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(12) **United States Patent**  
**Beyer, Jr. et al.**

(10) **Patent No.:** **US 9,445,251 B2**

(45) **Date of Patent:** **Sep. 13, 2016**

(54) **METHOD TO PROVIDE AD HOC AND PASSWORD PROTECTED DIGITAL AND VOICE NETWORKS**

(58) **Field of Classification Search**  
CPC ..... H04W 4/02  
USPC ..... 455/404.2, 456.1  
See application file for complete search history.

(71) Applicant: **Advanced Ground Information Systems, Inc.**, Jupiter, FL (US)

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(72) Inventors: **Malcolm K. Beyer, Jr.**, Jupiter, FL (US); **Christopher R. Rice**, Redmond, WA (US)

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(73) Assignee: **Advanced Ground Information Systems, Inc.**, Jupiter, FL (US)

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **14/633,804**

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(22) Filed: **Feb. 27, 2015**

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(65) **Prior Publication Data**

(Continued)

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**Related U.S. Application Data**

(63) Continuation of application No. 14/529,978, filed on Oct. 31, 2014, which is a continuation-in-part of application No. 14/027,410, filed on Sep. 16, 2013, now Pat. No. 8,880,042, which is a continuation of

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(51) **Int. Cl.**  
**H04M 11/04** (2006.01)  
**H04W 24/00** (2009.01)

(Continued)

(52) **U.S. Cl.**  
CPC ..... **H04W 4/22** (2013.01); **G06F 3/0482** (2013.01); **G06F 3/04842** (2013.01); **H04L 63/083** (2013.01); **H04L 67/18** (2013.01);

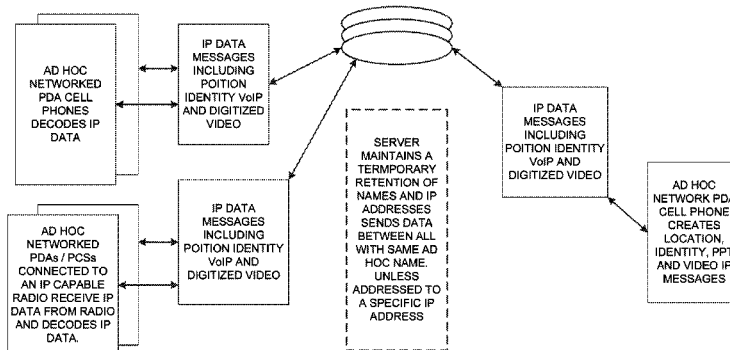
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(57) **ABSTRACT**

A method and system includes the ability for individuals to set up an ad hoc digital and voice network easily and rapidly to allow users to coordinate their activities by eliminating the need for pre-entry of data into a web or identifying others by name, phone numbers or email. This method is especially useful for police, fire fighters, military, first responders or other emergency situations for coordinating different organizations at the scene of a disaster to elevate conventional communication problems either up and down the chain of command or cross communication between different emergency units. The method and system provides that the users are only required to enter a specific Server IP address and an ad hoc event name, a password and perhaps the name of the particular unit.

**35 Claims, 7 Drawing Sheets**

ENABLING LOCATION, STATUS, VoIP, PTT AND VIDEO COMMUNICATIONS BETWEEN RADIOS AND CELL PHONES



**Related U.S. Application Data**

application No. 13/751,453, filed on Jan. 28, 2013, now Pat. No. 8,538,393, which is a continuation-in-part of application No. 12/761,533, filed on Apr. 16, 2010, now Pat. No. 8,364,129, which is a continuation-in-part of application No. 11/615,472, filed on Dec. 22, 2006, now Pat. No. 8,126,441, which is a continuation-in-part of application No. 11/308,648, filed on Apr. 17, 2006, now Pat. No. 7,630,724, which is a continuation-in-part of application No. 10/711,490, filed on Sep. 21, 2004, now Pat. No. 7,031,728.

(51) **Int. Cl.**

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- H04M 1/725* (2006.01)
- H04W 68/00* (2009.01)
- H04W 4/02* (2009.01)
- H04W 4/08* (2009.01)
- H04W 64/00* (2009.01)
- H04W 84/18* (2009.01)
- H04W 12/08* (2009.01)
- H04W 12/02* (2009.01)
- G06F 3/0482* (2013.01)
- G06F 3/0484* (2013.01)
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- H04L 29/08* (2006.01)
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- H04W 4/10* (2009.01)
- H04M 1/2745* (2006.01)

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The LocatioNet system which, upon information and belief, was sold and/or publically used within the U.S. prior to 2004 and at least as early as 2003.

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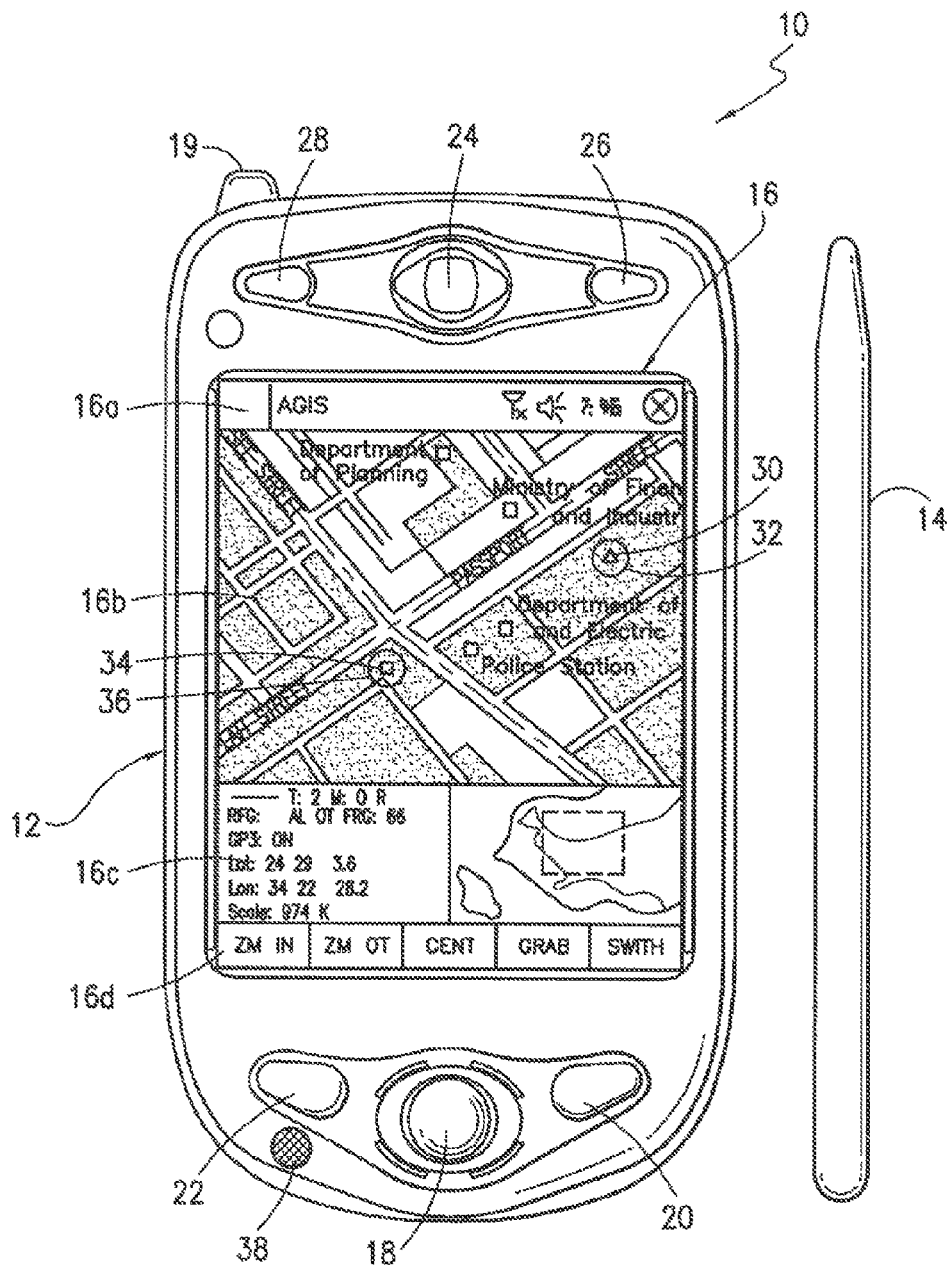


FIG. 1

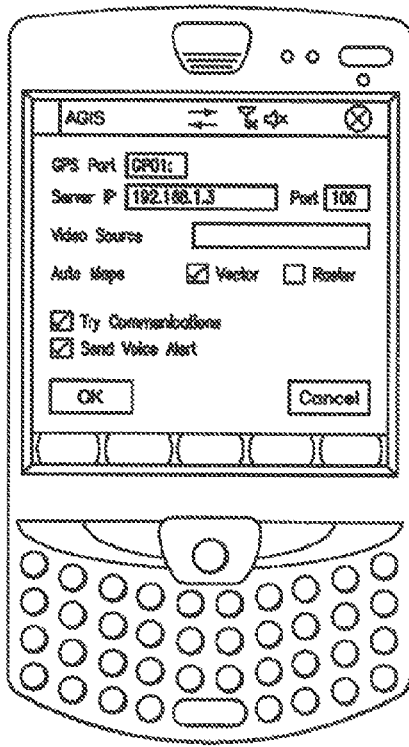


FIG. 2

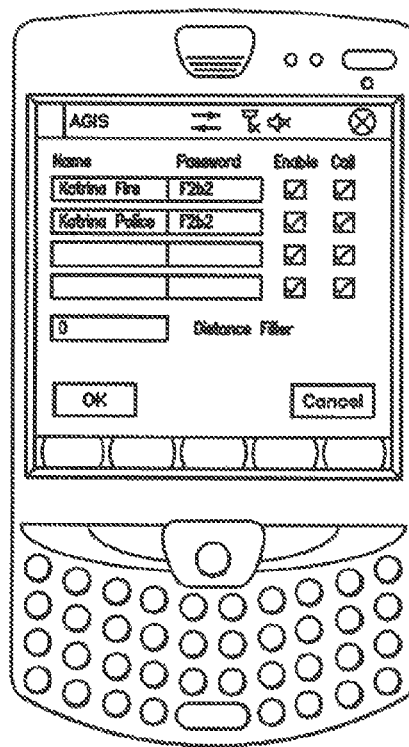


FIG. 3

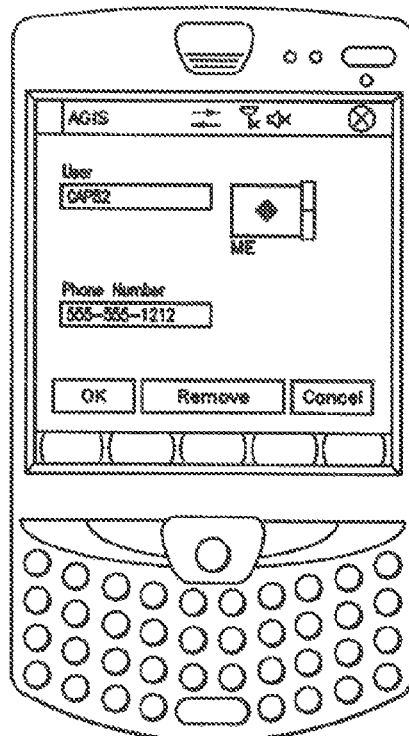


FIG. 4

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