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PROVISIONAL APPLICATION COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION under 37 C.F.R. 1.53 (b) (2).

05/25/99

JC490 U.S. PTO

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Docket Number	945.014PRV	Type a plus sign (+) inside this box >
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INVENTOR(S)/APPLICANT(S)

Name (last, first, middle initial)	RESIDENCE (CITY, AND EITHER STATE OR FOREIGN COUNTRY)
Menard, Raymond J. Quady, Curtis E.	Bloomington, Minnesota Bloomington, Minnesota

TITLE OF THE INVENTION (280 characters max)

BIDIRECTIONAL WIRELESS DETECTION SYSTEM

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STATE	Minnesota	ZIP CODE	55402	COUNTRY	United States of America
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ENCLOSED APPLICATION PARTS (check all that apply)

<input checked="" type="checkbox"/> Specification	Number of Pages	<u>44</u>	<input type="checkbox"/> Small Entity Statement
<input checked="" type="checkbox"/> Drawing(s)	Number of Sheets	<u>9</u>	<input type="checkbox"/> Other (specify) _____

METHOD OF PAYMENT (check one)

<input type="checkbox"/> A check or money order is enclosed to cover the Provisional filing fees	PROVISIONAL FILING FEE AMOUNT	\$150.00
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge the provisional application filing fee and any additional required fees or credit overpayment to Deposit Account Number: <u>19-0743</u>		

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted,
SIGNATURE *Timothy E. Bianchi*

Date May 25, 1999

TYPED OR PRINTED NAME Timothy E. Bianchi

REGISTRATION NO. 39,610

Additional inventors are being named on separately numbered sheets attached hereto.

PROVISIONAL APPLICATION FILING ONLY

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

A/PROV

In re PROVISIONAL Patent Application of: Raymond J. Menard et al.

Title: BIDIRECTIONAL WIRELESS DETECTION SYSTEM

Docket No.: 945.014PRV

Jc542 U.S. PTO
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BOX PROVISIONAL APPLICATION

Assistant Commissioner for Patents
Washington, D.C. 20231

05/25/99

U.S. PTO

are transmitting herewith the following attached items (as indicated with an "X"):

A PROVISIONAL Patent Application comprising:

- Specification (44 pgs, including claims numbered 1 through 191 and a 1 page Abstract).
- 9 Sheet(s) of drawing(s).
- Provisional Application Cover Sheet (1 page) including authorization to charge the provisional application filing fee to Deposit Account No. 19-0743.
- A return postcard.

Please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

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By: Timothy E. Bianchi
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CERTIFICATE UNDER 37 CFR 1.10:

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I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Attn: BOX PROVISIONAL APPLICATION, Washington, D.C. 20231.

By: Timothy E. Bianchi
Name: Timothy E. Bianchi
(NEW FILING)

Bidirectional Wireless Detection System

Field of the Invention

The present invention relates generally to security, alarm or detection systems and wireless systems; and in particular to a bidirectional wireless detection system.

Background

The provision of a security alarm detection system generally requires several components and a rather complex installation. Consequently, most detection systems require professional installation and setup.

Some of the current designs try to integrate many or all of the components and devices in a single enclosure or case. However, much of the complexity and cost remains since most of the devices and components are still in use.

Occasionally a detection system actuates automatic systems such as fire suppression or equipment shutdown, but in order for a detection system to be effective it usually must summon help. One approach for summoning help is to annunciate a local alarm that attracts attention. Another is to use a recorded message that is called to a list of phone numbers. Yet another is to use a professional central station monitoring service that receives data signals from the premise. As alarms, false alarms, and the indifference of neighbors increases, voluntary response to an alarm sound has virtually vanished. Hence local alarm annunciation is ineffective for garnering assistance. Indeed, the sound of an alarm has come to be perceived more as a nuisance and annoyance than a cause for attention. In a similar fashion, recorded messages are outlawed in a large number of 911 emergency dispatch centers and counting on reaching someone at home is not reliable. In addition, false alarms make recorded messages an irritation, especially since they are designed to repeat. So recorded messages are likewise considered ineffective. This leaves the use of a professional monitoring service which is inherently expensive and so many properties are left completely unprotected.

As a result, very low market penetration exists for reasons associated with current design. These include, but are not limited to, the requirement for professional design, the requirement for professional installation, and the requirement for professional monitoring. These three reasons make even so called “do-it-yourself” systems relatively poor sellers and even several major consumer electronic companies such as Magnavox, Zenith, Radio Shack and others have had little success or outright failure with an over the counter, table-top type product.

Furthermore, for correct installation of a standard security system to a telephone network, some tabletop models require a special phone jack (RJ-31X) installed at the correct location (before any premise equipment is connected to the line) to assure the availability of the phone line. This may require installation by a telephone company or other professional. In addition, services on the user’s line can interfere with successful alarm transmission, with touch tone service, call waiting, and in the future, X-DSL services making the connection even more complex.

A related problem is found in the user’s interface with the detection system. In a typical system, the user interacts with the detection system through a device generally known as a keypad. The current keypad designs do not allow the user to roam broadly and one long-range design – the telephone line connection – does not provide for messages to user that are initiated by the system, instead the user independently calls into the system to retrieve messages or interact with the system. Although some alarm systems in use today can initiate a page to a person’s pager, this still does not allow the user to exercise command and control functions in return. There is no single device that allows long-range, bidirectional communication and control of an alarm system.

What is needed in the art is an improved detection system that is friendly to a mobile user, that is easy to install, that is truly portable, and that is inexpensive, without the high costs associated with professional design, expert installation, and monitoring services.

Summary

One skilled in the art will readily recognize that the embodiments described solve all of these problems and many more not mentioned expressly herein.

In one embodiment, the detection system provides, among other things, a personal control panel and a portable detection unit which may be used independently or with a bidirectional communications network for short range and long range control panel and alarm monitoring and control functions. Several variations are provided including cellular, paging, satellite, narrowband PCS, narrowband trunked radio, and other communications systems with conventional and nonconventional protocols.

In one embodiment, the present detection system provides, among other things, the replacement of any or all of the user interface, transmission system, and control panel as listed above, through the use of a long-range, two-way, wireless communication device such as a two-way pager. Accordingly, a person who owns a two-way pager or related device, may, for a much lower cost than is customary, own a detection system by incorporating only an additional paging/detection device as described herein. This embodiment of the system has the advantages, including, but not limited to, simple installation, highly secure built-in signal transmission, long range wireless user interface and long range system status annunciation. Currently, many detection systems communicate with a central station that manages the response function. However, this embodiment of the present system offers yet another advantage by communicating direct to the system owner who may then select the desired response. In one embodiment, the direct communications are optional so that the owner may select the central station approach or the direct approach without the services of a central station. Thus, the present system provides, among other things, instant and affordable protection for a wide variety of applications such as construction sites, vehicles, motel rooms, apartments, and small residential and commercial properties.

Furthermore, in one embodiment, the system incorporates low power components to provide the additional advantage of being able to operate solely on battery power for extended periods of time and not just as an emergency/temporary backup.

Thus, the present system, in various embodiments, offers advantages over a standard detection system which include, but are not limited to: low cost; easy, instantaneous installation by an ordinary consumer; reliable communications without connection to or interruption of the site telephone lines; long range control by the user; long range communication of alarm conditions and other signals to a user; long range

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