related objects are readily-attained according to the present invention by the provision of a novel portable programmable communicator, which serves to address the diverse communication requirements of children and elderly persons and for the purposes of remote data monitoring applications such as for monitoring the status of remote technical devices.

The programmable communicator preferably comprises a basic mobile telephone circuit having no keypad or display and a rechargeable battery and antenna and a basic two-way microphone device and remotely pre-programmable identity module linking it to a single mobile or fixed telephone. Where appropriate, in alternative embodiments, the programmable communicator comprises an alarm means to indicate certain conditions of the communicator such as the charge level of its battery or if the battery is removed. Similar alarm messages are generated according to the particular embodiment of the programmable communicator application which include the generation of messages when an associated wrist strap or attachment of the communicator in the case of a smart clothes application is undone or displaced

or when the communicator is switched on or off or when the communicator is set to monitor the status condition of an associated device and the status changes beyond a preset threshold level. The invention also includes the generation of periodic messages to indicate that the communicator is working and that any associated status condition thresholds remain unchanged. This last set of messages, which includes periodic reassurances messages includes the facility that the user may set the duration of the period according to the application.

The programmable communicator has direct and effective application to home networks for the purpose of transmitting information about the status condition of domestic appliances such as the pressure of water pipes and whether a door or window is opened or closed. The wireless programmable communicator can be attached to an associated monitoring device and programmed with the number of a mobile or fixed telephone to which it is to be linked or to an Internet web page which can be made accessible to authenticated users or to security monitoring personnel.

Other objects and features of the present invention will become apparent from the following detailed description considered in connection with the accompanying drawings, which disclose one embodiment of the invention. It is to be understood, however, that the drawings are designed for the purpose of illustration only and that the particular description of the portable hot link communicating apparatus is given by way of example only and does not limit the scope of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates the schematic of the programmable communicator according to one embodiment of the invention.

FIG. 2 illustrates a schema showing the actions performed by the programmable communicator in response to an incoming call or message according to the present invention.

FIG. 3 illustrates a schema showing actions done by the programmable communicator and the outgoing calls

or messages, which are generated as a consequence of said actions.

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring now in detail to the drawings and in particular FIG.1 thereof, therein illustrated is a programmable communicating apparatus according to one embodiment of the present invention.

The following description makes reference to the detailed features as outlined in the objects of the invention.

In Figure 1 is shown a telephone circuit 10, which comprises an antenna 20 and a battery 30. To the telephone circuit, which may similarly comprise a communicating PDA device circuit, is shown an optional BlueTooth module 40 for communication with a nearby data communication or programming device having a similar BlueTooth radio module. The telephone circuit 10 has a ringing tone generator and an auto answer module 50 which may be used to cause the programmable communicator to generate one of a number of ringing tones or to auto answer upon receipt of an authenticated permitted caller.

For the purposes of programming the IP address or telephone number of the fixed or mobile telephone to which the communicator is linked is provided an SMS processing means 60. This communicates with an authentication means 90, which in turn is able to store numbers into a permitted callers list 110. For the purposes of security, a sound byte capture means and threshold detector means 100 is provided to

generate an alarm message or to send a sound byte to one of the numbers on the permitted callers list. Additional voice recognition software may be used to convert the sound byte into text and send this to the destination telephone number or IP address.

An SMS alarm generation means 70 is provided to work together with a battery charge monitor 35 and a sensor means 80 and an alarm message list 120 and a programmable interface means 140 to generate alarm messages in response to changes in status conditions. Said programmable interface means may be attached to all manner of sensor devices for the purpose of relaying data from external devices and sensors either automatically or in response to a request for information from a remote device.

The periodic status report means 130 may be programmed to provide data on the current status of the programmable communicator as well as data from one or more devices, which may be connected to the communicator via the BlueTooth module 40.

In the case that the programmable communicator is unable to make an immediate connection with the linked telephone or IP address, a reselection means 150 provides one or more connection numbers from the permitted callers list.

This device comprises a novel combination of existing technologies and features, which make possible the existence of a new and improved communicating apparatus to address the communication needs of children and elderly persons and for programmable data tags for monitoring the status of associated technical equipment.

The use of the programmable communicator involves two phases, a pre-programming phase and an active phase. In the pre-programming phase, the communicator is programmed with the number it can call which comprises a unique code. By way of example only, the invention is now described in the context of the GSM mobile telecommunications standard using the Short Message Service or SMS circuit-switched data call. The invention relates to all telephone standards including, and not limited to CDMA and US-TDMA, and is effectively used also in a packet switching mode such as the GSM GPRS packet switching mode. Furthermore the invention is suitably applicable to IP devices, which comprise IP addresses rather than telephone numbers.

According to the invention, it is wished to allow only authenticated callers to change the telephone number or IP address of a fixed or mobile telephone or network device to which the programmable communicator is to be linked. This may be done in GSM using an SMS message, which includes data as well as a unique code such as the unique code of the Subscriber Identity Module or SIM card, often referred to as the PUK code. The PUK code is a unique identifier, which is different for every SIM card. The choice of the PUK is made by way of example only and any similar unique coding may be used for the purpose of the invention

It is a straightforward procedure to communicate with the programmable communicator by SMS. The remote transmitting device includes the PUK code of the receiving programmable communicator in its SMS transmission as well as a telephone number to which the programmable communicator is to be linked.

The programmable communicator includes a processing means to determine that the PUK code is correct and the means to store the transmitted number. The PUK code may also be used to program the list of permitted callers. An SMS comprising the PUK code may contain a plurality of telephone numbers each of which designates a permitted caller's number. Only numbers, which are stored as designated permitted callers, will cause the programmable communicator to generate a ringing tone. Alternatively, the programmable communicator may include circuitry to terminate the calls of non-permitted callers automatically. In the same way that the telephone number of an incoming call can be shown on the screen of a mobile phone before the phone is

answered, this information may be used to enable the programmable communicator to receive the call or to reject it.

Additional codes may be used by authenticated callers to interrogate the status condition of the programmable communicator, or to interrogate the status of data monitoring devices to which the communicator is wired or wirelessly attached.

In this way, in the application for an improved child communicator, only persons knowing the secret PUK code would be able to change the calling number. This provides the essential security for the parents. Furthermore, the feature, which causes the communicator to reject all calls but those from telephone numbers on the permitted callers list serves to shield the child from unwelcome contact.

The following example demonstrates how five SMS messages might program the permitted callers list A-E

SMS 1. PUK code A:040 111 1111
SMS 2. PUK code B:040 222 2222
SMS 3. PUK code C:040 333 3333
SMS 4. PUK code D:040 444 4444
SMS 5. PUK code E:040 555 5555

The letters A to E in the five messages or any equivalent coding may be used to designate the priority of the telephone numbers of the permitted callers such that letter A designates the number to which the programmable communicator is linked at this moment.

In a simple use scenario, a child may be playing in the garden or near to the house wearing a

programmable communicator programmed to the mother's telephone phone number, 040 111 1111. In the next moment, the father comes home and sends an SMS to the child's programmable communicator using his phone having telephone number 040 222 2222. In this example, the message comprises PUK code A:040 222 2222 which cause the calling number of the programmable communicator to be now reprogrammed to call the father's number if its call button is pressed by the child.

An additional security feature comprises software, which will cause an SMS emergency message to be sent automatically to the pre-programmed number if the wrist strap is broken or undone, or the communicator is switched off. An additional sensor may be used instead of a means to generate an SMS message if the wrist strap is broken or undone whereby said sensor can sense the heat of the skin, which will cause an SMS message to be sent if the communicator is moved away from the skin.

Additional software features may generate messages to indicate the charge of the battery or if the battery drains completely or is removed.

To avoid a total failure condition, the programmable communicator may comprise a separate back-up power supply in addition to the battery, which is sufficient to generate an alarm message or number of alarm messages, in the instance that a power connection is lost from an associated device or if its own battery supply drains completely.

In this way, the telephone number to which the programmable communicator is linked receives messages

about the status of the battery and an indication of whether the communicator has been removed from the child.

In a separate embodiment, is included the feature that certain alarm messages are sent to one or more of the telephone numbers, or IP addresses in the IP network application of this invention, which are on the permitted callers list. This feature would enable at least one other person to receive an alarm message in case the primary linked telephone is busy or the associated user of the linked telephone is unable to read the message immediately.

The programmable communicator comprises a processing module, which can receive information about its wrist strap or associated attachment. In the embodiment of a smart clothes tag, the said associated attachment may comprise a fibre or wire, which, if mechanically pulled, causes the generation of an alarm message. Clearly, in the case of a wrist worn communicator, the opening or closing of the wrist strap may be used to activate an electronic circuit to generate a status condition of the wrist strap. It is anticipated that the receiver of the alarm message may then call the child directly, if possible, to check if there is a problem. Additionally, location based services may be used to locate the position of the communicator relative to the network infrastructure.

In a separate embodiment, the programmable communicator comprises a feature, which enables a user to cause it to transmit a status message periodically, according to a periodic duration as set by the user, which will provide reassurance that the communicator is functioning correctly, and for example, that the wrist strap is closed, and that the battery has sufficient power.

The types of data that the communicator can provide periodically, or on request, are determined directly by the application of the invention according to different remote monitoring embodiments. In each application the programmable communicator has the appropriate means to receive the data from the monitoring device and the means to process the data.

The programmable communicator has further direct application to the field of remote data monitoring

such as in the home network environment. Today, domestic appliances such as washing machines and sauna heaters remain separate from one another and only a few have the capability to be integrated into remote monitoring applications.

The programmable communicator may be used to generate data messages, which describe the status or change in status beyond a threshold condition, of a household appliance and communicate this data directly to a linked telephone number or IP address of a linked device or Internet web page.

The use of GSM GPRS packet switching technology in this context is ideal since the application does not require a continuous circuit switched connection to the network. The remote monitoring application comprises the use of a programmable communicator, which reacts to a status condition and then initiates a packet data transmission to the network. Consequently, the programmable communicator comprises a separate back-up power supply in addition to the battery, which is sufficient to generate an alarm message or number of alarm messages, in the instance that a power connection is lost from an associated device or if its own battery supply drains completely.

In a separate home-network application, the programmable communicator may be used to gather data from a number of associated monitoring devices and to communicate this to the linked telephone or IP device or Internet web page. The monitoring devices may be directly linked to the programmable communicator by

wire or wirelessly connected by, for example, the BlueTooth radio technology in which case the programmable communicator comprises the necessary additional BlueTooth communications module.

In a sports or safety application, the programmable communicator may comprise a smart clothes tag and be sewn into the lining of a life vest such that a person paddling a canoe may use it for urgent communication.

Other applications for the programmable communicator include theme parks and other sports events or places where children may become lost in the crowds.

In addition, the invention may be utilised as a voice and data communicator for bicycles. In this application, data from the bicycle such as speed could be used in sports training as a means to enhance the performance of a cyclist. In a more general application, a programmable communicator can be used to inform the owner of a bicycle that his parked bicycle is being moved and to determine its location, if needed, by making use of the location-based services functionality of the telecommunications network.

While only one embodiment of the present invention: the programmable communicator within the context of the digital GSM telephone system in particular, has been shown and described in detail, it will be obvious to those persons of ordinary skill in the art, that many changes and modifications may be made thereunto without departing from the spirit of the invention. For example, the hot link communicator may

make use of any telephone technology such as CDMA, and US-TDMA. Moreover, the inventive features of the programmable communicator may be incorporated into a monitoring device and integrated with it such that the device comprises the capability of the programmable communicator. The invention is not limited to the application of the programmable communicator as a separate device, which separately communicates with data monitoring devices but also includes the application of the functionality of the invention as an integrated part of the monitoring device.

It is further to be understood that the invention may make use of all coding schemes for storing numbers to the programmable apparatus and the use of the PUK code was by way of example only. The programmable communicator may comprise the means to accept all manner of clip on covers so that the same base model may carry one of a number of different covers to suit the tastes and the age groups of different wearers.

CLAIMS:

1. A method for programming a programmable communicator device comprising a digital mobile telephone circuit, a rechargeable battery, a compact antenna, a remotely pre-programmable identity module, said programmable communicator device being remotely pre-programmed by a programming transmitter being a first mobile or fixed device with at least one second mobile or fixed device to which said programmable communicator device is to be linked, said method being characterised by the steps of:

said programmable communicator device receiving a first message comprising a coded number in order to determine the authenticity of said programming transmitter,

comparing said coded number with a preset number:

when said coded number and preset number coincide, allowing said programming transmitter to proceed,

when said coded number and preset number do not coincide, cutting the communication.

2. A method for programming a programmable communicator device according to claim 1 wherein said coded number is a unique ID number associated with the remotely pre-programmable identity module such as the PUK number, in the case of GSM, of said programmable communicator device.

3. A method for programming a programmable communicator device according to claim 1 or 2 further comprising a memory, where said step of said

programming transmitter to proceed further comprising the steps of:

sending one or a plurality of telephone numbers to be called by said programmable communicator device, and to store said plurality of telephone numbers in said memory, and

sending one or plurality of telephone numbers said programmable communicator device is to call, and to store said plurality of telephone numbers in said memory.

4. A method for programming a programmable communicator device according to claim 3 wherein said one or plurality of telephone numbers said programmable communicator device is to call are prioritised.

5. A method for programming a programmable communicator device according to claims 1-4 wherein said programming transmitter and said programmable communicator device communicate via an IP network (such as the Internet) and that one or a plurality of IP addresses are received and stored in said memory.

6. A method for programming a programmable communicator device according to claim 5 wherein said programmable communicator device sends data messages such as e-mails and receives digital data.

7. A method for programming a programmable communicator device in use for monitoring emergency calls according to claims 5 or 6 further comprising the steps of:

prompting said programmable communicator device by a specific sensing means when said specific sensing means state passes a threshold,

repeatedly calling one or more of said stored telephone numbers until an alarm is successfully sent.

8. A method for programming a programmable communicator device according to claims 7 in use for monitoring emergency calls further comprising the steps of:

prompting said programmable communicator device with a specific sensing means when said specific sensing means state passes a threshold condition with a digital signal,

storing said digital signal corresponding to said specific sensing means

sending said digital signal in the form of a data message such as an e-mail to one or a plurality of stored IP addresses each associated with a remote digital device or an internet web page, and

repeatedly calling one or more of said stored telephone numbers until an alarm is successfully sent.

9. A method for programming a programmable communicator device according to claims 5 or 6 in use for monitoring the status of one or a plurality of remote devices further comprising the steps of:

said programming transmitter sending one or a plurality of codes to said programmable communicator device

prompting said programmable communicator device to initiate one or a plurality of remote devices to be monitored.

10. A method for programming a programmable communicator device in use for monitoring the status of one or a plurality of remote devices according to claims 9 wherein said remote device is a medical device.

11. A method for programming a programmable communicator device in use for monitoring the status of one or a plurality of remote devices according to claims 9 or 10 further comprising the steps of:

said programming transmitter sending one or a plurality of digital commands to said programmable communicator device,

prompting said remote device to read said one or a plurality of digital commands to initiate itself to execute a task and to periodically write measured physical data or process status in a digital form and/or its position and/or date and time of one or a plurality of bytes into said programmable communicator device memory.

12. A method for programming a programmable communicator device in use for monitoring the status of one or a plurality of remote devices according to claims 11 further comprising the step of:

either periodically calling said programmable communicator device by a surveillance mobile or fixed device, sending one of said codes as required to authenticate itself in order to prompt said programmable communicator device to send its stored digital data and to flush its memory,
or said programmable communicator device periodically calling one or a plurality of stored telephone numbers in order to send its stored digital data and to flush its memory,
or said programmable communicator device periodically sending a data message such as an e-mail to one or more of said stored IP addresses each associated with one or more remote digital devices or an internet web page in order to send its stored digital data and to flush its memory.

13. A method for programming a programmable communicator device in use for monitoring the status of one or a plurality of remote devices according to claims 12 further comprising the step of:

analysing said sent digital data to survey the evolution of a health state of a surveyed person or of an evolving process in order to take further action according to the degree of emergency of said surveyed person or process, and

if necessary, said further action also comprising the step of reprogramming said programmable communicator device in order to re-initiate said

remote device according to said analysis to execute said task with other digital data comprising other parameters sent to said programmable communicator device.

14. A programmable communicator device comprising a digital mobile telephone circuit, a rechargeable battery, a compact antenna, a remotely pre-programmable identity module, said programmable communicator device being remotely pre-programmed by a programming transmitter being a first mobile or fixed device with at least one second mobile or fixed device to which said programmable communicator device is to be linked, said programmable communicator device being characterised by:

processing means for decoding a coded transmission in the form of a first message comprising a coded number, which determines the authenticity of said programming transmitter allowing it to program said programmable communicator device.

15. A programmable communicator device according to claim 14 further characterised in that:

said authenticated transmitter transmits a second message comprising one or a plurality of codes of one or a plurality of mobile or fixed authorised devices by which said programmable communicator device is to be called to pre-program said identity module.

16. A programmable communicator device according to claim 14 or 15 further characterised in that it further comprises:

a ringing tone generator, a basic two-way microphone device, and a digital processing device for monitoring emergency calls.

17. A programmable communicator device for monitoring emergency calls according to claim 16 wherein said authenticated programming transmitter transmits codes of one or a plurality of mobile or fixed authorised devices by which said programmable communicator device is to be called to pre-program said identity module.

18. A programmable communicator device for monitoring emergency calls according to claim 17 wherein said authenticated programming transmitter transmits the telephone numbers of one or a plurality of mobile or fixed devices to which said programmable communicator device is to call to pre-program said identity module.

19. A programmable communicator device for monitoring emergency calls according to claim 17 or 18

wherein said programming transmitter is a portable device or a computer terminal connected to a data or to an IP transmission network (such as the Internet).

20. A programmable communicator device for monitoring emergency calls according to claim 17 or 18 wherein said programmable communicator device further comprises a pressure sensitive means in order to prompt said programmable communicator device when a specific condition is met.

21. A programmable communicator device for monitoring emergency calls according to claim 17 or 18 wherein said programmable communicator device further comprises a proximity detector in order to prompt said programmable communicator device when a specific condition is met.

22. A programmable communicator device for monitoring emergency calls according to claim 17 or 18 wherein said programmable communicator device further comprises a heat sensor in order to prompt said programmable communicator device when a specific condition is met.

23. A programmable communicator device for monitoring emergency calls according to claim 17 or 18 wherein said programmable communicator device further comprises an infrared heat detector in order to prompt said programmable communicator device when a specific condition is met.

24. A programmable communicator device comprising a heat sensor according to claim 22 or 23 wherein said programmable communicator comprises an intelligent fire alarm which can communicate that a fire is in progress to an emergency fire centre and/or to devices associated with other emergency personnel.

25. A programmable communicator device for monitoring emergency calls according to claim 17 or 18 wherein said programmable communicator device further comprises a sound detector in order to prompt said programmable communicator device when a specific condition is met.

26. A programmable communicator device for monitoring emergency calls according to claim 17 or 18 wherein said programmable communicator device further comprises a back-up communication device within a wrist strap or a smart clothes attachment comprising a tag in order to prompt said programmable communicator device when said strap or attachment is broken or undone.

27. A programmable communicator device for monitoring emergency calls according to claims 17-25 wherein said specific condition is a threshold and when prompted said programmable communicator device will call one or more of said pre-programmed numbers or transmit data to one or more IP addresses each associated with one or more remote digital devices in order to trigger an alarm and/or send a digital message.

28. A programmable communicator device for monitoring emergency calls according to claim 26 or 27 wherein said programmable communicator device further comprises means for continually emitting a call as a beacon in order to allow said programmable communicator device to be located.

29. A programmable communicator device for monitoring emergency calls according to claim 26 or 27 wherein said programmable communicator device further comprises means to send a message comprising a byte or a series of bytes in the form of a data message such as an E-mail to said one or to said plurality of pre-programmed numbers or IP addresses each associated with one or more remote digital devices or internet web page.

30. A programmable communicator device for monitoring emergency calls according to claim 26 or 27 wherein said programmable communicator device allows a person under medical surveillance, to call said one or more of said pre-programmed numbers in order to trigger an alarm when said person under medical surveillance requires help.

31. A programmable communicator device for monitoring emergency calls according to claim 26 or 27 wherein said programmable communicator device further comprises a continuous retry feature such that the attempts to call said one or more of said pre-programmed numbers to trigger said alarm or to send said digital signal is

continued until said alarm or said digital signal is successfully sent.

32. A programmable communicator device for monitoring emergency calls according to any of claims 14-31 wherein said programmable communicator device is further characterised that it comprises a unique button protruding to call and receive calls, and no keypad or display.

33. A programmable communicator device for monitoring emergency calls according to claims 14-32 wherein said programmable communicator device is further characterised in that it comprises an auto answer facility.

34. A programmable communicator device for monitoring emergency calls according to claim 32 or 33 for use in a life vest of canoe or boat sportsmen in order to alert a central control point to go to their rescue.

35. A programmable communicator device for monitoring emergency calls according to claim 32 or 33 for use in the clothing of skiers in order to alert a central control point to go to their rescue when in danger on or below the snow.

36. A programmable communicator device according to claim 14 further characterised in that it further comprises an auto answer module and a digital processing device for monitoring the status of one or a plurality of remote technical devices.

37. A programmable communicator device for monitoring the status of one or a plurality of

remote technical devices according to claim 36 wherein said authenticated transmitter transmits one or a plurality of telephone numbers of one or a plurality of mobile or fixed devices which said programmable communicator device is to call to pre-program said identity module.

38. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 36 or 37 wherein said programming transmitter is a portable device or a computer terminal connected to a data or to an IP transmission network (such as the Internet) and said programmable communicator device stores IP addresses instead of numbers into its memory.

39. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 36 to 38 wherein said programmable communicator device further comprises a pressure measuring means in order to monitor a process and to convert one or a plurality of measured pressures into a digital signal representing the status and to store said status and the date and/or time of said one or said plurality of measured remote technical devices.

40. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 36 or 37 wherein said programmable communicator device further comprises a locating system in order to monitor the location of said remote technical device and means to store one or a plurality of measured locations in the form of a digital signal representing a location or a series of locations and to store said measured locations and the date and/or time of said one or said plurality of measured locations of said remote technical devices.

41. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claims 40 for use in a theme park environment for monitoring the location of children and/or of people under medical surveillance.

42. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 40 wherein

said locating system comprises a satellite Global Positioning System (GPS) circuit.

43. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 40 or 41 wherein said programmable communicator device further comprises a heat sensor means in order to monitor the temperature of said remote technical device and means to store one or a plurality of measured temperatures in the form of a digital signal representing a temperature or a series of temperatures and to store said measured temperatures and the date and/or time of said one or said plurality of measured temperature of said remote technical device.

44. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 43 wherein said heat sensor system comprises an infrared heat detector.

45. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 37 or 38 wherein said programmable communicator device further comprises means to detect the state of a vending machine and means to store said state in the form of a digital message representing said state using one or more bytes.

46. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 45 wherein said states are user programmable.

47. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 46 wherein said states are EMPTY and NEARLY-EMPTY for one or a plurality of products.

48. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 37 or 38 wherein said programmable communicator device further comprises a voice recognition means and means to store a sound message as one or a plurality of sound bytes.

49. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 37 or 38 wherein said programmable communicator device further comprises a medical device to monitor the health of a physically disabled person, and means to store one or a plurality of status data.

50. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 49 wherein said medical device is a periodic or continuous electrocardiogram heart rhythm monitoring device.

51. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 49 wherein said medical device is a blood glucose concentration-monitoring device.

52. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 49 wherein said medical device is a blood electrolyte concentration-monitoring device.

53. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 49 wherein said medical device is a kidney function and/or liver function monitoring device.

54. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 49 wherein said medical device is a blood clotting factor monitoring device.

55. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 49 wherein said medical device is a labour contraction-monitoring device.

56. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 39-55 wherein said monitoring device is remotely polled by authorised callers with one or a plurality of different commands in order to send a different set of stored data each of said different set of stored data corresponding to said one or said plurality of different commands.

57. A programmable communicator device for monitoring the status of one or a plurality of

remote technical devices according to claim 39-55 wherein said monitoring device periodically send messages comprising said stored data to pre-programmed numbers at said fixed or mobile device in order to allow them to gather the evolving states of said technical remote devices for analysis and further actions to be taken.

58. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 57 wherein said actions to be taken includes reprogramming said programmable communicator device.

59. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 56 or 57 wherein said fixed or mobile device communicates via an IP network such as the Internet and said programmable communicator device sends said stored data in the form of a data message such as an e-mail to one or more IP addresses each associated with a remote digital device or internet web page.

60. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claims 36 or 37 wherein said transmitting device is an infrared light.

61. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 57

for use in the home network environment for monitoring domestic appliances.

62. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to claim 36 wherein said coded number is the unique ID number associated with the remotely pre-programmable identity module such as the PUK number in the case of GSM.

63. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to any of claims 14 and claims 36 to 62 wherein said programming transmitter uses a Blue tooth radio module and said programmable communicator device comprises also a Blue tooth radio module.

64. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to any of claims 14 and claims 36 to 62 wherein said programming transmitter communicates with said programmable communicator device using the short message service (SMS) circuit-switched service of the GSM telecommunications standard.

65. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to any of claims 14 and claims 36 to 62 wherein said programming transmitter communicates with said programmable communicator device via the CDMA or the WCDMA telecommunications standard.

66. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to any of claims 14 and claims 36 to 62 wherein said programming transmitter communicates with said programmable communicator device via the US-TDMA telecommunications standard.

67. A programmable communicator device for monitoring the status of one or a plurality of remote technical devices according to any of claims 14 and claims 36 to 62 wherein said programming transmitter communicates with said programmable communicator device using the GSM GPRS packet switching telecommunications standard.

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

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International Bureau

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29 November 2001 (29.11.2001)

PCT

(10) International Publication Number
WO 01/91428 A2

(51) International Patent Classification[7]: H04M 1/725

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20001239 23 May 2000 (23.05.2000) FI

(71) Applicant and
(72) Inventor: **WESBY-VAN SWAAY, Eveline** [NL/FI]; Viinirinne 8A, FIN-02630 Espoo (FI).

(74) Agent: **ROBSON, Aidan, John**; Reddie & Grose, 16 Theobalds Road, London WC1X 8PL (GB).

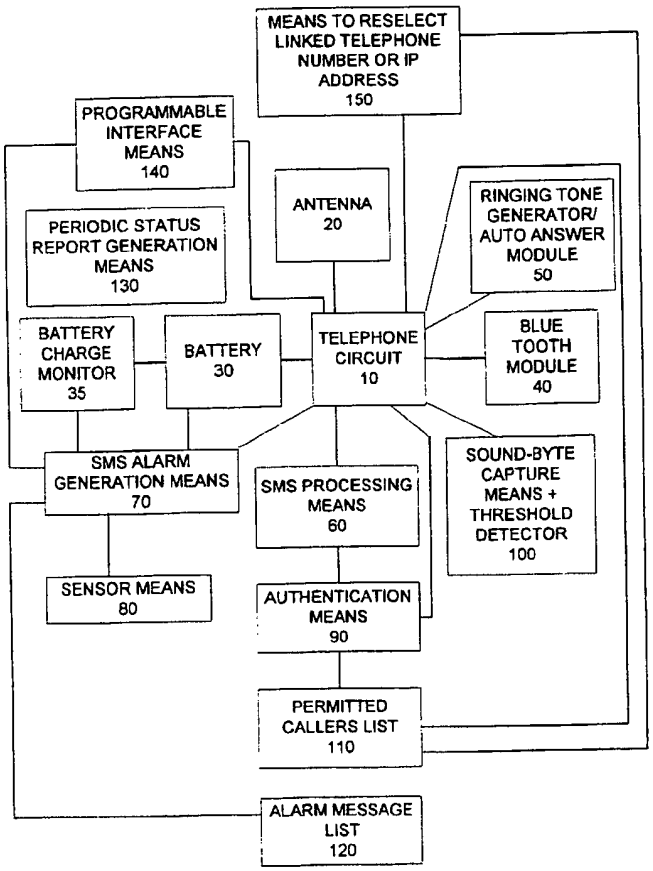
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

[Continued on next page]

(54) Title: PROGRAMMABLE COMMUNICATOR



(57) Abstract: A system and method for a programmable communicator is described which can provide an improved child communication device, a telecommunications platform for a smart clothes application, as well as a programmable remote data communicator to report the status of a technical apparatus such as a vending machine. The programmable communicator can be programmed remotely by a mobile phone or any Personal Data Assistant (PDA) type device using any data transmission technology such as BlueTooth, Infra red light or any wireless radio communication either directly at close range, or via a mobile telecommunications network connection from a hand-held device or computer terminal connected to a data or IP transmission network such as the Internet.

WO 01/91428 A2

1/3

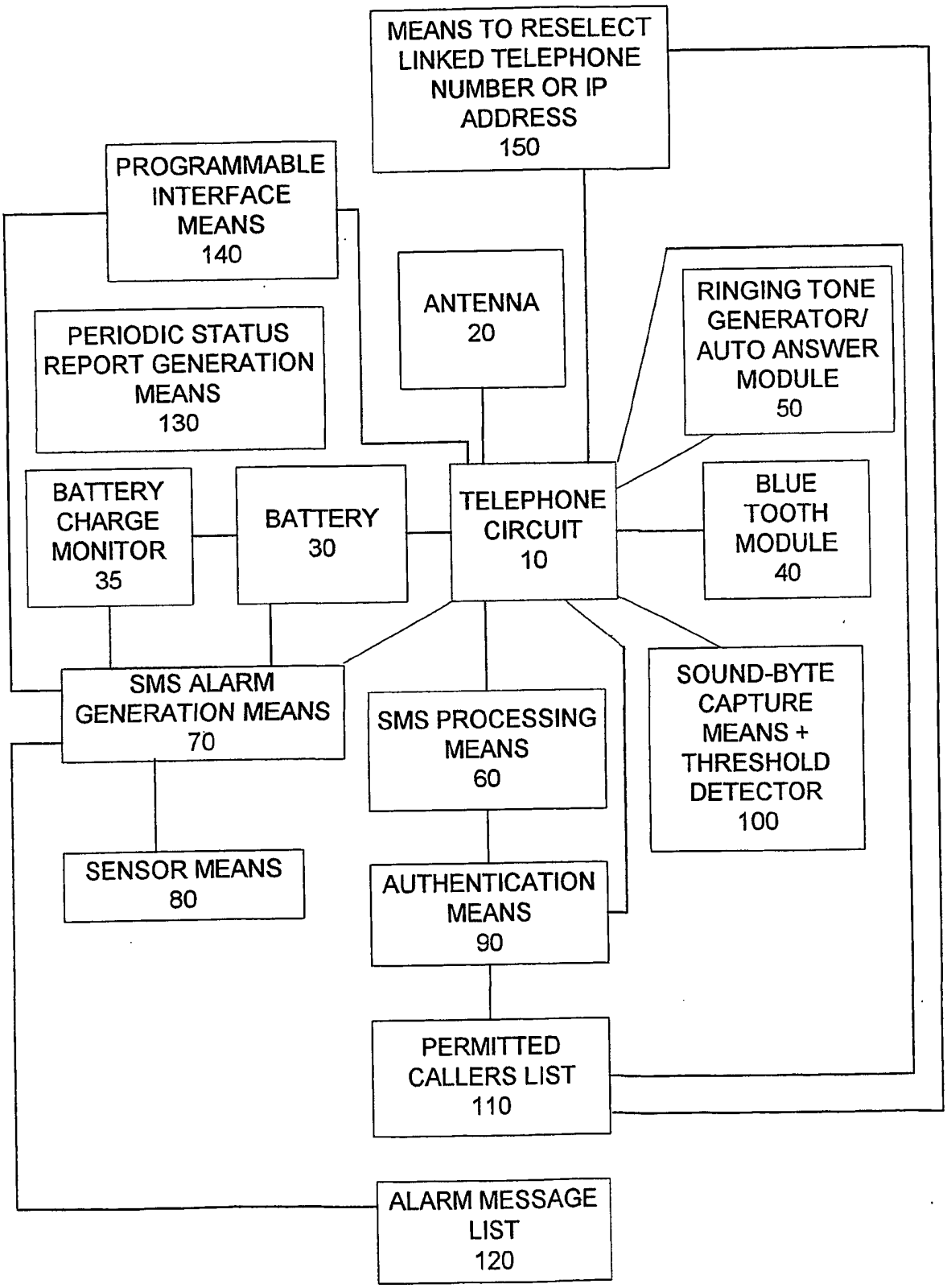

MEANS TO RESELECT LINKED TELEPHONE NUMBER OR IP ADDRESS 150
PROGRAMMABLE INTERFACE MEANS 140
ANTENNA 20
RINGING TONE GENERATOR/ AUTO ANSWER MODULE 50
PERIODIC STATUS REPORT GENERATION MEANS 130
BATTERY CHARGE MONITOR 35
BATTERY 30
TELEPHONE CIRCUIT 10
BLUE TOOTH MODULE 40
SMS ALARM GENERATION MEANS 70
SMS PROCESSING MEANS 60
SOUND-BYTE CAPTURE MEANS + THRESHOLD DETECTOR 100
SENSOR MEANS 80
AUTHENTICATION MEANS 90
PERMITTED CALLERS LIST 110
ALARM MESSAGE LIST 120

FIGURE-1

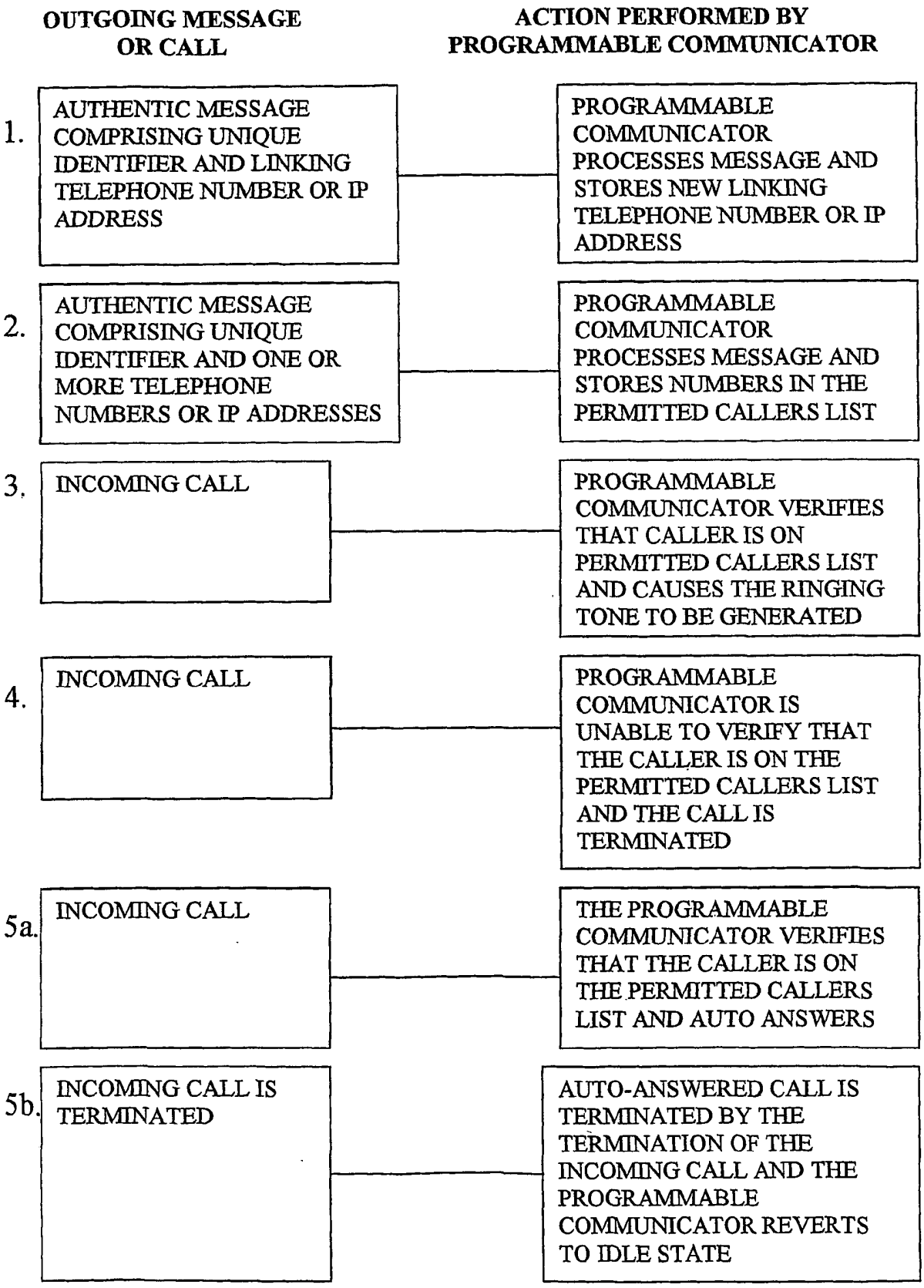

OUTGOING MESSAGE OR CALL
ACTION PERFORMED BY PROGRAMMABLE COMMUNICATOR
1.
AUTHENTIC MESSAGE COMPRISING UNIQUE IDENTIFIER AND LINKING TELEPHONE NUMBER OR IP ADDRESS
PROGRAMMABLE COMMUNICATOR PROCESSES MESSAGE AND STORES NEW LINKING TELEPHONE NUMBER OR IP ADDRESS
2.
AUTHENTIC MESSAGE COMPRISING UNIQUE IDENTIFIER AND ONE OR MORE TELEPHONE NUMBERS OR IP ADDRESSES
PROGRAMMABLE COMMUNICATOR PROCESSES MESSAGE AND STORES NUMBERS IN THE PERMITTED CALLERS LIST
3.
INCOMING CALL
PROGRAMMABLE COMMUNICATOR VERIFIES THAT CALLER IS ON PERMITTED CALLERS LIST AND CAUSES THE RINGING TONE TO BE GENERATED
4.
INCOMING CALL
PROGRAMMABLE COMMUNICATOR IS UNABLE TO VERIFY THAT THE CALLER IS ON THE PERMITTED CALLERS LIST AND THE CALL IS TERMINATED
5a.
INCOMING CALL
THE PROGRAMMABLE COMMUNICATOR VERIFIES THAT THE CALLER IS ON THE PERMITTED CALLERS LIST AND AUTO ANSWERS
5b.
INCOMING CALL IS TERMINATED
AUTO-ANSWERED CALL IS TERMINATED BY THE TERMINATION OF THE INCOMING CALL AND THE PROGRAMMABLE COMMUNICATOR REVERTS TO IDLE STATE

FIGURE 2.

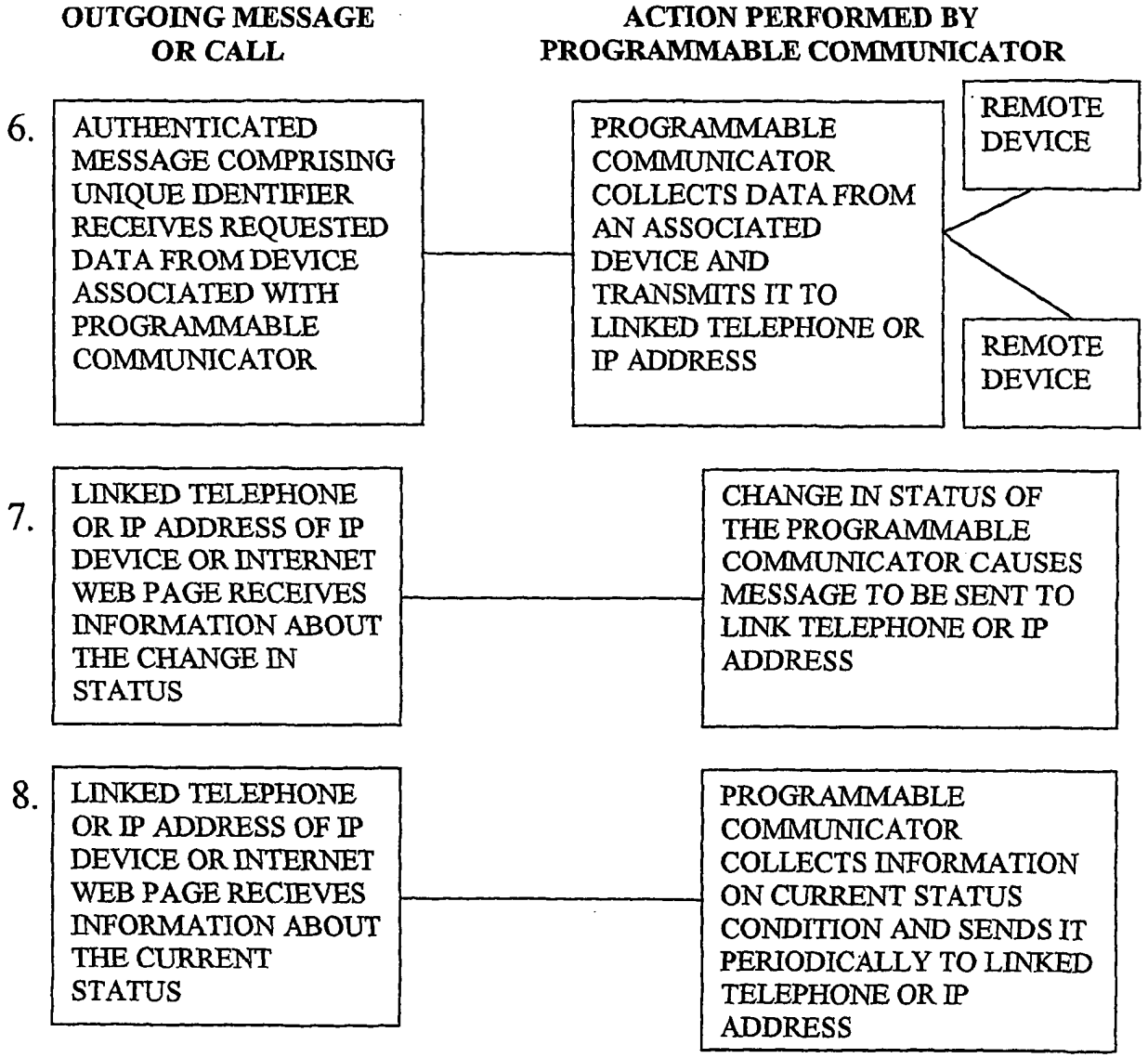

OUTGOING MESSAGE OR CALL
ACTION PERFORMED BY PROGRAMMABLE COMMUNICATOR
6.
AUTHENTICATED MESSAGE COMPRISING UNIQUE IDENTIFIER RECEIVES REQUESTED DATA FROM DEVICE ASSOCIATED WITH PROGRAMMABLE COMMUNICATOR
PROGRAMMABLE COMMUNICATOR COLLECTS DATA FROM AN ASSOCIATED DEVICE AND TRANSMITS IT TO LINKED TELEPHONE OR IP ADDRESS
REMOTE DEVICE
REMOTE DEVICE
7.
LINKED TELEPHONE OR IP ADDRESS OF IP DEVICE OR INTERNET WEB PAGE RECEIVES INFORMATION ABOUT THE CHANGE IN STATUS
CHANGE IN STATUS OF THE PROGRAMMABLE COMMUNICATOR CAUSES MESSAGE TO BE SENT TO LINK TELEPHONE OR IP ADDRESS
8.
LINKED TELEPHONE OR IP ADDRESS OF IP DEVICE OR INTERNET WEB PAGE RECIEVES INFORMATION ABOUT THE CURRENT STATUS
PROGRAMMABLE COMMUNICATOR COLLECTS INFORMATION ON CURRENT STATUS CONDITION AND SENDS IT PERIODICALLY TO LINKED TELEPHONE OR IP ADDRESS

FIGURE 3

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002 — 489-267/69033

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2001

Application or Docket Number: 10/296571

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	1	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	1 minus 20=	*
INDEPENDENT CLAIMS	1 minus 3 =	*
MULTIPLE DEPENDENT CLAIM PRESENT	N	☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE	445	OR	BASIC FEE	
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL	445	OR	TOTAL	

CLAIMS AS AMENDED - PART II

AMENDMENT A	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT B	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
***If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET

(FOR USE WITH FORM PTO-875)

SERIAL NO. 10/296,571 | FILING DATE

APPLICANT(S)

CLAIMS

	AS FILED		AFTER 1st AMENDMENT		AFTER 2nd AMENDMENT		*		*		*	
	IND.	DEP.	IND.	DEP.	IND.	DEP.	IND.	DEP.	IND.	DEP.	IND.	DEP.
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48												
49												
50												
TOTAL IND.												
TOTAL DEP.												
TOTAL CLAIMS												

	*		*		*	
	IND.	DEP.	IND.	DEP.	IND.	DEP.
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100						
TOTAL IND.						
TOTAL DEP.						
TOTAL CLAIMS						

PTO-1360 (2-76)

*MAY BE USED FOR ADDITIONAL CLAIMS OR AMENDMENTS

U.S. DEPARTMENT of COMMERCE
Patent and Trademark Office

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(71) Applicant and
(72) Inventor: WESBY-VAN SWAAY, Eveline [NL/FI]; Viinirinne 8A, FIN-02630 Espoo (FI).

(74) Agent: ROBSON, Aidan, John; Reddie & Grose, 16 Theobalds Road, London WC1X 8PL (GB).

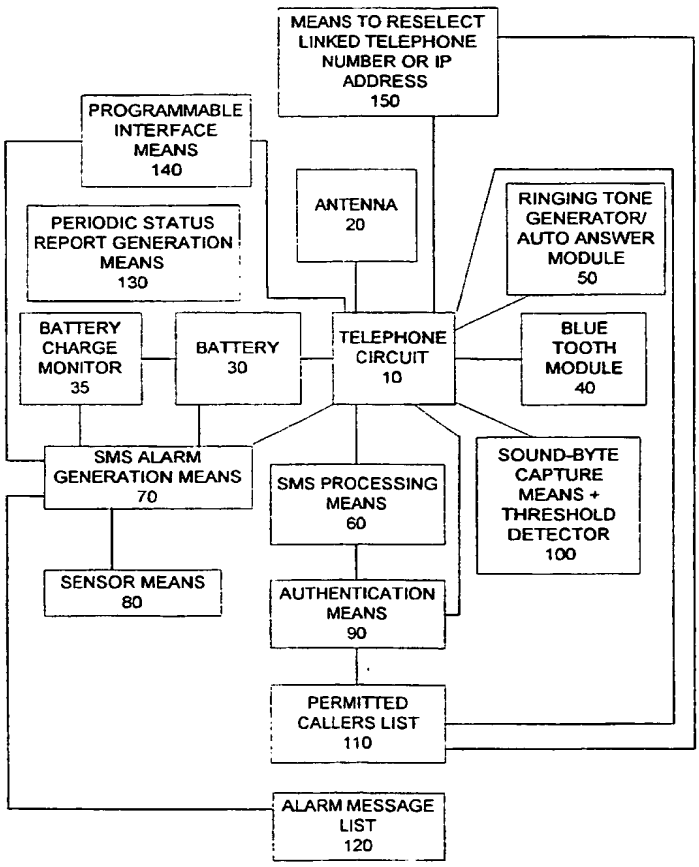
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

[Continued on next page]

(54) Title: PROGRAMMABLE COMMUNICATOR



(57) Abstract: A system and method for a programmable communicator is described which can provide an improved child communication device, a telecommunications platform for a smart clothes application, as well as a programmable remote data communicator to report the status of a technical apparatus such as a vending machine. The programmable communicator can be programmed remotely by a mobile phone or any Personal Data Assistant (PDA) type device using any data transmission technology such as BlueTooth, Infra red light or any wireless radio communication either directly at close range, or via a mobile telecommunications network connection from a hand-held device or computer terminal connected to a data or IP transmission network such as the Internet.

WO 01/91428 A3

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
18 April 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 01/05738

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04M1/725 H04M1/66 H04M1/2745 H04Q7/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04M H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 276 729 A (OTAKE ET AL) 4 January 1994 (1994-01-04) abstract	1-4,14
Y	column 2, line 44 -column 4, line 9 column 6, line 14 - line 34	14,16
Y	column 8, line 52 -column 9, line 9 column 10, line 66 -column 13, line 16	14,65,66
A	column 16, line 23 - line 40 figures 1,3	36,37,62

-/--

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
26 February 2002	05/03/2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx 31 651 epo nl, Fax: (+31-70) 340-3016	Fragua, M

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 742 666 A (ALPERT) 21 April 1998 (1998-04-21) abstract	14,16
A	column 3, line 6 - line 50 column 5, line 8 -column 6, line 5 column 6, line 59 -column 7, line 34 column 8, line 42 - line 54 column 13, line 51 -column 14, line 48 figures 1-3,8	18, 20-22, 24,25, 27,28, 30, 36-40, 42,49,57
Y	US 5 940 752 A (HENRICK) 17 August 1999 (1999-08-17) abstract	14,65,66
A	column 2, line 9 - line 31 column 3, line 47 -column 4, line 34 column 5, line 25 -column 6, line 14 figures 1,2,5	1,3,64
X	US 5 802 460 A (PARVULESCU ET AL) 1 September 1998 (1998-09-01) abstract	1-3,14, 33
A	column 2, line 63 -column 3, line 53 column 5, line 35 -column 6, line 7 column 6, line 66 -column 8, line 36 figures 1,3A,3B,4-6	16
A	DE 197 07 681 C (ERBEL ET AL) 7 May 1998 (1998-05-07) abstract column 2, line 8 -column 3, line 34 column 3, line 68 -column 4, line 7 figures 1,2	14, 16-18, 27,30, 32,36, 37, 40-42, 49,50,57
A	EP 0 996 302 A (CIT ALCATEL) 26 April 2000 (2000-04-26) abstract column 2, line 1 - line 11 column 2, line 45 - line 52 column 3, line 10 - line 26 column 3, line 53 -column 4, line 3 column 5, line 2 - line 45 column 5, line 53 -column 6, line 42 figure 1	1-3,14, 64

-/--

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 878 339 A (DION ET AL) 2 March 1999 (1999-03-02) abstract column 2, line 44 -column 3, line 6 column 4, line 11 - line 53 column 5, line 1 - line 35 column 6, line 15 -column 7, line 2 column 10, line 61 -column 11, line 43 figures 1,2	1-3,14, 33
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 07, 29 September 2000 (2000-09-29) & JP 2000 115859 A (ERICSSON INC), 21 April 2000 (2000-04-21) abstract & US 6 215 994 B1 (SCHMIDT ET AL) 10 April 2001 (2001-04-10) abstract column 2, line 20 -column 4, line 45 column 5, line 64 -column 6, line 11 column 6, line 21 -column 7, line 38 figures 1,2,7	1,2,14, 15

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 01/05738

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 5276729	A	04-01-1994	DE	4130024 A1	09-04-1992
			GB	2249923 A ,B	20-05-1992
			JP	4271526 A	28-09-1992
US 5742666	A	21-04-1998	NONE		
US 5940752	A	17-08-1999	CA	2206648 A1	31-01-1998
US 5802460	A	01-09-1998	NONE		
DE 19707681	C	07-05-1998	DE	19707681 C1	07-05-1998
			AU	6620598 A	18-09-1998
			WO	9838611 A1	03-09-1998
			EP	0965115 A1	22-12-1999
EP 0996302	A	26-04-2000	FR	2785136 A1	28-04-2000
			EP	0996302 A1	26-04-2000
			JP	2000134669 A	12-05-2000
			US	2001046854 A1	29-11-2001
US 5878339	A	02-03-1999	US	5594782 A	14-01-1997
			US	6134435 A	17-10-2000
			US	6122523 A	19-09-2000
			US	2001005683 A1	28-06-2001
			AU	687996 B2	05-03-1998
			AU	1737995 A	11-09-1995
			BR	9506894 A	09-09-1997
			CN	1142306 A	05-02-1997
			EP	0746955 A1	11-12-1996
			JP	9509543 T	22-09-1997
			WO	9523487 A1	31-08-1995
			US	5794141 A	11-08-1998
			AU	686742 B2	12-02-1998
			AU	1695995 A	11-09-1995
			AU	689215 B2	26-03-1998
			AU	1698995 A	11-09-1995
			AU	706261 B2	10-06-1999
			AU	7319598 A	27-08-1998
			BR	9506893 A	09-09-1997
			BR	9506895 A	09-09-1997
			CN	1141709 A	29-01-1997
			CN	1151237 A	04-06-1997
			EP	0746953 A1	11-12-1996
			EP	0746954 A1	11-12-1996
			JP	9509542 T	22-09-1997
			JP	3210989 B2	25-09-2001
			JP	9509544 T	22-09-1997
			JP	2001016645 A	19-01-2001
			NZ	279729 A	25-03-1998
			NZ	279750 A	19-12-1997
			NZ	281061 A	19-12-1997
			NZ	329077 A	29-04-1999
			US	5878344 A	02-03-1999
			WO	9523486 A1	31-08-1995
			WO	9523488 A1	31-08-1995
			US	6151510 A	21-11-2000
			US	5887259 A	23-03-1999
			US	5535260 A	09-07-1996

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 01/05738

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5878339 A		US 5787354 A	28-07-1998
		US 6243593 B1	05-06-2001
		US 6021335 A	01-02-2000
		US 5873037 A	16-02-1999
		US 5832378 A	03-11-1998
		US 5862475 A	19-01-1999
JP 2000115859 A	21-04-2000	US 6215994 B1	10-04-2001

PATENT COOPERATION TREATY

PCT

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

8

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
AJR/ABS/43104		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/EP01/05738	18/05/2001	23/05/2000
International Patent Classification (IPC) or national classification and IPC H04M1/725		
Applicant WESBY-VAN SWAAY, Eveline		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 17 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
21/12/2001	11.09.2002
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Agreda Labrador, A Telephone No. +49 89 2399 8263

Form PCT/IPEA/409 (cover sheet) (January 1994)

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:
Description, pages:

1-7,9-15	as originally filed	
8,17,17a-17b,29	with telefax of	21/08/2002

Claims, No.:

55-67	as originally filed	
1-54	with telefax of	21/08/2002

Drawings, sheets:

1/3-3/3	as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   - ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
   - ☐ the language of publication of the international application (under Rule 48.3(b)).
   - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   - ☐ contained in the international application in written form.
   - ☐ filed together with the international application in computer readable form.
   - ☐ furnished subsequently to this Authority in written form.
   - ☐ furnished subsequently to this Authority in computer readable form.
   - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
   - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:
   ☐ the claims, Nos.:
   ☐ the drawings, sheets:

5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)
   see separate sheet

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	5-13,15-32,34-67
	No:	Claims	1-4, 14 and 33
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-67
Industrial applicability (IA)	Yes:	Claims	1-67
	No:	Claims	

2. Citations and explanations
   see separate sheet

Reference is made to the following documents, cited in the International Search Report:

D1: US-A-5 276 729 (OTAKE ET AL) 4 January 1994
D2: US-A-5 802 460 (PARVULESCU ET AL) 1 September 1998
D3: US-A-5 742 666 (ALPERT) 21 April 1998
D4: US-A-5 940 752 (HENRICK) 17 August 1999
D5: DE 197 07 681 C (ERBEL ET AL) 7 May 1998
D6: EP-A-0 996 302 (CIT ALCATEL) 26 April 2000
D7: US-A-5 878 339 (DION ET AL) 2 March 1999
D8: PATENT ABSTRACTS OF JAPAN vol. 2000, no. 07, 29 September 2000 & JP 2000 115859 A (ERICSSON INC), 21 April 2000 & US 6 215 994 B1 (SCHMIDT ET AL) 10 April 2001

Re Item I: Basis of the report

1. Some amendments infringe the provisions of Article 34(2)(b) PCT as they go beyond the disclosure of the international application as originally filed.

2. The amendments consisted in new claim 1 referring to the **first and second mobile or fixed devices subsequently communicating bidirectionally via th programmable communicator**. A similar formulation is to be found in independent method claim 40.

   The application relates to remotely programming the communicator device by a programming transmitter being a first mobile or fixed device with the identification number (telephone number or IP address) of at least one second mobile or fixed device to which the communicator device is to be linked.

   However, **the application does not disclose the communication between th first and second mobile or fixed devices via the programmable communicator**.

3. According to the applicant, basis for these amendments is provided by the passages on page 21, lines 11-15, page 24, lines 4-8 and page 27, lines 25-31, which read as follows:

"Said programmable interface means may be attached to all manner of sensor devices for the purpose of relaying data from external devices and sensors either automatically or in response to a request for information from a remote device...

...Additional codes may be used by authenticated callers to interrogate the status condition of the programmable communicator, or to interrogate the status of data monitoring devices to which the communicator is wired or wirelessly attached...

...The types of data that the communicator can provide periodically, or on request, are determined directly by the application of the invention according to different remote monitoring embodiments. In each application the programmable communicator has the appropriate means to receive the data from the monitoring device and the means to process the data".

These passages explain that said external devices, sensors or monitoring devices can send data to a remote device via the programmable communicator, to which they are attached.

However, **it is clear from the description that said external devices, sensors or monitoring devices are not the second mobile or fixed devices**, the identifications of which had been programmed in the programmable communicator. These second mobile or fixed devices are rather the permitted callers' mobile or fixed telephones.

These amendments infringe therefore the provisions of Article 34(2)(b) PCT as they go beyond the disclosure of the international application as originally filed.

4. This report has therefore been established as if such amendments had not been made (Rule 70.2(c) PCT), ie it has been established on the claims as originally filed.

Re Item V: Reasoned statement under Article 35(2) with r gard to nov lty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Independent **claim 14** is considered as the claim with broadest scope. This claim does not meet the requirements of Articles 33(1) and (2) PCT because its subject-matter is **not novel**:

1a. The document **D1** is regarded as the closest prior art to the subject-matter of claim 14 and this document shows the following features thereof (applying the terminology of present claim 14 and references in parenthesis relating to D1):

A programmable communicator device (column 2, lines 44-50) comprising a digital mobile telephone circuit (figure 1 and corresponding text), a rechargeable battery (this feature is implicitly disclosed in D1 as a radiotelephone usually comprises a rechargeable battery), a compact antenna (21), a remotely pre-programmable identity module (control section), said programmable communicator device being remotely pre-programmed by a programming transmitter being a first mobile or fixed device (column 2, lines 44-56) with at least one second mobile or fixed device to which said programmable communicator device is to be linked (column 2, lines 56-61), said programmable communicator device being characterised by: processing means (Control section) for decoding a coded transmission in the form of a first message comprising a coded number, which determines the authenticity of said programming transmitter allowing it to program said programmable communicator device (column 3, lines 26-36).

This is the exact wording of claim 14, the subject-matter of which is consequently not novel (Articles 33(1) and (2) PCT).

1b. For the sake of completeness, it has to be said that the subject-matter of claim 14 is so **broad**, that is rendered not novel (Articles 33(1) and (2) PCT) by the disclosure of **D2** (see especially abstract, summary of the invention, column 6, line 66-column 8, line 36, figures 1, 3a, 3b, 4, 5, 6 and corresponding text).

2. The subject-matter of independent method claim 1 corresponds essentially to the subject-matter of apparatus claim 14. Therefore, the reasoning put forward above with respect to claim 14 also applies to claim 1, ie the subject matter of claim 1 is not novel (Articles 33 (1) and (2) PCT).

3. The additional features of the dependent claims 2-4 and 33 are also disclosed in D1 or D2 (see sections cited in the search report) and, consequently, cannot form the basis of another independent claim which meet the requirements of Article 33(1) and (2) PCT with respect to novelty.

4. If novelty of claims 1-4, 14 and 33 should be disputed based on some **minor** difference of interpretation between the features of cited claims and those disclosed in D1 or D2, it is pointed out that the subject-matter of these claims would in any case not involve an inventive step (Articles 33(1) and (3) PCT), given that D1 and D2 attempt to solve the same problem and describe the same type of solution as presently claimed.

5. The dependent claims 5-13, 15-32 and 34-67 do not seem to contain any subject-matter which, in combination with the subject-matter of the claim on which they are dependent, would lead to a claim involving inventive activity (Article 33(3) of the PCT). Their subject-matter is indeed either directly derivable from the above-cited documents (**D1-D8**; see search report for details) or concerns simple embodiments without inventive merit in themselves.

6. Certain observations on the international application

6a. The **lack of consistency** between the independent claims 1 and 14 in defining the essential features of the invention makes it difficult for a third party to determine the scope of protection sought. These claims comprise varying combinations of features (compare characterising parts of the two claims) and this renders the set of claims as a whole not clear and concise (Article 6 PCT).

The claims should be reformulated to contain all and the same essential features. Care should be taken that claim 1 is formulated in terms of **m thod** steps and claim 14 in terms of **structural** features (see point 7b).

6b. Some of the features in the independent apparatus claim 14, as well as in its dependent claims 15, 17, 18, 24, 27, 30, 31, 37, 38, 56-59 and 63-67 relate to **activities**, ie steps of a method (eg "**being** remotely pre-programmed" in claim 14; "said authenticated transmitter **transmits**" in claim 15) rather than clearly defining the apparatuses in terms of **structural** technical features. The category of these claims is therefore not clear, contrary to the requirements of Article 6 PCT.

This deficiency could be overcome by using the "means being adapted to" type of formulation (eg "**being adapted to be** remotely pre-programmed" in claim 14; "said authenticated transmitter **being adapted to transmit**" in claim 15).

6c. The meaning of "to proceed" is **too broad and not clear** (Article 6 PCT) in independent claim 1.

6d. "with at least one second mobile or fixed device" in claims 1 and 14 should read "with at least one second mobile or fixed device **number**" (Article 6 PCT).

6e. "an infrared light" (claim 60) should read "an infrared light transmitter" (Article 6 PCT).

7. Certain defects in the international application

7a. Although claims 1 and 14 are drafted in the two-part form, some features are incorrectly placed in the characterising portion of the claims, as they are disclosed in documents D1 and D2 (see Items V.1 and V.2) in combination with the features placed in the preamble (Rule 6.3(b) PCT).

7b. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

Further to these limitations of existing technologies, and so far as is known, no portable communication apparatus is presently available which serves to offer an improved programmable communicator which is directed towards the specific needs of this problem area as outlined.

US-A-5276729 teaches how to deal with a normal radiotelephone with a normal display and keypad. The user has to call his secretary for her to trigger a call from a stored desired number in said radiotelephone on his behalf. The user's secretary can program one or more telephone number only to be called and cause the radiotelephone to call the first programmed number without any intervention of the user.The dealer is capable of reprogramming the functioning parameters when a required password is entered at the radiotelephone or sent to the radiotelephone.

US-A-5802460 teaches how to deal with a two-way messaging device and a unidirectional wireless-messaging device that does not have a keypad but a display. It is a multifunction apparatus able to control a television receiver and transmit telephone numbers. To do so a set of actuators comprising a keypad are connected to said messaging device. The remote controller is programmed and the data are first put in the memory of the handset and then downloaded to the messaging device including an identifier

map after its position has been determined by its own GPS signal processing circuitry or remotely by the network.

Other objects and advantages of this invention will become apparent from the description to follow when read in conjunction with the accompanying drawings.

Summary of the Invention

According to the present invention there is provided a programmable communicator device comprising a digital mobile telephone circuit (10), a rechargeable battery (30), a compact antenna (20), a remotely pre-programmable identity module, and a digital processing device,

said programmable communicator device being remotely pre-programmed by a programmable transmitter being a first mobile or fixed device via a coded transmission which includes the identification number of at least one second mobile or fixed device to which the programmable communicator device is to be linked and an authorisation code to verify that the user is authorised to program the programmable communicator device,

wherein, the first and second mobile or fixed devices subsequently communicate bidirectionally via the programmable communicator.

According to the present invention there is further provided a method for programming a programmable communicator comprising the steps of;

remotely sending a coded transmission to the programmable communicator from a programming transmitter being a first mobile or fixed device, the transmission including the identification number of at least one second mobile or fixed device to which the programmable communicator is to be linked and an authorisation code,

decoding the transmission,

linking the programmable communicator to the second mobile or fixed device identified in the transmission in dependence on receipt of a correct authorisation code,

establishing a bi-directional communication link between the first and second devices via the programmable communicator.

Certain of the foregoing and related objects are readily-attained according to the present invention by the provision of a novel portable programmable communicator, which serves to address the diverse communication requirements of children and elderly persons and for the purposes of remote data monitoring applications such as for monitoring the status of remote technical devices.

The programmable communicator preferably comprises a basic mobile telephone circuit having no keypad or display and a rechargeable battery and antenna and a basic two-way microphone device and remotely pre-programmable identity module linking it to a single mobile or fixed telephone. Where appropriate, in alternative embodiments, the programmable communicator comprises an alarm means to indicate certain conditions of the communicator such as the charge level of its battery or if the battery is removed. Similar alarm messages are generated according to the particular embodiment of the programmable communicator application which include the generation of messages when an associated wrist strap or attachment of the communicator in the case of a smart clothes application is undone or displaced

wire or wirelessly connected by, for example, the BlueTooth radio technology in which case the programmable communicator comprises the necessary additional BlueTooth communications module.

In a sports or safety application, the programmable communicator may comprise a smart clothes tag and be sewn into the lining of a life vest such that a person paddling a canoe may use it for urgent communication.

Other applications for the programmable communicator include theme parks and other sports events or places where children may become lost in the crowds.

In addition, the invention may be utilised as a voice and data communicator for bicycles. In this application, data from the bicycle such as speed could be used in sports training as a means to enhance the performance of a cyclist. In a more general application, a programmable communicator can be used to inform the owner of a bicycle that his parked bicycle is being moved and to determine its location, if needed, by making use of the location-based services functionality of the telecommunications network.

While only one embodiment of the present invention: the programmable communicator within the context of the digital GSM telephone system in particular, has been shown and described in detail, it will be obvious to those persons of ordinary skill in the art, that many changes and modifications may be made thereunto. For example, the hot link communicator may

Claims

1. A programmable communicator device comprising a digital mobile telephone circuit (10), a rechargeable battery (30), a compact antenna (20), a remotely pre-programmable identity module, and a digital processing device,

said programmable communicator device being remotely pre-programmed by a programmable transmitter being a first mobile or fixed device via a coded transmission which includes the identification number of at least one second mobile or fixed device to which the programmable communicator device is to be linked and an authorisation code to verify that the user is authorised to program the programmable communicator device,

wherein, the first and second mobile or fixed devices subsequently communicate bidirectionally via the programmable communicator.

2. A programmable communicator device according to claim 1 wherein the first and second mobile or fixed devices communicate bidirectionally via the programmable communicator using SMS circuit-switched data calls.

3. A programmable communicator device according to claim 1 or 2 further comprising a ringing tone generator, a basic two-way microphone device and a digital processing device.

4. A programmable communicator device according to claim 1, 2 or 3 wherein said programming transmitter is a portable device or a computer terminal connected to a data or to an IP transmission network (such as the Internet).

5. A programmable communicator device according to claim 1, 2, 3 or 4 wherein said authenticated transmitter transmits a second message comprising;

one or a plurality of codes of one or a plurality of mobile or fixed authorised devices' telephone numbers by which said programmable communicator device is to call, and

one or a plurality of codes of one or a plurality of mobile or fixed authorised devices telephone numbers by which said programmable communicator device is to be called to pre-program said identity module.

6. A programmable communicator device according to claim 5 being adapted for monitoring emergency calls.

7. A programmable communicator device according to claim 6 further comprising a pressure sensitive means or a proximity detector means or a heat sensor means or an infrared heat detector means or a sound detector means.

8. A programmable communicator device according to claim 7 wherein said means prompts said programmable communicator device when a specific condition is met.

9. A programmable communicator device according to claim 8 wherein said heat sensor means or infrared heat detector means comprise an intelligent fire alarm which can communicate that a fire is in progress to an emergency fire centre and/or to devices associated with other emergency personnel.

10. A programmable communicator device according to claim 6 further comprising a back-up communication device within a wrist strap or a smart clothes attachment comprising a tag in order to prompt said programmable communicator device when said strap or attachment is broken or undone.

11. A programmable communicator device according to claim 8 wherein said specific condition is a threshold and when prompted said programmable communicator device will call one or more of said pre-programmed numbers or transmit data

to one or more IP addresses each associated with one or more remote digital devices in order to trigger an alarm and/or send a digital message.

12. A programmable communicator device according to claim 8-10 wherein said programmable communicator device further comprises means for continually emitting a call as a beacon in order to allow said programmable communicator device to be located.

13. A programmable communicator device according to claim 8-10 wherein said programmable communicator device further comprises means to send a message comprising a byte or a series of bytes in the form of a data message such as an E-mail to said one or to said plurality of pre-programmed numbers or IP addresses each associated with one or more remote digital devices or Internet web page.

14. A programmable communicator device according to claim 8-10 wherein said programmable communicator device allows a person under medical surveillance, to call said one or more of said pre-programmed numbers in order to trigger an alarm when said person under medical surveillance requires help.

15. A programmable communicator device according to claim 8-14 wherein said programmable communicator device further comprises a continuous retry feature such that the attempts to call said one or more of said pre-programmed numbers to trigger said alarm or to send said digital signal is continued until said alarm or said digital signal is successfully sent.

16. A programmable communicator device according to claim 8-14 wherein said programmable communicator device is further characterised in that it comprises an auto answer facility.

17. A programmable communicator device according to claim 8-14 for use in a life vest of canoe or boat sportsmen in the clothing of skiers or in order to alert a central control point to go to their rescue.

18. A programmable communicator device according to claim 1-17 further comprising means for using the short message service (SMS).

19. A programmable communicator device according to claim 1 further comprising an auto answer module and a digital processing device.

20. A programmable communicator device according to claim 19 wherein said programming transmitter is a portable device or a computer terminal connected to a data or to an IP transmission network (such as the Internet) and said programmable communicator device stores IP addresses instead of numbers into its memory.

21. A programmable communicator device according to claim 19-20 wherein said authenticated transmitter transmits a second message comprising;

one or a plurality of codes of one or a plurality of mobile or fixed authorised devices telephone numbers by which said programmable communicator device is to call, and

one or a plurality of codes of one or a plurality of mobile or fixed authorised devices telephone numbers by which said programmable communicator device is to be called to pre-program said identity module.

22. A programmable communicator device according to claim 21 further comprising a digital processing device for monitoring the status of one or a plurality of remote technical devices.

23. A programmable communicator device according to claim 22 further comprising;

a medical device to monitor the health of a physically disabled person, and

means for monitoring one or a plurality of medical processes and to convert one or a plurality of measured data into a digital signal representing said one or a plurality of medical processes status data; and

means to store one or a plurality of said status data and the date and/or time of said one or a plurality of medical process status data.

24. A programmable communicator device according to claim 23 wherein said medical device is

a pressure measuring device, or an electrocardiogram heart rhythm monitoring device or blood glucose concentration monitoring device or a blood electrolyte concentration monitoring device or kidney and/or liver function monitoring device or a blood clotting factor monitoring device, or a labour contraction monitoring device.

25. A programmable communicator device according to claim 22 wherein said programmable communicator device further comprises;

one or more sensor means (80) to relay data from external devices, and

means for monitoring one or a plurality of said sensor means (80) and to convert one or a plurality of measured data into a digital signal representing the status of said one or a plurality of remote devices; and

means to store one or a plurality of said status data and the date and/or time of said one or a plurality of external device status data.

26. A programmable communicator device according to claim 25 wherein said sensor means (80) is a heat sensor means or

an infrared heat detector in order to monitor the temperature of said external devices and said status data are temperatures.

27. A programmable communicator device according to claim 25 wherein said external device is a vending machine, said sensor means (80) detect the state of said vending machine, and said status data are EMPTY and NEARLY EMPTY for one or a plurality of products.

28. A programmable communicator device according to claim 27 wherein said state is user programmable.

29. A programmable communicator device according to claim 25 wherein said external device comprises a voice recognition means and said status data are a sound message as one or a plurality of sound bytes.

30. A programmable communicator device according to claim 22 wherein said programmable communicator device further comprises a locating system in order to monitor the location of said remote technical device and means to store one or a plurality of measured locations in the form of a digital signal representing a location or a series of locations and to store said measured locations and the date and/or time of said one or said plurality of measured locations of said remote technical devices.

31. A programmable communicator device according to claim 30 for use in a theme park environment for monitoring the location of children and/or of adults.

32. A programmable communicator device according to claim 31 wherein said locating system comprises a Global Positioning System (GPS).

33. A programmable communicator device according to claim 22-32 comprising means for remotely polling said remote technical devices by authorised callers with one or a plurality of different commands in order to send a different set of stored data each of said different set of stored data corresponding to said one or a plurality of different commands; or

for provoking said remote technical devices to periodically send messages comprising said stored data to pre-programmed numbers at said fixed or mobile devices in order to allow them to gather the evolving states of said technical remote devices for analysis and further actions to be taken.

34. A programmable communicator device according to claim 33 wherein said actions to be taken includes reprogramming said programmable communicator device.

35. A programmable communicator device according to claim 33 or 34 wherein said fixed or mobile device communicates via an IP network such as the Internet and said programmable communicator device sends said stored data in the form of a data message such as an e-mail to one or more IP addresses each associated with a remote digital device or Internet web page.

36. A programmable communicator device according to claim 35 wherein said programming transmitter is an infrared light transmitter or uses a Blue Tooth module and said programmable communicator also comprises a Blue Tooth module (40).

37. A programmable communicator device according to claim 35 wherein said programming transmitter communicate with said programmable communicator device via the CDMA or WCDMA or US-TDMA or using the GPRS packet switching telecommunication standards.

38. A programmable communicator device according to claim 19 wherein said coded number is the unique ID number associated with the remotely pre-programmable identity module such as the PUK number in the case of GSM.

39. A programmable communicator device according to claims 19-32 further comprising means for using the short message service (SMS).

40. A method for programming a programmable communicator comprising the steps of;

remotely sending a coded transmission to the programmable communicator from a programming transmitter being a first mobile or fixed device, the transmission including the identification number of at least one second mobile or fixed device to which the programmable communicator is to be linked and an authorisation code,

decoding the transmission,

linking the programmable communicator to the second mobile or fixed device identified in the transmission in dependence on receipt of a correct authorisation code,

establishing a bi-directional communication link between the first and second devices via the programmable communicator.

41. A method for programming a programmable communicator according to claim 40 wherein said programming transmitter and said programmable communicator device communicate via an IP network (such as the Internet) and that one or a plurality of IP addresses are received and stored in its memory, and

said programmable communicator device sends data messages such as E-mails and receives digital data.

42. A method for programming a programmable communicator according to claim 40 or 41 further comprising the steps of

receiving one or a plurality of prioritised codes of one or a plurality of mobile or fixed authorised devices telephone numbers by which said programmable communicator device is to call, sent by said programming transmitter and

receiving one or a plurality of codes of one or a plurality of mobile or fixed authorised devices telephone numbers by which said programmable communicator device is to be called sent by said programming transmitter to pre-program said identity module.

43. A method for programming a programmable communicator device according to claims 41 or 42 further comprising the steps of:

prompting said programmable communicator device by a specific sensing means when said specific sensing means state passes a threshold, and

repeatedly calling one or more of said stored telephone numbers until an alarm is successfully sent.

44. A method for programming a programmable communicator device according to claims 43 in use for monitoring emergency calls further comprising the steps of:

prompting said programmable communicator device with a specific sensing means when said specific sensing means state passes a threshold condition with a digital signal,

storing said digital signal corresponding to said specific sensing means

sending said digital signal in the form of a data message such as an e-mail to one or a plurality of

stored IP addresses each associated with a remote digital device or an Internet web page, and

repeatedly calling one or more of said stored telephone numbers until an alarm is successfully sent.

45. A method for programming a programmable communicator according to claims 40-44 wherein said programmable communicator device further comprises means for using the short message service (SMS).

46. A method for programming a programmable communicator according to claim 40 wherein the programmable communicator includes an auto answer module.

47. A method for programming a programmable communicator according to claim 46 wherein said programming transmitter is a portable device or a computer terminal connected to a data or to an IP transmission network (such as the Internet) and said programmable communicator device stores IP addresses instead of numbers into its memory, and

said programmable communicator device sends data messages such as E-mails and receives digital data.

48. A method for programming a programmable communicator according to claim 46 or 47 further comprising the steps of

receiving one or a plurality of prioritised codes of one or a plurality of mobile or fixed authorised devices telephone numbers by which said programmable communicator device is to call, sent by said programming transmitter and

receiving one or a plurality of codes of one or a plurality of mobile or fixed authorised devices telephone numbers by which said programmable communicator device is to be called sent by said programming transmitter to pre-program said identity module.

49. A method for programming a programmable communicator according to claim 48 in use for monitoring the status of one or a plurality of remote devices further comprising the steps of:

said programming transmitter sending one or a plurality of codes to said programmable communicator device

prompting said programmable communicator device to initiate one or a plurality of remote devices to be monitored.

50. A method for programming a programmable communicator according to claim 49 wherein said remote device is a medical device.

51. A method for programming a programmable communicator according to claim 49 or 50 further comprising the steps of:

said programming transmitter sending one or a plurality of digital commands to said programmable communicator device,

prompting said remote device to read said one or a plurality of digital commands to initiate itself to execute a task and to periodically write measured physical data or process status in a digital form and/or its position and/or date and time of one or a plurality of bytes into said programmable communicator device memory.

52. A method for programming a programmable communicator according to claim 51 further comprising the steps of:

either periodically calling said programmable communicator device by a surveillance mobile or fixed device, sending one of said codes as required to authenticate itself in order to prompt said programmable communicator device to send its stored digital data and to flush its memory,

or said programmable communicator device periodically calling one or a plurality of stored telephone numbers in order to send its stored digital data and to flush its memory,

or said programmable communicator device periodically sending a data message such as an e-mail to one or more of said stored IP addresses each associated with one or more remote digital devices or an Internet web page in order to send its stored digital data and to flush its memory.

53. A method for programming a programmable communicator according to claim 52 further comprising the steps of:

analysing said sent digital data to survey the evolution of a health state of a surveyed person or of an evolving process in order to take further action according to the degree of emergency of said surveyed person or process, and

if necessary, said further action also comprising the step of reprogramming said programmable communicator device in order to re-initiate said remote device according to said analysis with other digital data comprising other parameters sent to said programmable communicator device.

54. A method for programming a programmable communicator according to claim 46-53 wherein said programmable communicator device further comprising means for using the short message service (SMS).

ATENT COOPERATION TREAT

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION** see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
AJR/ABS/43104		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/EP 01/05738	18/05/2001	23/05/2000
Applicant		
WESBY-VAN SWAAY, Eveline		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

[ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

[ ] contained in the international application in written form.

[ ] filed together with the international application in computer readable form.

[ ] furnished subsequently to this Authority in written form.

[ ] furnished subsequently to this Authority in computer readble form.

[ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

[ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [ ] **Certain claims were found unsearchable** (See Box I).

3. [ ] **Unity of invention is lacking** (see Box II).

4. With regard to the **title,**

[X] the text is approved as submitted by the applicant.

[ ] the text has been established by this Authority to read as follows:

5. With regard to the **abstract,**

[X] the text is approved as submitted by the applicant.

[ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 1

[X] as suggested by the applicant.

[ ] None of the figures.

[ ] because the applicant failed to suggest a figure.

[ ] because this figure better characterizes the invention.

Form PCT/ISA/210 (first sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 01/05738

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04M1/725 H04M1/66 H04M1/2745 H04Q7/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04M H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 276 729 A (OTAKE ET AL) 4 January 1994 (1994-01-04) abstract	1-4,14
Y	column 2, line 44 -column 4, line 9 column 6, line 14 - line 34	14,16
Y	column 8, line 52 -column 9, line 9 column 10, line 66 -column 13, line 16	14,65,66
A	column 16, line 23 - line 40 figures 1,3	36,37,62

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
26 February 2002	05/03/2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Fragua, M

1

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 742 666 A (ALPERT) 21 April 1998 (1998-04-21) abstract	14,16
A	column 3, line 6 - line 50 column 5, line 8 -column 6, line 5 column 6, line 59 -column 7, line 34 column 8, line 42 - line 54 column 13, line 51 -column 14, line 48 figures 1-3,8	18, 20-22, 24,25, 27,28, 30, 36-40, 42,49,57
Y	US 5 940 752 A (HENRICK) 17 August 1999 (1999-08-17) abstract	14,65,66
A	column 2, line 9 - line 31 column 3, line 47 -column 4, line 34 column 5, line 25 -column 6, line 14 figures 1,2,5	1,3,64
X	US 5 802 460 A (PARVULESCU ET AL) 1 September 1998 (1998-09-01) abstract	1-3,14, 33
A	column 2, line 63 -column 3, line 53 column 5, line 35 -column 6, line 7 column 6, line 66 -column 8, line 36 figures 1,3A,3B,4-6	16
A	DE 197 07 681 C (ERBEL ET AL) 7 May 1998 (1998-05-07) abstract column 2, line 8 -column 3, line 34 column 3, line 68 -column 4, line 7 figures 1,2	14, 16-18, 27,30, 32,36, 37, 40-42, 49,50,57
A	EP 0 996 302 A (CIT ALCATEL) 26 April 2000 (2000-04-26) abstract column 2, line 1 - line 11 column 2, line 45 - line 52 column 3, line 10 - line 26 column 3, line 53 -column 4, line 3 column 5, line 2 - line 45 column 5, line 53 -column 6, line 42 figure 1	1-3,14, 64

-/--

1

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 878 339 A (DION ET AL) 2 March 1999 (1999-03-02) abstract column 2, line 44 -column 3, line 6 column 4, line 11 - line 53 column 5, line 1 - line 35 column 6, line 15 -column 7, line 2 column 10, line 61 -column 11, line 43 figures 1,2	1-3,14, 33
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 07, 29 September 2000 (2000-09-29) & JP 2000 115859 A (ERICSSON INC), 21 April 2000 (2000-04-21) abstract & US 6 215 994 B1 (SCHMIDT ET AL) 10 April 2001 (2001-04-10) abstract column 2, line 20 -column 4, line 45 column 5, line 64 -column 6, line 11 column 6, line 21 -column 7, line 38 figures 1,2,7	1,2,14, 15

1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 01/05738

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5276729 A	04-01-1994	DE 4130024 A1	09-04-1992
		GB 2249923 A ,B	20-05-1992
		JP 4271526 A	28-09-1992
US 5742666 A	21-04-1998	NONE	
US 5940752 A	17-08-1999	CA 2206648 A1	31-01-1998
US 5802460 A	01-09-1998	NONE	
DE 19707681 C	07-05-1998	DE 19707681 C1	07-05-1998
		AU 6620598 A	18-09-1998
		WO 9838611 A1	03-09-1998
		EP 0965115 A1	22-12-1999
EP 0996302 A	26-04-2000	FR 2785136 A1	28-04-2000
		EP 0996302 A1	26-04-2000
		JP 2000134669 A	12-05-2000
		US 2001046854 A1	29-11-2001
US 5878339 A	02-03-1999	US 5594782 A	14-01-1997
		US 6134435 A	17-10-2000
		US 6122523 A	19-09-2000
		US 2001005683 A1	28-06-2001
		AU 687996 B2	05-03-1998
		AU 1737995 A	11-09-1995
		BR 9506894 A	09-09-1997
		CN 1142306 A	05-02-1997
		EP 0746955 A1	11-12-1996
		JP 9509543 T	22-09-1997
		WO 9523487 A1	31-08-1995
		US 5794141 A	11-08-1998
		AU 686742 B2	12-02-1998
		AU 1695995 A	11-09-1995
		AU 689215 B2	26-03-1998
		AU 1698995 A	11-09-1995
		AU 706261 B2	10-06-1999
		AU 7319598 A	27-08-1998
		BR 9506893 A	09-09-1997
		BR 9506895 A	09-09-1997
		CN 1141709 A	29-01-1997
		CN 1151237 A	04-06-1997
		EP 0746953 A1	11-12-1996
		EP 0746954 A1	11-12-1996
		JP 9509542 T	22-09-1997
		JP 3210989 B2	25-09-2001
		JP 9509544 T	22-09-1997
		JP 2001016645 A	19-01-2001
		NZ 279729 A	25-03-1998
		NZ 279750 A	19-12-1997
		NZ 281061 A	19-12-1997
		NZ 329077 A	29-04-1999
		US 5878344 A	02-03-1999
		WO 9523486 A1	31-08-1995
		WO 9523488 A1	31-08-1995
		US 6151510 A	21-11-2000
		US 5887259 A	23-03-1999
		US 5535260 A	09-07-1996

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5878339 A		US 5787354 A	28-07-1998
		US 6243593 B1	05-06-2001
		US 6021335 A	01-02-2000
		US 5873037 A	16-02-1999
		US 5832378 A	03-11-1998
		US 5862475 A	19-01-1999
JP 2000115859 A	21-04-2000	US 6215994 B1	10-04-2001

62/149/02

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Commissioner
US Department of Commerce
United States Patent and Trademark Office, PCT
2011 South Clark Place Room CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 29 January 2002 (29.01.02)	
International application No. PCT/EP01/05738	**Applicant's or agent's file reference** AJR/ABS/43104
International filing date (day/month/year) 18 May 2001 (18.05.01)	**Priority date** (day/month/year) 23 May 2000 (23.05.00)
Applicant WESBY-VAN SWAAY, Eveline	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

21 December 2001 (21.12.01)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO **34, chemin des Colombettes** **1211 Geneva 20, Switzerland**	Authorized officer Odile ALIU
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

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EP0105738

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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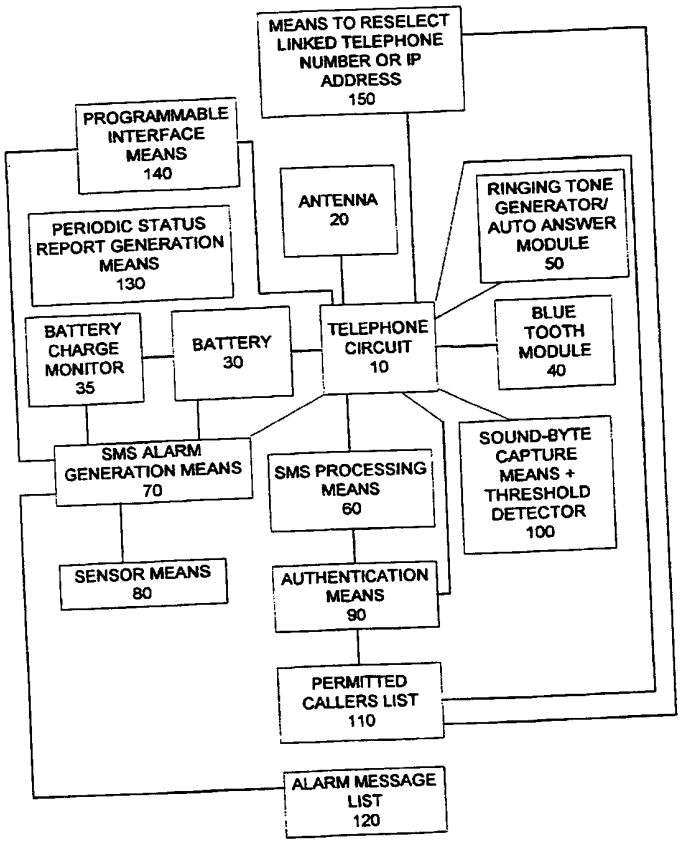
— *without international search report and to be republished upon receipt of that report*

[Continued on next page]

(54) Title: PROGRAMMABLE COMMUNICATOR



(57) Abstract: A system and method for a programmable communicator is described which can provide an improved child communication device, a telecommunications platform for a smart clothes application, as well as a programmable remote data communicator to report the status of a technical apparatus such as a vending machine. The programmable communicator can be programmed remotely by a mobile phone or any Personal Data Assistant (PDA) type device using any data transmission technology such as BlueTooth, Infra red light or any wireless radio communication either directly at close range, or via a mobile telecommunications network connection from a hand-held device or computer terminal connected to a data or IP transmission network such as the Internet.

WO 01/91428 A2

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

PROGRAMMABLE COMMUNICATOR

DESCRIPTION

BACKGROUND OF THE INVENTION

The invention relates to a programmable wireless communications apparatus. More particularly, it relates to a programmable wireless communications apparatus, which can provide an improved means of communication between children and their parents, between elderly persons and caring relatives, and between mentally less-able individuals and supervising adults. In addition, the invention provides a solution for smart clothes applications, which may comprise a telecommunications means within the lining of a jacket or other article of clothing, as well as a solution for user-programmable data tags which convey information from remotely located devices such as vending machines. The invention relates to and significantly improves upon a previously filed patent application claiming Finnish priority of 9th September 1997 entitled a Portable Hotlink Communicator published as international patent application PCT/GB98/02715.

In this previously filed application, is taught the invention of using a mobile phone comprising a programmable identity module such as a SIM card, in the context of the GSM telecommunications standard, to program the number of any mobile or fixed telephone to which the Hotlink communicator, comprising a similar type of programmable identity

module, is to be linked. Existing and known methods of communication between the mobile phone and Hotlink communicator for the purpose of programming comprise the obvious choice of data calls such as the Short Message Service in the GSM telecommunications standard. Alternatively a PDA type communicator might call up a web page to instruct a network element to program the programmable identity module of the Hotlink with the number of any fixed or mobile telephone to which the Hotlink communicator is to be linked.

This use of a separate mobile phone to program the number to which the Hotlink may call is particularly useful and convenient should a parent wish to change the number if the parent must leave shortly and want that the Hotlink is connected immediately to the mobile phone or fixed line of another parent or supervising neighbour.

The current invention builds upon the teaching of this earlier application and extends the concept significantly that it has more general and suitable application to both the child Hotlink communicator and also to the field of programmable wireless data communication tags for the purpose of providing information about the status of a vending machine or other piece of technical equipment such as a home appliance or a device to monitor whether a door is open or closed.

In addition to this, the current invention relates directly to programmable wireless data communication tags, which comprise the means to be interfaced directly with other technical equipment such that each tag can be programmed remotely by any means to be linked to any fixed or mobile telephone to enable data to be sent to or from the device and to allow a person to make a voice call connection to the linked telephone.

Today parents are concerned whether to provide a young child with a mobile phone or not. The concern relates to the cost of the mobile phone should it be lost or stolen and also to the cost of the use of the mobile phone. Clearly there is a need to provide a means to limit the cost of calling and also to provide a means to prevent the child dialling overseas numbers for extensive periods of time.

In the context of mobile phone operators, there exists a need to provide a simple and effective communication device, which can provide the means for family tariffing such that subscriptions for children can be related to the subscriptions of their parents' mobile phones. An improved child Hotlink

communicator, which restricts the usage of the mobile phone and thereby does not generate high charges through uncontrolled calling, is clearly a solution to the family tariffing challenge.

Parents are often concerned about the whereabouts of their children and new positioning technologies are being developed for locating mobile phones. These solutions include self-positioning solutions and remote positioning solutions. One example of a self-positioning solution includes the satellite-based Global Positioning System technology in which the mobile phone comprising a GPS signal processing circuit is able to determine the coordinates of its own position by processing signals received from satellites and communicate these coordinates to a location centre associated with the network. One example of a remote positioning solution is the method taught in US patent 5,051,741 claiming priority of 27th March 1990 in which the mobile phone is paged and caused to transmit a response which is processed by communication stations such as time-of-arrival measurement units associated with the network of master stations or base stations.
This remote positioning method has the advantage that the position of the mobile phone can be determined by making use of existing signalling between the mobile phone and the network without requiring any changes to the mobile phone, which would increase its cost. The generic network-based, remote-positioning architecture method of US 5,051,741 may make use of time of arrival methods or phase difference calculations to increase the resolution of the area or sector within which the mobile phone is located.

While the location of the mobile phone itself is a good indication of the present location of the person carrying the mobile phone, an improvement would be a means to lock the mobile phone to the child, such that use of the mobile phone positioning technologies would then determine the position of the child.

In addition to these concerns about the failures of existing mobile communications technology to provide an improved and more secure method of instant communication between a parent and a young child, and the means to determine the position of the child, there is additional concern that the battery of the communicator may drain its power without the parent knowing, or may be removed, which would prevent the communicator from receiving calls or dialling to the programmed fixed or mobile number to which the communicator is linked.

In addition to these specific communication problem needs, there is a growing yet unsubstantiated concern about the potentially harmful effect of electromagnetic radiation from mobile phones upon the developing brains of young children. Within this context, there is an opportunity to design a communication device for children, which positions the radiating electromagnetic field of a communication device away from the close proximity of the brain. In this regard, parents who maintain the belief that mobile telephones present a health risk due to the radiating antenna may rest secure in the knowledge that this risk can be significantly reduced.

In a separate context, there exists a growing need for a mobile telephone solution, which is cost effective to manufacture, but which is versatile such that it can form the basis for a smart clothes tag or communications application platform. In this context the requirement is for an embedded mobile phone platform comprising no keypad or display, which may be sewn into the lining of a jacket, or other article of clothing, having only the call button protruding and a simple pin connection to recharge the battery. The problem with prior art solutions is that unless the smart clothes tag can be user-programmable to call any fixed or mobile number by making use of an acceptable method such as via an SMS data call or via a BlueTooth radio transmission from a mobile phone or intelligent PDA, the solution is impractical to implement.

In security applications where emergency service personnel carry hand-held primary communications devices such as conventional mobile phones, a back-up communications device such as a smart clothes embedded tag can be of great value in the instance that the primary communications device is lost or broken.

In sports areas such as on lakes where there may be people using canoes, a smart clothes communications tag embedded in a life vest may serve to alert a central control point that a person is in difficulty and also to alert other persons in the area to go to their rescue.

In an additional application area, skiers in difficulty would benefit from a smart clothes user-programmable communications tag attached to their clothing, which is pre-programmed to be linked with a fixed or mobile telephone and need only have its protruding button pressed to make communication with a central alarm point.

In an additional application area there exists the need for a user-programmable remote wireless communications data tag, which can be used to relay information about the status of a remote piece of technical equipment such as a vending machine. Home networks could be simplified by making use of the existing mobile network infrastructure to relay data about the status of a home appliance or to indicate whether a door is open or closed. Packet switched technologies such as GPRS may be used as the radio access technology to communicate the status of the technical equipment.

In an additional application area there exists the need for a versatile communications platform, which can be combined with remote health monitoring technology to assist doctors with remote diagnosis of patients.

In an additional application there is the need for a versatile communications which is able to work effectively when the network is temporarily overloaded such that it has the means to store a sound message as a sound byte or convert it using voice recognition software such that it can be forwarded as soon as the network capacity becomes less loaded.

Further to these limitations of existing technologies, and so far as is known, no portable communication apparatus is presently available which serves to offer an improved programmable communicator which is directed towards the specific needs of this problem area as outlined.

OBJECTS OF THE INVENTION

Accordingly, it is an object of the present invention to provide an improved programmable communications apparatus, which can be remotely programmed by any mobile phone or IP device such that it can be linked to any particular fixed or mobile phone or IP device.

It is a further object of the present invention to provide a programmable communications apparatus, which may be programmed at close range using infrared light or a BlueTooth radio connection, or via a terminal-to-terminal network based data call such as the GSM SMS short message service or via a GPRS packet data communication.

It is a further object of the present invention to provide a programmable communications apparatus, which may be programmed by a mobile or fixed device which is able to call up an Internet web page and which comprises the means to instruct the network to reprogram the communications apparatus with the mobile or fixed number to which the programmable communications device is to be linked.

It is a further object of the present invention to provide a programmable communications apparatus, which may be programmed via the Internet such that the network communicates with a device in the vicinity of the programmable communications apparatus which itself causes the said apparatus to be programmed using any means such as wireless communication, infrared light or a BlueTooth radio link.

It is a further object of the present invention to provide a plurality of programmable communications apparatuses, which may be simultaneously programmed by a mobile or fixed device which is able to call up an Internet web page and select one or more apparatuses of the said plurality and cause each of the selected number of apparatuses to be linked to the identical mobile or fixed telephone.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises a processing means to process coded transmissions and permit only transmissions comprising a coded number, which determines the authenticity of the message, to be allowed to program the number to which the said apparatus be linked.

It is a further object of the present invention to provide a programmable communications apparatus, which comprises a wrist strap, or an attachment such as in the case of the smart clothes application, and a first alarm means which can be programmed such that it can cause a message to be sent to the fixed or mobile number to which the said apparatus is linked in the case that the wrist strap be broken or undone or in the case that the said attachment be broken or displaced from an initial position of equilibrium.