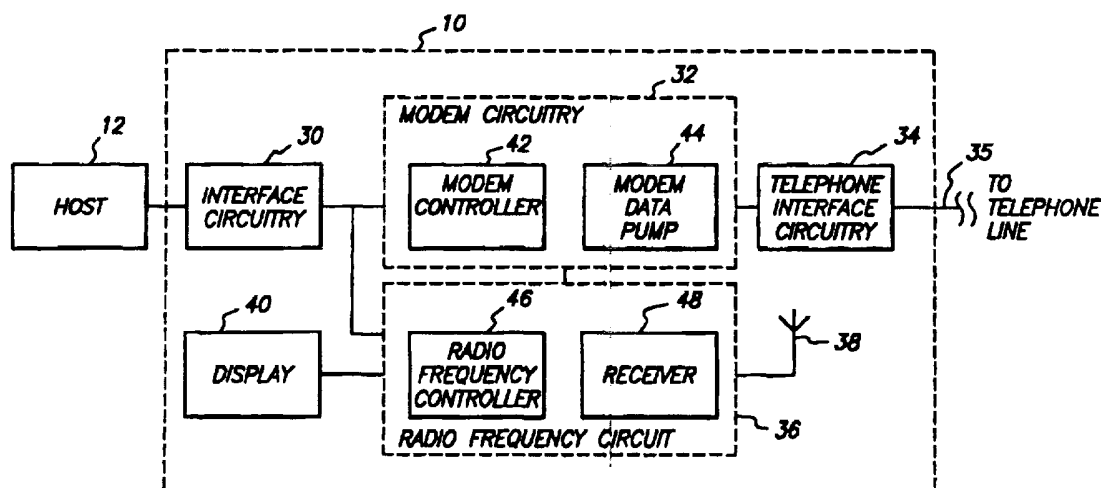




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/US94/14926 (22) International Filing Date: 22 December 1994 (22.12.94) (30) Priority Data: 08/174,797 29 December 1993 (29.12.93) US (71) Applicant: NOVALINK TECHNOLOGIES, INC. [US/US]; Suite 208, 48511 Warm Springs Boulevard, Fremont, CA 94539 (US). (72) Inventors: KRISHAN, Baldev; 1450 Washo Drive, Fremont, CA 94539 (US). CHANG, Wang, Yang; 10209 Bonny Drive, Cupertino, CA 95014 (US). (74) Agent: ROGERS, Laurence, S.; Fish & Neave, 1251 Avenue of the Americas, New York, NY 10020 (US).		(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i> (88) Date of publication of the international search report: 17 August 1995 (17.08.95)	

(54) Title: DATA COMMUNICATION DEVICE



(57) Abstract

A data communication device is provided that can be connected to a host computer to add communications capabilities to the host. The data communication device contains a user-programmable multi-channel pager/e-mail receiver that has both numeric and alphanumeric capabilities and a modem. Further, the data communication device may be used with the host as a telephone set or a telephone answering machine. When the device is used as a telephone answering machine and a user desires to retrieve stored messages, the local telephone office is prevented from placing a fast busy signal on the telephone line. The user can update the firmware of the data communication device, or it can be updated remotely by downloading a new firmware version using the pager/e-mail receiver.

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INTERNATIONAL SEARCH REPORT

Intern. al Application No

PCT/US 94/14926

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 H04B1/38

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 6 H04B 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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO,A,91 00676 (AT&E) 10 January 1991	1,2, 5-11,15, 16,24, 25,28, 29,32-34
A	see abstract; claims 1-3; figures 2,5	3-5, 11-14, 17-23, 26,27, 30,31
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

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- "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

18 April 1995

Date of mailing of the international search report

18.07.95

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

Intern. al Application No
PCT/US 94/14926

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO,A,90 13213 (BLICK COMMUNICATIONS) 1 November 1990	1,2, 6-10,15, 16,24, 25,28, 29,32-34
A	see page 1, line 10 - page 3, line 14; figure 1 see page 5, line 20 - page 6, line 11 see page 7, line 17 - page 9, line 8 see page 12, line 18 - line 21	3-5, 11-14, 17-23, 26,27, 30,31
Y	--- WO,A,91 11889 (AT&E) 8 August 1991 see page 5, line 17 - page 7, line 12 see page 11, line 3 - page 12, line 3 see page 13, line 10 - line 18 -----	1,2,5-11

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 94/ 14926

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. claims 1-34: radio frequency paging receiver
2. claim 35: method for preventing a local telephone office from placing a fast busy signal on a telephone line

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-34

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

...information on patent family members

Intern. Application No

PCT/US 94/14926

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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