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090204

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<b>UTILITY PATENT APPLICATION TRANSMITTAL</b>  <small>(Only for new nonprovisional applications under 37 CFR 1.53(b))</small>	<b>Attorney Docket No.</b>	0108-0221/US
	<b>First Inventor</b>	Zinn et al.
	<b>Title</b>	HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS
	<b>Express Mail Label No.</b>	EL 955795305 US

<b>APPLICATION ELEMENTS</b> <small>See MPEP chapter 600 concerning utility patent application contents.</small>	<b>ADDRESS TO:</b> Mail Stop Patent Application Commissioner for Patents P.O. Box 1450 Alexandria VA 22313-1450
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<p>1. <input checked="" type="checkbox"/> Fee Transmittal Form (e.g., PTO/SB/17) <small>(Submit an original and a duplicate for fee processing)</small></p> <p>2. <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.</p> <p>3. <input checked="" type="checkbox"/> Specification [Total Pages <u>26</u>] <small>(preferred arrangement set forth below)</small></p> <ul style="list-style-type: none"> <li>- Descriptive title of the invention</li> <li>- Cross Reference to Related Applications</li> <li>- Statement Regarding Fed sponsored R &amp; D</li> <li>- Reference to sequence listing, a table, or a computer program listing appendix</li> <li>- Background of the Invention</li> <li>- Brief Summary of the Invention</li> <li>- Brief Description of the Drawings (if filed)</li> <li>- Detailed Description</li> <li>- Claim(s)</li> <li>- Abstract of the Disclosure</li> </ul> <p>4. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets <u>5</u>]</p> <p>5. Oath or Declaration [Total Sheets <u>3</u>]</p> <p>a. <input type="checkbox"/> Newly executed (original or copy)</p> <p>b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d)) <small>(for continuation/divisional with Box 18 completed)</small></p> <p>i. <input type="checkbox"/> <b>DELETION OF INVENTOR(S)</b> <small>Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).</small></p> <p>6. <input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76</p>	<p>7. <input type="checkbox"/> CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)</p> <p>8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)</p> <p>a. <input type="checkbox"/> Computer Readable Form (CRF)</p> <p>b. Specification Sequence Listing on:</p> <p>i. <input type="checkbox"/> CD-ROM or CD-R (2 copies); or</p> <p>ii. <input type="checkbox"/> Paper</p> <p>c. <input type="checkbox"/> Statements verifying identity of above copies</p>
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9. <input type="checkbox"/> Assignment Papers (cover sheet & document(s))	
10. <input type="checkbox"/> 37 CFR 3.73(b) Statement (when there is an assignee)	<input type="checkbox"/> Power of Attorney
11. <input type="checkbox"/> English Translation Document (if applicable)	
12. <input checked="" type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449	<input checked="" type="checkbox"/> Copies of IDS Citations
13. <input checked="" type="checkbox"/> Preliminary Amendment	
14. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) (Should be specifically itemized)	
15. <input type="checkbox"/> Certified Copy of Priority Document(s) (if foreign priority is claimed)	
16. <input type="checkbox"/> Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.	
17. <input type="checkbox"/> Other:	

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

Continuation       Divisional       Continuation-in-part (CIP)      of prior application No.:

Prior application information:      Examiner:      Art Unit:

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**19. CORRESPONDENCE ADDRESS**

Customer Number: 33787      OR       Correspondence address below

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	980 North Michigan Avenue, Suite 1400		
City	Chicago	State	Illinois
		Zip Code	60611
Country	United States of America	Telephone	312-222-1860
		Fax	312-214-6303

Name (Print/Type)	John J. Oskorep, Esq.	Registration No. (Attorney/Agent)	41,234
Signature		Date	02 Sept 2004

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# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 896.00)

### Complete if Known

Application Number	Not Yet Assigned
Filing Date	Not Yet Assigned
First Named Inventor	Zinn et al.
Examiner Name	Not Yet Assigned
Art Unit	Not Yet Assigned
Attorney Docket No.	0108-0221/US

### METHOD OF PAYMENT (check all that apply)

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1001 770	2001 385	Utility filing fee	770.00
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
<b>SUBTOTAL (1)</b>			<b>(\$ 770.00)</b>

#### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1202 18	2202 9	Claims in excess of 20	
1201 86	2201 43	Independent claims in excess of 3	
1203 290	2203 145	Multiple dependent claim, if not paid	
1204 86	2204 43	** Reissue independent claims over original patent	
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent	
<b>SUBTOTAL (2)</b>			<b>(\$ 126.00)</b>

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### FEE CALCULATION (continued)

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1051 130	2051 65	Surcharge - late filing fee or oath	
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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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1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
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### SUBMITTED BY

Name (Print/Type)	John J. Oskorep, Esq.	Registration No. (Attorney/Agent)	41,234	Telephone	312-222-1860
Signature		Date	02 Sept 2004		

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Continuation     Divisional     Continuation-in-part (CIP)    of prior application No. \_\_\_\_\_

Prior application information: Examiner \_\_\_\_\_ Art Unit: \_\_\_\_\_

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Address	One Magnificent Mile Center				
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City	Chicago	State	Illinois	Zip Code	60611
Country	United States of America	Telephone	312-222-1860	Fax	312-214-6303
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Filing Date	Not Yet Assigned
First Named Inventor	Zinn et al.
Examiner Name	Not Yet Assigned
Art Unit	Not Yet Assigned
Attorney Docket No.	0108-0221/US

### METHOD OF PAYMENT (check all that apply)

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Other fee (specify)

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NAME:

John J. Oskorep, Esq.

SIGNATURE:

A handwritten signature in black ink, appearing to be 'John J. Oskorep', written over a horizontal line.

HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS  
FOR MULTIPLE HOME NETWORKS

BACKGROUND

5 Field of the Technology

The present application relates generally to mobile stations and home network name displaying methods employed thereby.

Description of the Related Art

10 Wireless communication devices, such as mobile stations, have the ability to communicate with other devices (e.g. telephones, servers, personal computers (PCs), etc.) through wireless communication networks. A wireless communication network includes a plurality of base stations, each of which provides near-exclusive communication coverage within a given geographic area. However, more than one wireless network is typically  
15 available in many, if not most, geographic regions in a competing fashion. Typically, an end user contracts with and pays to receive communication services exclusively from a single “service provider” for a limited period of time (e.g. one year).

Although different networks are available, a mobile station automatically selects and registers with its home communication network (i.e. the network of the contracted service  
20 provider) for operation. Typically, the mobile station receives a Mobile Country Code (MCC) and a Mobile Network Code (MNC) from each network and operates with a preference towards choosing that network having the MCC/MNC pair uniquely associated with the home network. The MCC/MNC pair of the home network is stored on a Subscriber Identify Module (SIM) in a home public land mobile network (HPLMN) file. Other  
25 networks are stored in a prioritized fashion in a “preferred” PLMN list on the SIM. After selecting and registering with a particular network (e.g. the home network), the mobile station retrieves and displays a service provider name (e.g. “T-Mobile” or “AT&T Wireless”) from the SIM which corresponds to the unique MCC and MNC combination of the selected network. This name may be obtained and displayed in accordance with what is known as an  
30 “Operator Named String” (ONS) procedure.

Although exclusive service agreements typically exist between the subscriber and the home network, otherwise competing wireless networks have established relationships

whereby mobile stations can receive services through the other's network when necessary or desired. When a mobile station is located in a geographic region where service provider has not established any network infrastructure, for example, the mobile station may receive services and communicate through a different network associated with an MCC/MNC pair different from that of the home network. In a competitive network relationship, the subscriber is likely to incur additional service charges (e.g. "roaming" charges) and the name of the competitor's network service may be displayed in the visual display.

In a more cooperative network relationship, the subscriber might incur only standard charges (i.e. no roaming charges) using the alternative network. Per the ONS naming procedure, however, a service provider name different from that of the home network is displayed on the mobile station. This may be confusing to a subscriber who may believe that, for example, roaming charges are being incurred due to use of the alternative network when in fact they are not. Fortunately, there has been a recent shift to provide an alternative naming technique referred to as "Enhanced Operator Named String" (EONS) procedure. EONS is described in, for example, 3GPP 51.001 Specifications of the SIM-ME Interface R4 (v4.2.0 or later). One purpose of EONS is to reduce the naming confusion created in scenarios like the one described above. In particular, instead of displaying a name that is different from that of the home network in the above-scenario, the same or substantially similar "home network" name may be displayed even though a different network is actually being used. Subscribers often prefer such transparency and simplification of operation and desire to understand when additional service charges may be incurred.

Another situation has been encountered where the service provider becomes the new owner of one or more networks which have MCC/MNC pairs different from that of the primary home network's. A mobile station might be provided with multiple MCC/MNC pairs corresponding to all of these "home" networks, and operate to preferentially select and register with these networks over others. However, the name displayed on the mobile station may not correspond to the home network if the selected network has a different MCC/MNC pair from that of the primary home network's. If steps were taken to provide the mobile station with special home network name displaying capabilities, compatibility issues may arise between previous, current, and future versions mobile stations and SIMs.

Accordingly, there is a resulting need for improved home network name displaying methods and apparatus for multiple home networks.

SUMMARY

Home network name displaying methods and apparatus for multiple home networks are described herein. A mobile station scans to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of communication networks within a coverage area. The mobile station selects and registers with a communication network associated with one of the received MCC and MNC pairs for communication. After the network is selected, the received MCC and MNC pair is compared with a plurality of home network MCC and MNC pairs which are associated with a single home network display name. Based on identifying a match between the received MCC and MNC pair and any one of the home network MCC and MNC pairs, the home network display name is visually displayed in a display of the mobile station. If no match exists, an alternate name is selected for display. The plurality of home network MCC and MNC pairs may be stored in memory of the mobile station or, alternatively, on a Subscriber Identify Module (SIM). Advantageously, a single home network name is displayed when a network associated with any of the home network MCC and MNC pairs is selected for communication. Preferably, a Location Area Code (LAC) is also utilized along with the MCC and MNC pairs for these purposes.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of present invention will now be described by way of example with reference to attached figures, wherein:

FIG. 1 is a block diagram of a communication system which includes a mobile station for communicating in a wireless communication network which may be its home communication network;

FIG. 2 is a more detailed example of a mobile station for use in the wireless communication network;

FIG. 3 is a particular structure of the system for communicating with the mobile station;

FIG. 4 is a simplified illustration of the mobile station and a plurality of wireless communication networks, each of which is associated with a unique Mobile Country Code (MCC) and Mobile Network Code (MNC) pair;

FIG. 5 shows a list of home network MCC and MNC pairs stored in association with a home network display name from a home network name file;

FIG. 6 is an illustration of a visual display of the mobile station which may visually display a network or service provider name with which the mobile station has registered; and

5 FIG. 7 is a flowchart for describing a home network name displaying method for multiple home networks.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Home network name displaying methods and apparatus for multiple home networks  
10 are described herein. A mobile station scans to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of communication networks within a coverage area. The mobile station selects a communication network associated with one of the received MCC and MNC pairs for communication. After the network is selected, the received MCC and MNC pair is compared  
15 with a plurality of home network MCC and MNC pairs which are associated with a single home network display name. Based on identifying a match between the received MCC and MNC pair and any one of the home network MCC and MNC pairs, the home network display name is visually displayed in a display of the mobile station. If no match exists, an alternate name is selected for display. The plurality of home network MCC and MNC pairs may be  
20 stored in memory of the mobile station or, alternatively, on a Subscriber Identify Module (SIM). Advantageously, a single home network name is displayed when a network associated with any of the home network MCC and MNC pairs is selected for communication.

FIG. 1 is a block diagram of a communication system 100 which includes a wireless  
25 communication device 102 which communicates through a wireless communication network 104. In the preferred embodiment, wireless communication device 102 is a mobile station and therefore this term is used throughout this text. Mobile station 102 preferably includes a visual display 112, a keyboard 114, and perhaps one or more auxiliary user interfaces (UI) 116, each of which are coupled to a controller 106. Controller 106 is also coupled to radio  
30 frequency (RF) transceiver circuitry 108 and an antenna 110.

In most modern communication devices, controller 106 is embodied as a central processing unit (CPU) which runs operating system software in a memory component (not

shown). Controller 106 will normally control overall operation of mobile station 102, whereas signal processing operations associated with communication functions are typically performed in RF transceiver circuitry 108. Controller 106 interfaces with device display 112 to display received information, stored information, user inputs, and the like. Keyboard 114, which may be a telephone type keypad or full alphanumeric keyboard, is normally provided for entering data for storage in mobile station 102, information for transmission to network 104, a telephone number to place a telephone call, commands to be executed on mobile station 102, and possibly other or different user inputs.

Mobile station 102 sends communication signals to and receives communication signals from network 104 over a wireless link via antenna 110. RF transceiver circuitry 108 performs functions similar to those of base station 120, including for example modulation/demodulation and possibly encoding/decoding and encryption/decryption. It is also contemplated that RF transceiver circuitry 108 may perform certain functions in addition to those performed by base station 120. It will be apparent to those skilled in art that RF transceiver circuitry 108 will be adapted to particular wireless network or networks in which mobile station 102 is intended to operate.

Mobile station 102 includes a battery interface 134 for receiving one or more rechargeable batteries 132. Battery 132 provides electrical power to (most if not all) electrical circuitry in mobile station 102, and battery interface 132 provides for a mechanical and electrical connection for battery 132. Battery interface 132 is coupled to a regulator 136 which regulates power for the device. When mobile station 102 is fully operational, an RF transmitter of RF transceiver circuitry 108 is typically keyed or turned on only when it is sending to network, and is otherwise turned off to conserve resources. Such intermittent operation of transmitter has a dramatic effect on power consumption of mobile station 102. Similarly, an RF receiver of RF transceiver circuitry 108 is typically periodically turned off to conserve power until it is needed to receive signals or information (if at all) during designated time periods.

Mobile station 102 may consist of a single unit, such as a data communication device, a cellular telephone, a multiple-function communication device with data and voice communication capabilities, a personal digital assistant (PDA) enabled for wireless communication, or a computer incorporating an internal modem. Alternatively, mobile station 102 may be a multiple-module unit comprising a plurality of separate components,

including but in no way limited to a computer or other device connected to a wireless modem. In particular, for example, in the mobile station block diagram of FIG. 1, RF transceiver circuitry 108 and antenna 110 may be implemented as a radio modem unit that may be inserted into a port on a laptop computer. In this case, the laptop computer would include display 112, keyboard 114, one or more auxiliary UIs 116, and controller 106 embodied as the computer's CPU. It is also contemplated that a computer or other equipment not normally capable of wireless communication may be adapted to connect to and effectively assume control of RF transceiver circuitry 108 and antenna 110 of a single-unit device such as one of those described above.

10 Mobile station 102 operates using a Subscriber Identity Module (SIM) 140 which is connected to or inserted in mobile station 102 at a SIM interface 142. SIM 140 is one type of a conventional "smart card" used to identify an end user (or subscriber) of mobile station 102 and to personalize the device, among other things. Without SIM 140, the wireless terminal is not fully operational for communication through wireless network 104. By inserting SIM  
15 140 into the wireless terminal, an end user can have access to any and all of his/her subscribed services. In order to identify the subscriber, SIM 140 contains some user parameters such as an International Mobile Subscriber Identity (IMSI). In addition, SIM 140 is typically protected by a four-digit Personal Identification Number (PIN) which is stored therein and known only by the end user. An advantage of using SIM 140 is that end users are  
20 not necessarily bound by any single physical wireless device. Typically, the only element that personalizes a wireless terminal is a SIM card. Therefore, the user can access subscribed services using any wireless terminal equipped to operate with the user's SIM.

In general, SIM 140 includes a processor and memory for storing information. Information may be transferred between controller 106 and SIM 140 through data and  
25 control lines 144. SIM and its interfacing standards are well known. For interfacing with a standard GSM device having SIM interface 142, a conventional SIM 140 has six (6) connections. A typical SIM 140 may store the following information: (1) an International Mobile Subscriber Identity (IMSI); (2) an individual subscriber's authentication key (Ki); (3) a ciphering key generating algorithm (A8) -- with Ki and RAND it generates a 64-bit key  
30 (Kc); (4) an authentication algorithm (A3) -- with Ki and RAND it generates a 32-bit signed response (SRED); and (5) a user PIN code (1 & 2); and (6) a PUK code (1 & 2) (this is also referred to as the SPIN). SIM 140 may also store user-specific information as well, including

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a user phone book, Short Message Service (SMS) messages, datebook (or calendar) information, and recent call information.

SIM 140 also stores a list of MCC and MNC pairs associated with a plurality of communication networks which are part of the "home network". The list may be referred to  
5 as a Home Public Land Mobile Network (HPLMN) list. In addition, SIM 140 stores a list of MCC and MNC pairs associated with a plurality of "preferred" communication networks. This list may be referred to as a Preferred PLMN (PPLMN) list. Typically, networks identified in the PPLMN list are not associated with the home network and their use may impart "roaming" status to mobile station 102.

10 In FIG. 1, mobile station 102 communicates through wireless communication network 104. In the embodiment of FIG. 1, wireless network 104 is a Global Systems for Mobile (GSM) and General Packet Radio Service (GPRS) network. Wireless network 104 includes a base station 120 with an associated antenna tower 118, a Mobile Switching Center (MSC) 122, a Home Location Register (HLR) 132, a Serving General Packet Radio Service  
15 (GPRS) Support Node (SGSN) 126, and a Gateway GPRS Support Node (GGSN) 128. MSC 122 is coupled to base station 120 and to a landline network, such as a Public Switched Telephone Network (PSTN) 124. SGSN 126 is coupled to base station 120 and to GGSN 128, which is in turn coupled to a public or private data network 130 (such as the Internet). HLR 132 is coupled to MSC 122, SGSN 126, and GGSN 128.

20 Base station 120, including its associated controller and antenna tower 118, provides wireless network coverage for a particular coverage area commonly referred to as a "cell". Base station 120 transmits communication signals to and receives communication signals from mobile stations within its cell via antenna tower 118. Base station 120 normally performs such functions as modulation and possibly encoding and/or encryption of signals to  
25 be transmitted to the mobile station in accordance with particular, usually predetermined, communication protocols and parameters, under control of its controller. Base station 120 similarly demodulates and possibly decodes and decrypts, if necessary, any communication signals received from mobile station 102 within its cell. Communication protocols and parameters may vary between different networks. For example, one network may employ a  
30 different modulation scheme and operate at different frequencies than other networks.

The wireless link shown in communication system 100 of FIG. 1 represents one or more different channels, typically different radio frequency (RF) channels, and associated

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protocols used between wireless network 104 and mobile station 102. An RF channel is a limited resource that must be conserved, typically due to limits in overall bandwidth and a limited battery power of mobile station 102. Those skilled in art will appreciate that a wireless network in actual practice may include hundreds of cells, each served by a distinct  
5 base station 120 and transceiver, depending upon desired overall expanse of network coverage. All base station controllers and base stations may be connected by multiple switches and routers (not shown), controlled by multiple network controllers.

For all mobile station's 102 registered with a network operator, permanent data (such as mobile station 102 user's profile) as well as temporary data (such as mobile station's 102  
10 current location) are stored in HLR 132. In case of a voice call to mobile station 102, HLR 132 is queried to determine the current location of mobile station 102. A Visitor Location Register (VLR) of MSC 122 is responsible for a group of location areas and stores the data of those mobile stations that are currently in its area of responsibility. This includes parts of the permanent mobile station data that have been transmitted from HLR 132 to the VLR for  
15 faster access. However, the VLR of MSC 122 may also assign and store local data, such as temporary identifications. Optionally, the VLR of MSC 122 can be enhanced for more efficient co-ordination of GPRS and non-GPRS services and functionality (e.g. paging for circuit-switched calls which can be performed more efficiently via SGSN 126, and combined GPRS and non-GPRS location updates).

Being part of the GPRS network, Serving GPRS Support Node (SGSN) 126 is at the  
20 same hierarchical level as MSC 122 and keeps track of the individual locations of mobile stations. SGSN 126 also performs security functions and access control. Gateway GPRS Support Node (GGSN) 128 provides interworking with external packet-switched networks and is connected with SGSNs (such as SGSN 126) via an IP-based GPRS backbone network.  
25 SGSN 126 performs authentication and cipher setting procedures based on the same algorithms, keys, and criteria as in existing GSM. In conventional operation, cell selection may be performed autonomously by mobile station 102 or by base station 120 instructing mobile station 102 to select a particular cell. Mobile station 102 informs wireless network 104 when it reselects another cell or group of cells, known as a routing area.

30 In order to access GPRS services, mobile station 102 first makes its presence known to wireless network 104 by performing what is known as a GPRS "attach". This operation establishes a logical link between mobile station 102 and SGSN 126 and makes mobile

station 102 available to receive, for example, pages via SGSN, notifications of incoming GPRS data, or SMS messages over GPRS. In order to send and receive GPRS data, mobile station 102 assists in activating the packet data address that it wants to use. This operation makes mobile station 102 known to GGSN 128; interworking with external data networks can thereafter commence. User data may be transferred transparently between mobile station 102 and the external data networks using, for example, encapsulation and tunneling. Data packets are equipped with GPRS-specific protocol information and transferred between mobile station 102 and GGSN 128.

As apparent from the above, the wireless network includes fixed network components including RF transceivers, amplifiers, base station controllers, network servers, and servers connected to network. Those skilled in art will appreciate that a wireless network may be connected to other systems, possibly including other networks, not explicitly shown in FIG. 1. A network will normally be transmitting at very least some sort of paging and system information on an ongoing basis, even if there is no actual packet data exchanged. Although the network consists of many parts, these parts all work together to result in certain behaviours at the wireless link.

FIG. 2 is a detailed block diagram of a preferred mobile station 202 which may be utilized in system 100 of FIG. 1. Mobile station 202 is a two-way communication device having at least voice and data communication capabilities, including the capability to communicate with other computer systems. Depending on the functionality provided by mobile station 202, it may be referred to as a data messaging device, a two-way pager, a cellular telephone with data messaging capabilities, a wireless Internet appliance, or a data communication device (with or without telephony capabilities). Mobile station 202 includes a battery interface 254 for receiving one or more rechargeable batteries 256. Such a battery 256 provides electrical power to most if not all electrical circuitry in mobile station 202, and battery interface 254 provides for a mechanical and electrical connection for it. Battery interface 254 is coupled to a regulator (not shown in FIG. 2) which regulates power to all of the circuitry.

Mobile station 202 will normally incorporate a communication subsystem 211, which includes a receiver 212, a transmitter 214, and associated components, such as one or more (preferably embedded or internal) antenna elements 216 and 218, local oscillators (LOs) 213, and a processing module such as a digital signal processor (DSP) 220. Communication

subsystem 211 is analogous to RF transceiver circuitry 108 and antenna 110 shown in FIG. 1. As will be apparent to those skilled in field of communications, particular design of communication subsystem 211 depends on the communication network in which mobile station 202 is intended to operate.

5           Network access requirements will also vary depending upon type of network utilized. In GPRS networks, for example, network access is associated with a subscriber or user of mobile station 202. A GPRS device therefore requires a Subscriber Identity Module, commonly referred to as a SIM card (i.e. SIM 262 of FIG. 2), in order to operate on the GPRS network. Without such a SIM 262, a GPRS device will not be fully functional. Local  
10 or non-network communication functions (if any) may be operable, but mobile station 202 will be unable to carry out any functions involving communications over the network. SIM 262 includes those features described in relation to FIG. 1 (i.e. those described for SIM 140 of FIG. 1), such as the HPLMN list and the PPLMN list.

Mobile station 202 may send and receive communication signals over the network  
15 after required network registration or activation procedures have been completed. Signals received by antenna 216 through the network are input to receiver 212, which may perform such common receiver functions as signal amplification, frequency down conversion, filtering, channel selection, and like, and in example shown in FIG. 2, analog-to-digital (A/D) conversion. A/D conversion of a received signal allows more complex communication  
20 functions such as demodulation and decoding to be performed in DSP 220. In a similar manner, signals to be transmitted are processed, including modulation and encoding, for example, by DSP 220. These DSP-processed signals are input to transmitter 214 for digital-to-analog (D/A) conversion, frequency up conversion, filtering, amplification and transmission over communication network via antenna 218. DSP 220 not only processes  
25 communication signals, but also provides for receiver and transmitter control. For example, the gains applied to communication signals in receiver 212 and transmitter 214 may be adaptively controlled through automatic gain control algorithms implemented in DSP 220.

Mobile station 202 includes a microprocessor 238 (which is one implementation of controller 106 of FIG. 1) which controls overall operation of mobile station 202. This  
30 control includes network selection and network name displaying techniques of the present application. Communication functions, including at least data and voice communications, are performed through communication subsystem 211. Microprocessor 238 also interacts

with additional device subsystems such as a display 222, a flash memory 224, a random access memory (RAM) 226, auxiliary input/output (I/O) subsystems 228, a serial port 230, a keyboard 232, a speaker 234, a microphone 236, a short-range communications subsystem 240, and any other device subsystems generally designated at 242. Data and control lines extend between a SIM interface 264 and microprocessor 238 for communicating data therebetween and for control. Some of the subsystems shown in FIG. 2 perform communication-related functions, whereas other subsystems may provide “resident” or on-device functions. Notably, some subsystems, such as keyboard 232 and display 222, for example, may be used for both communication-related functions, such as entering a text message for transmission over a communication network, and device-resident functions such as a calculator or task list. Operating system software used by microprocessor 238 is preferably stored in a persistent store such as flash memory 224, which may alternatively be a read-only memory (ROM) or similar storage element (not shown). Those skilled in the art will appreciate that the operating system, specific device applications, or parts thereof, may be temporarily loaded into a volatile store such as RAM 226.

Microprocessor 238, in addition to its operating system functions, preferably enables execution of software applications on mobile station 202. A predetermined set of applications which control basic device operations, including at least data and voice communication applications, will normally be installed on mobile station 202 during its manufacture. A preferred application that may be loaded onto mobile station 202 may be a personal information manager (PIM) application having the ability to organize and manage data items relating to user such as, but not limited to, e-mail, calendar events, voice mails, appointments, and task items. Naturally, one or more memory stores are available on mobile station 202 and SIM 256 to facilitate storage of PIM data items and other information.

The PIM application preferably has the ability to send and receive data items via the wireless network. In a preferred embodiment, PIM data items are seamlessly integrated, synchronized, and updated via the wireless network, with the mobile station user’s corresponding data items stored and/or associated with a host computer system thereby creating a mirrored host computer on mobile station 202 with respect to such items. This is especially advantageous where the host computer system is the mobile station user’s office computer system. Additional applications may also be loaded onto mobile station 202 through network, an auxiliary I/O subsystem 228, serial port 230, short-range

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communications subsystem 240, or any other suitable subsystem 242, and installed by a user in RAM 226 or preferably a non-volatile store (not shown) for execution by microprocessor 238. Such flexibility in application installation increases the functionality of mobile station 202 and may provide enhanced on-device functions, communication-related functions, or both. For example, secure communication applications may enable electronic commerce functions and other such financial transactions to be performed using mobile station 202.

In a data communication mode, a received signal such as a text message or web page download will be processed by communication subsystem 211 and input to microprocessor 238. Microprocessor 238 will preferably further process the signal for output to display 222 or alternatively to auxiliary I/O device 228. A user of mobile station 202 may also compose data items, such as e-mail messages or short message service (SMS) messages, for example, using keyboard 232 in conjunction with display 222 and possibly auxiliary I/O device 228. Keyboard 232 is preferably a complete alphanumeric keyboard and/or telephone-type keypad. These composed items may be transmitted over a communication network through communication subsystem 211.

For voice communications, the overall operation of mobile station 202 is substantially similar, except that the received signals would be output to speaker 234 and signals for transmission would be generated by microphone 236. Alternative voice or audio I/O subsystems, such as a voice message recording subsystem, may also be implemented on mobile station 202. Although voice or audio signal output is preferably accomplished primarily through speaker 234, display 222 may also be used to provide an indication of the identity of a calling party, duration of a voice call, or other voice call related information, as some examples.

Serial port 230 in FIG. 2 is normally implemented in a personal digital assistant (PDA)-type communication device for which synchronization with a user's desktop computer is a desirable, albeit optional, component. Serial port 230 enables a user to set preferences through an external device or software application and extends the capabilities of mobile station 202 by providing for information or software downloads to mobile station 202 other than through a wireless communication network. The alternate download path may, for example, be used to load an encryption key onto mobile station 202 through a direct and thus reliable and trusted connection to thereby provide secure device communication.

Short-range communications subsystem 240 of FIG. 2 is an additional optional component which provides for communication between mobile station 202 and different systems or devices, which need not necessarily be similar devices. For example, subsystem 240 may include an infrared device and associated circuits and components, or a Bluetooth™ communication module to provide for communication with similarly-enabled systems and devices. Bluetooth™ is a registered trademark of Bluetooth SIG, Inc.

FIG. 3 shows a particular system structure for communicating with mobile station 202. In particular, FIG. 3 shows basic components of an IP-based wireless data network, such as a GPRS network. Mobile station 202 of FIG. 3 communicates with a wireless packet data network 145, and may also be capable of communicating with a wireless voice network (not shown). The voice network may be associated with IP-based wireless network 145 similar to, for example, GSM and GPRS networks, or alternatively may be a completely separate network. The GPRS IP-based data network is unique in that it is effectively an overlay on the GSM voice network. As such, GPRS components will either extend existing GSM components, such as base stations 320, or require additional components to be added, such as an advanced Gateway GPRS Service Node (GGSN) as a network entry point 305.

As shown in FIG. 3, a gateway 140 may be coupled to an internal or external address resolution component 335 and one or more network entry points 305. Data packets are transmitted from gateway 140, which is source of information to be transmitted to mobile station 202, through network 145 by setting up a wireless network tunnel 325 from gateway 140 to mobile station 202. In order to create this wireless tunnel 325, a unique network address is associated with mobile station 202. In an IP-based wireless network, however, network addresses are typically not permanently assigned to a particular mobile station 202 but instead are dynamically allocated on an as-needed basis. It is thus preferable for mobile station 202 to acquire a network address and for gateway 140 to determine this address so as to establish wireless tunnel 325.

Network entry point 305 is generally used to multiplex and demultiplex amongst many gateways, corporate servers, and bulk connections such as the Internet, for example. There are normally very few of these network entry points 305, since they are also intended to centralize externally available wireless network services. Network entry points 305 often use some form of an address resolution component 335 that assists in address assignment and lookup between gateways and mobile stations. In this example, address resolution

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component 335 is shown as a dynamic host configuration protocol (DHCP) as one method for providing an address resolution mechanism.

A central internal component of wireless data network 145 is a network router 315. Normally, network routers 315 are proprietary to the particular network, but they could  
5 alternatively be constructed from standard commercially available hardware. The purpose of network routers 315 is to centralize thousands of base stations 320 normally implemented in a relatively large network into a central location for a long-haul connection back to network entry point 305. In some networks there may be multiple tiers of network routers 315 and cases where there are master and slave network routers 315, but in all such cases the  
10 functions are similar. Often network router 315 will access a name server 307, in this case shown as a dynamic name server (DNS) 307 as used in the Internet, to look up destinations for routing data messages. Base stations 320, as described above, provide wireless links to mobile stations such as mobile station 202.

Wireless network tunnels such as a wireless tunnel 325 are opened across wireless  
15 network 345 in order to allocate necessary memory, routing, and address resources to deliver IP packets. In GPRS, such tunnels 325 are established as part of what are referred to as "PDP contexts" (i.e. data sessions). To open wireless tunnel 325, mobile station 202 must use a specific technique associated with wireless network 345. The step of opening such a wireless tunnel 325 may require mobile station 202 to indicate the domain, or network entry  
20 point 305 with which it wishes to open wireless tunnel 325. In this example, the tunnel first reaches network router 315 which uses name server 307 to determine which network entry point 305 matches the domain provided. Multiple wireless tunnels can be opened from one mobile station 202 for redundancy, or to access different gateways and services on the network. Once the domain name is found, the tunnel is then extended to network entry point  
25 305 and necessary resources are allocated at each of the nodes along the way. Network entry point 305 then uses the address resolution (or DHCP 335) component to allocate an IP address for mobile station 202. When an IP address has been allocated to mobile station 202 and communicated to gateway 140, information can then be forwarded from gateway 140 to mobile station 202.

30 Wireless tunnel 325 typically has a limited life, depending on mobile station's 202 coverage profile and activity. Wireless network 145 will tear down wireless tunnel 325 after a certain period of inactivity or out-of-coverage period, in order to recapture resources held

by this wireless tunnel 325 for other users. The main reason for this is to reclaim the IP address temporarily reserved for mobile station 202 when wireless tunnel 325 was first opened. Once the IP address is lost and wireless tunnel 325 is torn down, gateway 140 loses all ability to initiate IP data packets to mobile station 202, whether over Transmission Control Protocol (TCP) or over User Datagram Protocol (UDP).

In this application, an "IP-based wireless network" (one specific type of wireless communication network) may include but is not limited to: (1) a Code Division Multiple Access (CDMA) network that has been developed and operated by Qualcomm; (2) a General Packet Radio Service (GPRS) network for use in conjunction with Global System for Mobile Communications (GSM) network both developed by standards committee of European Conference of Postal and Telecommunications Administrations (CEPT); and (3) future third-generation (3G) networks like Enhanced Data rates for GSM Evolution (EDGE) and Universal Mobile Telecommunications System (UMTS). It is to be understood that although particular IP-based wireless networks have been described, the network selection schemes of the present application could be utilized in any similar type of wireless network. The infrastructure shown and described in relation to FIG. 3 may be representative of each one of a number of different networks which are provided and available in the same geographic region. One of these communication networks will be selected by the mobile station for communications at any given time.

FIG. 4 is a simplified illustration a plurality of wireless communication networks which may be available to mobile station 202 for communication. The plurality of networks 402 shown in FIG. 4 include different networks such as network "ABC" 104 (initially described in relation to FIG. 1 and 3), a network "DEF" 404, a network "GHI" 406, a network "JKL" 408, and a network "MNO" 410. In the following description, network ABC 104 is the home communication network and may be referred to as "home network ABC" 104. Since home network ABC 104 is the home network, mobile station 202 prioritizes the selection and operation with home network ABC 104 over other networks. Each network 402 of FIG. 4 is associated with a unique Mobile Country Code (MCC) and Mobile Network Code (MNC) combination. The unique MCC/MNC combination corresponding to home network ABC 104 is stored as a home network.

Traditionally, mobile station's 202 use of networks other than the home network ABC 104 will impart a "roaming" status to mobile station 202. However, some additional

networks other than home network ABC 104 are associated with or designated as part of the “home network” as well. In FIG. 4, for example, it is indicated that network GHI 406 and network JKL 408 are owned by the service provider of home network ABC 104. Thus, mobile station’s 202 registration and operation with networks GHI 406 and JKL 408 will not  
5 impart the roaming status to mobile station 102, even though networks GHI 406 and JKL 408 have MCC and MNC pairs different from that of home network ABC 104. Thus, the unique MCC/MNC combinations corresponding to networks GHI 406 and JKL 408 are also stored as home networks. The remaining networks, namely, networks DEF 404 and MNO 410, are not associated with the home network and their use will indeed impart roaming status to  
10 mobile station 102.

Referring now to FIG. 6 in combination with FIG. 4, display 222 of the mobile station will visually display the same service provider name 602 of home network ABC 104 regardless of whether network ABC 104, network GHI 406, or network JKL 408 is selected by the mobile station. As shown in FIG. 6, the displayed name “PROVIDER ABC” may  
15 correspond to use of network ABC 104, network GHI 406 (which is owned by ABC), or network JKL 408 (which is also owned by ABC). Note that no “roaming” status indicator is enabled or activated in display 222, since the mobile station is not roaming when registered with network ABC 104, network GHI 406, or network JKL 408. A network name different from “PROVIDER ABC” will be displayed when networks DEF 404 and MNO 410 are  
20 utilized.

Referring now to FIG. 5, what is shown is relevant information stored in memory 502 of mobile station 202 and/or in memory 504 of SIM 262 to help achieve the advantages described above in relation to FIGs. 4 and 6. The discussion of FIG. 5 will begin with a description related to memory 502 of mobile station 202. Memory 502, which may be a  
25 permanently-installed memory of mobile station 202, such as a Read-Only Memory (ROM), an Electrically Erasable/Programmable ROM (EEPROM), flash memory, etc., is a separate memory component from memory 504 of SIM 262.

As shown in FIG. 5, memory 502 may store a list 510 of home network MCC/MNC pairs which are associated with a home network display name 530. This list 510 of home  
30 network MCC/MNC pairs are prestored in memory 502 in a (semi-) permanent fashion during the manufacturing process of mobile station 202. In FIG. 5, it is shown that the example list 510 includes four (4) home network MCC/MNC pairs, namely, home network

MCC/MNC pairs 512, 514, 516, and 518. Only a relatively small number of MCC/MNC pairs in list 510 are shown for illustrative clarity; any suitable number of pairs may be utilized, such as between 5 – 50 pairs. As an example, MCC/MNC pair 512 may correspond to home network ABC 104 of FIG. 4, MCC/MNC pair 514 may correspond to network GHI  
5 406 of FIG. 4, MCC/MNC pair 516 may correspond to network JKL 408 of FIG. 4, and MCC/MNC pair 518 may correspond to another home network not shown. Home network display name 530 (e.g. “T-Mobile” or “AT&T Wireless”), the name string used for mobile station’s display for all home-related networks, is associated and used with all of MCC/MNC pairs in list 510.

10 In general, mobile station 202 operates to preferentially select and register with home networks over non-home networks. If no home network is available, mobile station 202 operates to preferentially select and register with one of the networks its PPLMN list. In any case, after mobile station 202 selects and registers with a communication network, it first consults with list 510 of MCC/MNC pairs to assist in determining what network name should  
15 be displayed in its visual display. Specifically, mobile station 202 compares the MCC/MNC pair of the selected network with the MCC/MNC pairs in list 510. If mobile station 202 identifies a match between the MCC/MNC pair and any one of the MCC/MNC pairs in list 510, it reads and causes the home network display name 530 to be displayed in its visual display. Otherwise, it selects an alternate network name for visual display. Advantageously,  
20 a single home network name is displayed when any of the networks associated with the home network MCC and MNC pairs in list 510 is selected for communication. Preferably, although the technique described focuses on the use of only an MCC and MNC pair, the technique may include the use of a Location Area Code (LAC) in addition to the MCC and MNC (i.e. the tuple MCC/MNC/LAC is used to identify the home network display name).

25 In an alternative embodiment, the SIM 262 utilized with mobile station 202 may include the same or similar information. As shown in FIG. 5, memory 504 of SIM 262 may alternatively store a list 520 of home network MCC/MNC pairs in association with home network display name 530. This list 520 of home network MCC/MNC pairs are prestored in memory 504 in a (semi-) permanent fashion during the initial programming of SIM 262. In  
30 FIG. 5, it is shown that the example list 520 includes four (4) home network MCC/MNC pairs, namely, home network MCC/MNC pairs 522, 524, 526, and 528. Only a relatively small number of MCC/MNC pairs in list 520 are shown for illustrative clarity; any suitable

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number of pairs may be utilized, such as between 5 – 50. As an example, MCC/MNC pair 522 may correspond to home network ABC 104 of FIG. 4, MCC/MNC pair 524 may correspond to network GHI 406 of FIG. 4, MCC/MNC pair 526 may correspond to network JKL 408 of FIG. 4, and MCC/MNC pair 528 may correspond to another home network not shown. Home network display name 530 (e.g. “T-Mobile” or “AT&T Wireless”), the name string used for mobile station’s display for all home-related networks, is associated and used with all of MCC/MNC pairs in list 520. In this alternative example, mobile station 202 operates in the same manner in relation to the information in memory 504 of SIM 262 as was described above in relation to the information in memory 502 of mobile station 202. Preferably, although this technique describes focuses on the use of only an MCC and MNC pair, the technique may include the use of a Location Area Code (LAC) in addition to the MCC and MNC (i.e. it uses this tuple to identify the home network display name).

FIG. 7 is a flowchart for describing a home network name displaying method for multiple home networks. Such a method may be employed in connection with components shown and described above in relation to FIGs. 1-6. Beginning with a start block 702, a mobile station scans to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs which correspond to a plurality of wireless communication networks within a given coverage area (step 704). Next, the mobile station compares a received MCC/MNC pair with multiple MCC/MNC pairs associated with a home communication network (step 706). These multiple MCC/MNC pairs may be stored in a Home Public Land Mobile Network (HPLMN) list on a Subscriber Identity Module (SIM). Alternatively, the multiple MCC/MNC pairs may be stored in memory of the mobile station. If there is a match at step 708 with one of the MCC/MNC pairs, the mobile station selects this “home” network which is associated with the MCC/MNC pair for communication (step 712). Otherwise, if there is no match, the mobile station selects a preferred network or other non-home network for communication (step 710). In any case, the mobile station tunes to the appropriate channel and initiates registration onto the network associated with the selected MCC/MNC pair (step 714).

Next, the mobile station compares the received MCC and MNC pair associated with the selected network with each one of the multiple home network MCC/MNC pairs (step 716). Based on a match at step 718, the mobile station reads and causes a home network name associated with the home network MCC/MNC pairs to be displayed in its visual

display (step 722). Thus, the same network name will be displayed for any MCC and MNC pair found in the home network list. If there is no match in the list at step 718 (i.e. no match), however, then the mobile station visually displays an alternate non-home network name in the visual display (step 720). Preferably, although the method of FIG. 7 focuses on the use of only an MCC and MNC pair, the method may include the use of a Location Area Code (LAC) in addition to the MCC and MNC (i.e. a tuple MCC/MNC/LAC is used for selection).

In a slight variation of the method of FIG. 7, the mobile station utilizes a multiple home network list on the SIM if it is stored on the SIM but, if such a list is not stored on the SIM, the mobile station utilizes a multiple home network list stored in its own memory. The mobile station may identify or detect whether there is a multiple home network list on the SIM by testing if a predetermined designated area of memory on the SIM includes this list or associated data. Alternatively, the mobile station may perform this identification by testing if a version number of the SIM corresponds to having such a multiple home network list (e.g. a less recent version number of SIM may not specify such list whereas a more recent predetermined version number may do so). This test may be performed every time the mobile station goes through the network name displaying technique or, alternatively, only once during or shortly after a SIM initialization procedure performed by the mobile station.

Advantageously, issues arising from a service provider becoming the new owner of one or more networks which have MCC/MNC pairs different from that of the home network's are alleviated. All home network MCC/MNC pairs are appropriately stored in memory of the mobile station or SIM which is updated when new networks are added to the home network. Visually displaying the (same) service provider name for these networks is suitably performed based on the present techniques. In one implementation, compatibility is provided between previous, current, and future versions mobile stations and SIMs by providing a test to identify the availability of such a list on the SIM and a similar backup list on the mobile station.

Final Comments. Home network name displaying methods and apparatus for multiple home networks are described herein. A mobile station scans to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of communication networks within a coverage area. The mobile station selects and registers with a communication network associated with one of the received MCC and MNC

pairs for communication. After the network is selected, the received MCC and MNC pair is compared with a plurality of home network MCC and MNC pairs which are associated with a single home network display name. Based on identifying a match between the received MCC and MNC pair and any one of the home network MCC and MNC pairs, the home network display name is visually displayed in a display of the mobile station. If no match exists, an alternate name is selected for display. The plurality of home network MCC and MNC pairs may be stored in memory of the mobile station or, alternatively, on a Subscriber Identify Module (SIM). Advantageously, a single home network name is displayed when a network associated with any of the home network MCC and MNC pairs is selected for communication.

A computer program product of the present application includes a computer storage medium as well as computer instructions stored on the computer storage medium. The computer storage medium may be any memory in mobile station 202 or even a floppy disk or CD-ROM, as examples; detailed computer instructions are written in accordance with the methods and logic described in the present application. Specifically, the computer instructions are executable by a processor (e.g. a microprocessor) to perform the steps of scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area; scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area; selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs; comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs; and causing a home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

A mobile station of the present application includes a transceiver which is operative to scan to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area; memory which stores a plurality of home network MCC and MNC pairs which are associated with a home network display name; and a processor which is operative select and register with a wireless communication network associated with one of the

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received MCC and MNC pairs; compare the MCC and MNC pair of the selected network with the plurality of home network MCC and MNC pairs; and cause the home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the  
5 home network MCC and MNC pairs.

The above-described embodiments of invention are intended to be examples only. Alterations, modifications, and variations may be effected to particular embodiments by those of skill in art without departing from scope of invention, which is defined solely by claims appended hereto.

10

What is claimed is:

CLAIMS

1. In a mobile station, a network name displaying method comprising:  
scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network  
5 Code (MNC) pairs corresponding to a plurality of wireless communication networks within a  
coverage area;  
selecting and registering with a wireless communication network associated with one  
of the received MCC and MNC pairs;  
comparing the MCC and MNC pair of the selected network with a plurality of home  
10 network MCC and MNC pairs; and  
causing a home network display name to be visually displayed in a visual display of  
the mobile station based on identifying a match between the MCC and MNC pair of the  
selected network and one of the home network MCC and MNC pairs.
- 15 2. The method of claim 1, wherein the plurality of home network MCC and  
MNC pairs are stored in a Subscriber Identity Module (SIM).
3. The method of claim 1, wherein the plurality of home network MCC and  
MNC pairs are stored in memory of the mobile station.  
20
4. The method of claim 1, wherein the home network display name is the same  
for all of the home network MCC and MNC pairs.
5. The method of claim 1, wherein a Location Area Code (LAC) is used in  
25 addition to the MCC and the MNC in the acts of comparing and identifying.
6. The method of claim 1, further comprising:  
causing an alternate display name to be visually displayed in the visual display based  
on identifying no match between the MCC and MNC pair of the selected network and one of  
30 the home network MCC and MNC pairs.
7. The method of claim 1, further comprising:

identifying whether the plurality of home network MCC and MNC pairs are stored on a Subscriber Identity Module (SIM);

using the plurality of home network MCC and MNC pairs stored on the SIM based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM;

5 and

otherwise, using the plurality of home network MCC and MNC pairs stored in memory of the mobile station.

8. A mobile station, comprising:

10 a transceiver being operative to scan to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

memory which stores a plurality of home network MCC and MNC pairs which are associated with a home network display name;

15 a processor being operative to:

select and register with a wireless communication network associated with one of the received MCC and MNC pairs;

compare the MCC and MNC pair of the selected network with the plurality of home network MCC and MNC pairs; and

20 cause the home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

25 9. The mobile station of claim 8, wherein the memory comprises a Subscriber Identify Module (SIM).

10. The mobile station of claim 8, wherein the memory is separate and apart from a Subscriber Identify Module (SIM) in the mobile station.

30

11. The mobile station of claim 8, wherein the home network display name is the same for all of the home network MCC and MNC pairs.

12. The mobile station of claim 8, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

5 13. The mobile station of claim 8, wherein the processor is further operative to:  
cause an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

10 14. The mobile station of claim 8, wherein the processor is further operative to:  
identify whether the plurality of home network MCC and MNC pairs are stored on a Subscriber Identity Module (SIM);  
use the plurality of home network MCC and MNC pairs stored on the SIM based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM;  
15 and  
otherwise, use the plurality of home network MCC and MNC pairs stored in memory of the mobile station.

15. A computer program product, comprising:  
20 a computer storage medium;  
computer instructions stored on the computer storage medium;  
the computer instructions being executable by a processor for executing the steps of:  
causing a scanning process to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of  
25 wireless communication networks within a coverage area;  
selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs;  
comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs; and  
30 causing a home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and

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MNC pair of the selected network and one of the home network MCC and MNC pairs.

5           16.    The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in a Subscriber Identity Module (SIM).

          17.    The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in memory of the mobile station.

10           18.    The computer program product of claim 15, wherein the home network display name is the same for all of the home network MCC and MNC pairs.

          19.    The computer program product of claim 15, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

15

          20.    The computer program product of claim 15, wherein the computer instructions are further executable for:

          causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and one of  
20   the home network MCC and MNC pairs.

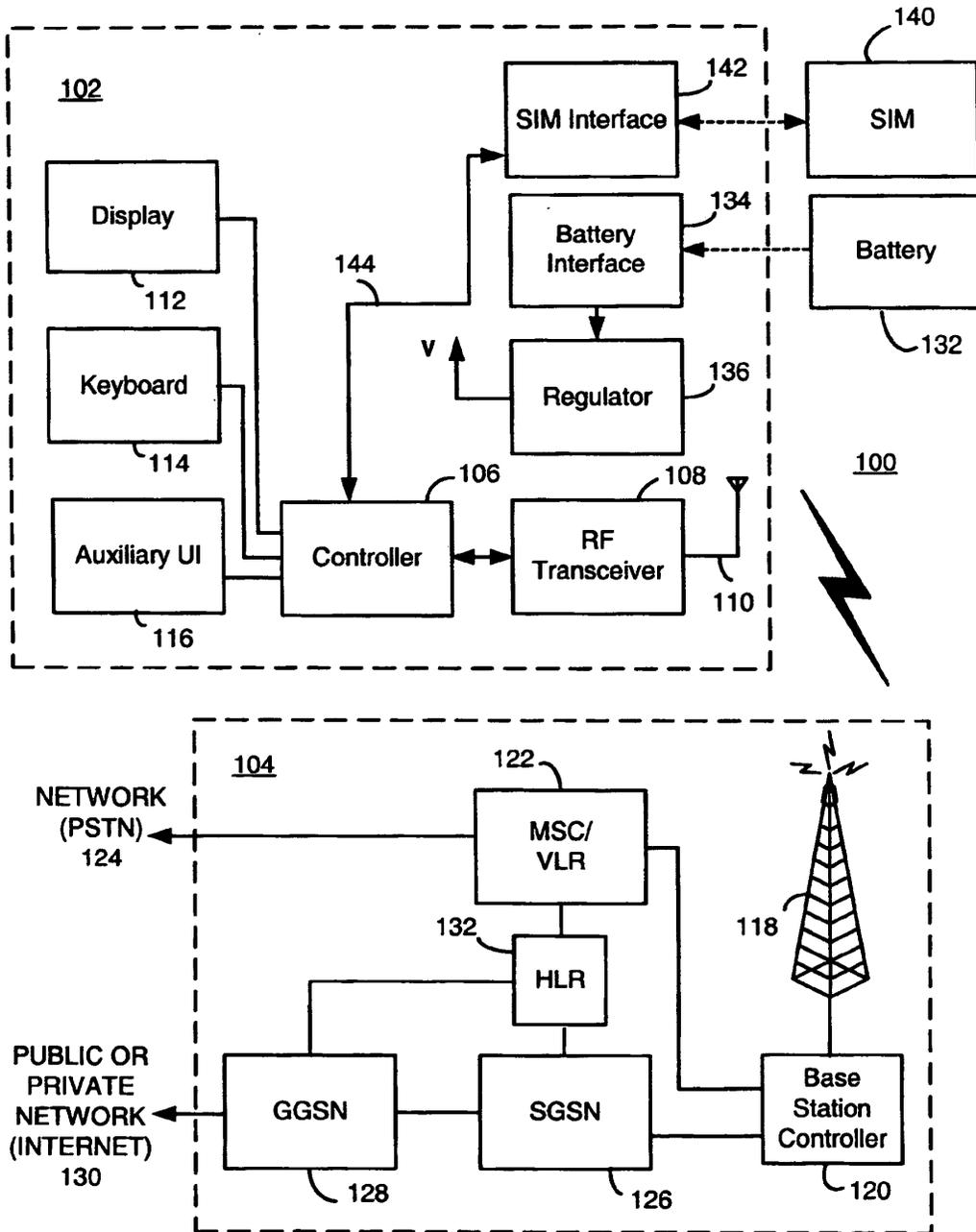
25

HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS  
FOR MULTIPLE HOME NETWORKS

ABSTRACT OF THE DISCLOSURE

5 Home network name displaying methods and apparatus for multiple home networks  
are disclosed. A mobile station scans to receive a plurality of Mobile Country Code (MCC)  
and Mobile Network Code (MNC) pairs corresponding to a plurality of communication  
networks within a coverage area. The mobile station selects and registers with a  
communication network associated with one of the received MCC and MNC pairs for  
10 communication. After the network is selected, the received MCC and MNC pair is compared  
with a plurality of home network MCC and MNC pairs which are associated with a single  
home network display name. Based on identifying a match between the received MCC and  
MNC pair and any one of the home network MCC and MNC pairs, the home network display  
name is visually displayed in a display of the mobile station. If no match exists, an alternate  
15 name is selected for display. The plurality of home network MCC and MNC pairs may be  
stored in memory of the mobile station or, alternatively, on a Subscriber Identify Module  
(SIM). Advantageously, a single home network name is displayed when a network  
associated with any of the home network MCC and MNC pairs is selected for  
communication.

FIG. 1



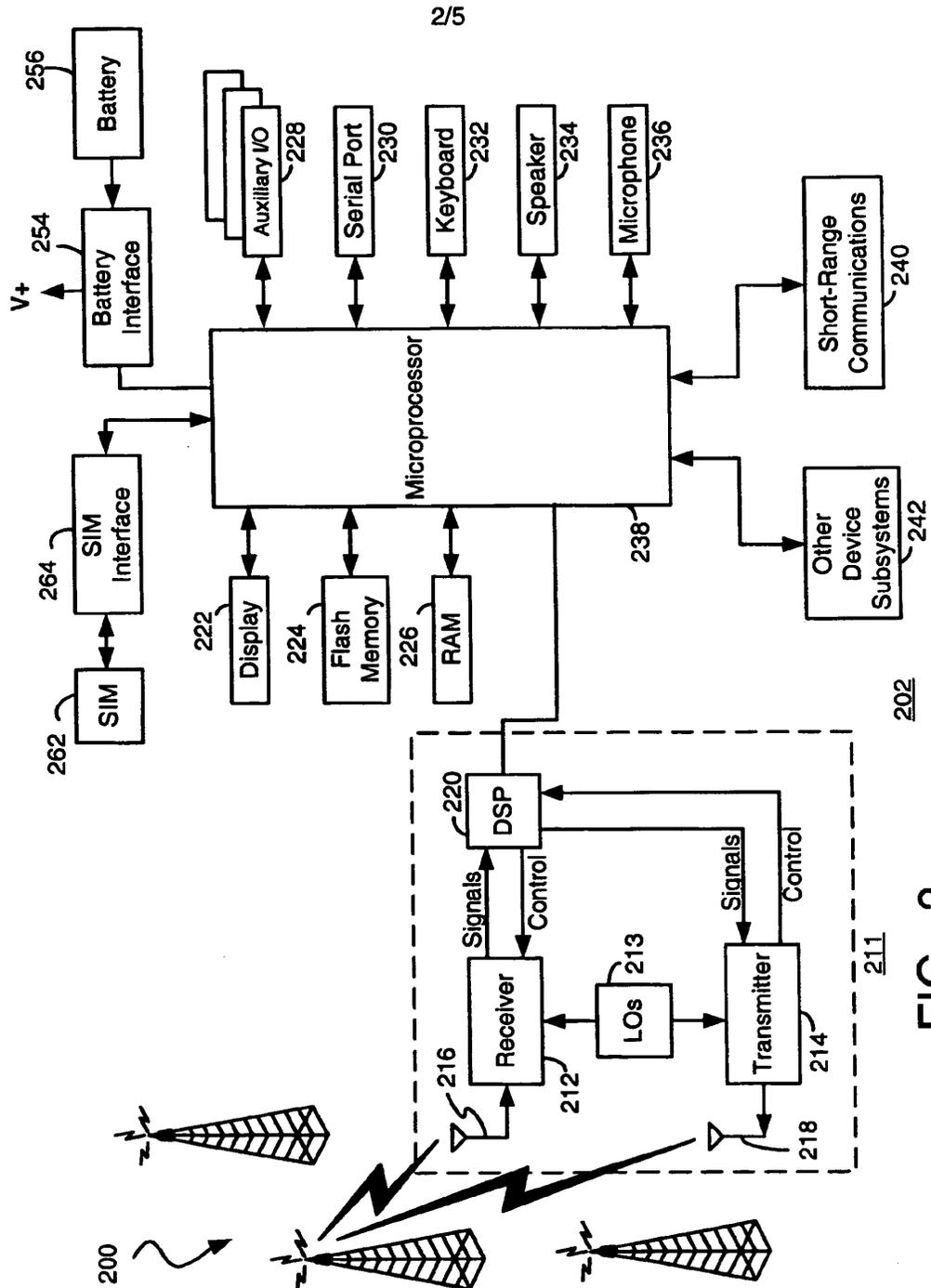
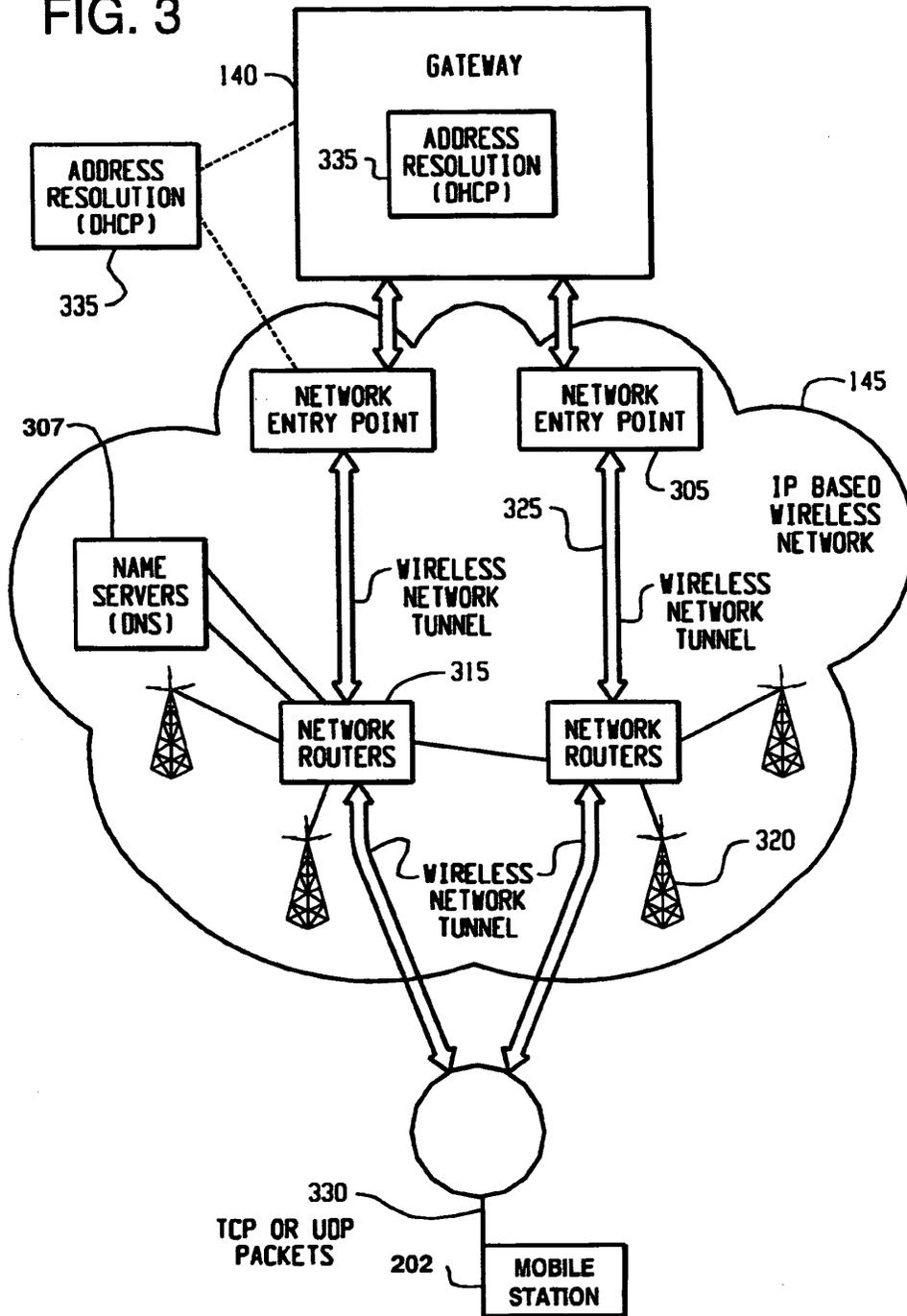


FIG. 2

FIG. 3



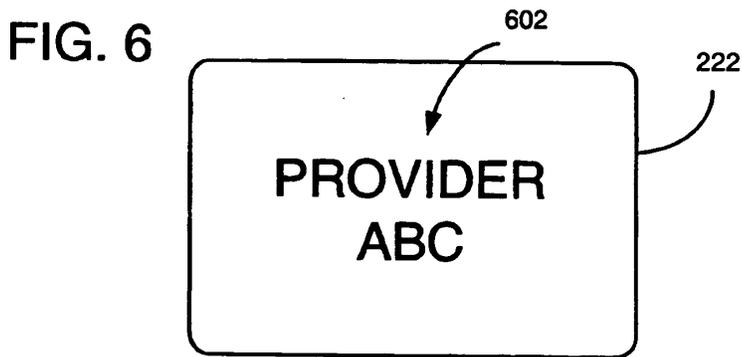
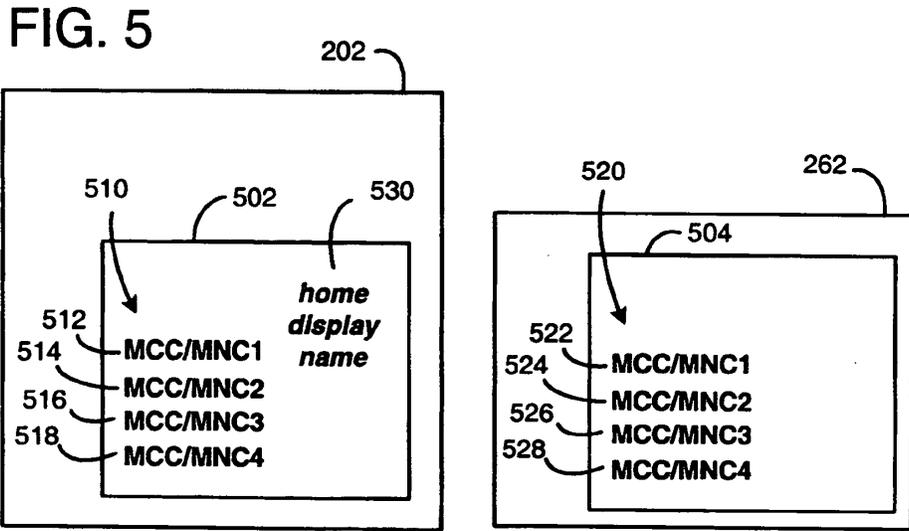
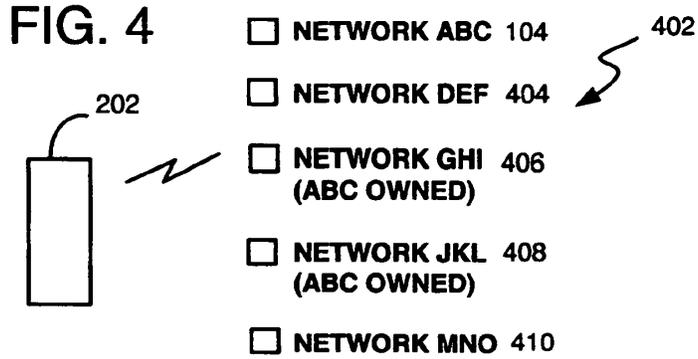
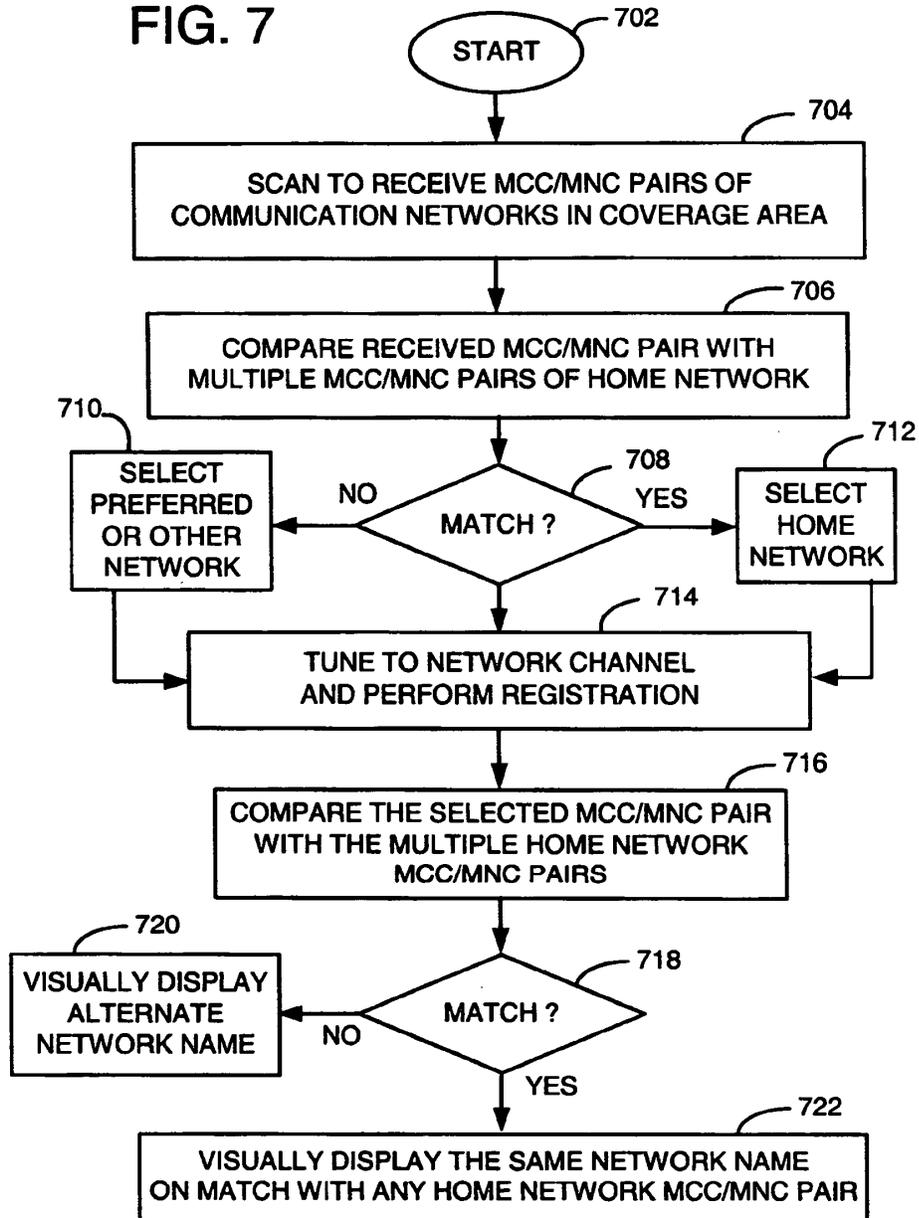


FIG. 7



PATENT APPLICATION SERIAL NO. \_\_\_\_\_

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

09/07/2004 CCHAU1 00000009 501995 10932899

01 FC:1001 770.00 DA  
02 FC:1202 126.00 DA

PTO-1556  
(5/87)

U.S. Government Printing Office: 2001 — 481-697/59173

**PATENT APPLICATION FEE DETERMINATION RECORD**  
Effective October 1, 2003

Application or Docket Number

10932899

**CLAIMS AS FILED - PART I**

	(Column 1)	(Column 2)
TOTAL CLAIMS	27	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	27 minus 20 = *	7
INDEPENDENT CLAIMS	3 minus 3 = *	-
MULTIPLE DEPENDENT CLAIM PRESENT <input type="checkbox"/>		

\* 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	OR	RATE	FEE
BASIC FEE	385.00	OR	BASIC FEE	770.00
X\$ 9=		OR	X\$18=	126
X43=		OR	X86=	-
+145=		OR	+290=	-
TOTAL		OR	TOTAL	891

**CLAIMS AS AMENDED - PART II**

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total *	Minus **	=
	Independent *	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

**SMALL ENTITY** OR

**OTHER THAN SMALL ENTITY**

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total *	Minus **	=
	Independent *	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
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	Independent *	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X43=		OR	X86=	
+145=		OR	+290=	
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.

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:	)	
	)	
Zinn et al.	)	Group No.: Not Yet Assigned
	)	
Serial No.: Not Yet Assigned	)	Examiner: Not Yet Assigned
	)	
Filing Date: Not Yet Assigned	)	Docket No.: 0108-0221 / US
Priority Date: 3 September 2003	)	

For: "HOME NETWORK NAME DISPLAYING METHODS  
AND APPARATUS FOR MULTIPLE HOME NETWORKS"

**MAIL STOP PATENT APPLICATION**

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

Sir:

**PRELIMINARY AMENDMENT**

The Applicant respectfully submits this Preliminary Amendment for the present application attached herewith.

**IN THE SPECIFICATION**

*On page 1, after the title please insert the following paragraph:*

**CROSS-REFERENCE TO RELATED APPLICATION**

This application claims priority to European Patent Application No. 03255483.4 entitled "Home Network Name Displaying Methods And Apparatus For Multiple Home Networks" having a filing date of 3 September 2004, which is hereby incorporated by reference herein.

IN THE CLAIMS

*Please amend claims 1-3, 7-10, and 14-17, and add new claims 21-27, as follows:*

1. (Currently Amended) ~~In a mobile station, a~~ A network name displaying method in a mobile station, the method comprising:

scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs;

comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs; ~~and~~

for the step of comparing: using a plurality of home network MCC and MNC pairs stored on a Subscriber Identity Module (SIM) based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, otherwise using a plurality of home network MCC and MNC pairs stored in memory of the mobile station; and

causing a home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

2. (Currently Amended) The method of claim 1, wherein the plurality of home network MCC and MNC pairs are stored in ~~a Subscriber Identity Module (SIM)~~ the SIM.

3. (Currently Amended) The method of claim 1, wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station.

4. (Original) The method of claim 1, wherein the home network display name is the same for all of the home network MCC and MNC pairs.

5. (Original) The method of claim 1, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

6. (Original) The method of claim 1, further comprising:  
causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

7. The method of claim 1, ~~further comprising:~~  
~~identifying whether the plurality of home network MCC and MNC pairs are stored on a Subscriber Identity Module (SIM);~~  
~~using the plurality of home network MCC and MNC pairs stored on the SIM based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM; and~~  
~~otherwise, using the plurality of home network MCC and MNC pairs stored in memory of the mobile station wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a predetermined designated area of memory on the SIM.~~

8. (Currently Amended) A mobile station, comprising:  
a transceiver being operative to scan to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;  
~~memory which stores a plurality of home network MCC and MNC pairs which are associated with a home network display name;~~  
a Subscriber Identity Module (SIM) interface for receiving a SIM;  
a processor being operative to:

select and register with a wireless communication network associated with one of the received MCC and MNC pairs;

compare the MCC and MNC pair of the selected network with ~~the~~ a plurality of home network MCC and MNC pairs associated with a home network display name; and

for the comparison: using a plurality of home network MCC and MNC pairs stored on the SIM based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, otherwise using a plurality of home network MCC and MNC pairs stored in memory of the mobile station; and

cause the home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

9. (Currently Amended) The mobile station of claim 8, wherein the ~~memory comprises a Subscriber Identify Module (SIM)~~ plurality of home network MCC and MNC pairs are stored on the SIM.

10. (Currently Amended) The mobile station of claim 8, wherein the memory is separate and apart from ~~a Subscriber Identify Module (SIM)~~ the SIM in the mobile station.

11. (Original) The mobile station of claim 8, wherein the home network display name is the same for all of the home network MCC and MNC pairs.

12. (Original) The mobile station of claim 8, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

13. (Original) The mobile station of claim 8, wherein the processor is further operative to:

cause an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

14. (Currently Amended) The mobile station of claim 8, wherein the processor is further operative to:

~~identify whether the plurality of home network MCC and MNC pairs are stored on a Subscriber Identity Module (SIM);~~

~~use the plurality of home network MCC and MNC pairs stored on the SIM based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM; and~~

~~otherwise, use the plurality of home network MCC and MNC pairs stored in memory of the mobile station~~

identify that the plurality of home network MCC and MNC pairs are stored on the SIM by testing a predetermined designated area of memory on the SIM.

15. (Currently Amended) A computer program product, comprising:

a computer storage medium;

computer instructions stored on the computer storage medium;

the computer instructions being executable by a processor for executing the steps of:

causing a scanning process to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs;

comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs associated with a home network display name; and

for the comparing: using a plurality of home network MCC and MNC pairs stored on a Subscriber Identify Module (SIM) based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, otherwise using a plurality of home network MCC and MNC pairs stored in memory of the mobile station; and

causing a the home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

16. (Currently Amended) The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in ~~a Subscriber Identity Module (SIM)~~ the SIM.

17. (Currently Amended) The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station.

18. (Original) The computer program product of claim 15, wherein the home network display name is the same for all of the home network MCC and MNC pairs.

19. (Original) The computer program product of claim 15, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

20. (Original) The computer program product of claim 15, wherein the computer instructions are further executable for:

causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

21. (New) The computer program product of claim 15, wherein the computer instructions are further executable for identifying that the plurality of home network MCC and MNC pairs are stored on the SIM by testing a predetermined designated area of memory on the SIM.

22. (New) The computer program product of claim 15, wherein the computer instructions are further executable for identifying that the plurality of home network MCC and MNC pairs are stored on the SIM by testing a version number of the SIM.

23. (New) The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs correspond to networks of a Home Public Land Mobile Network (HPLMN) list.

24. (New) The method of claim 1, wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a version number of the SIM.

25. (New) The method of claim 1, wherein the plurality of home network MCC and MNC pairs correspond to networks of a Home Public Land Mobile Network (HPLMN) list.

26. (New) The mobile station of claim 8 wherein, to identify that the plurality of home network MCC and MNC pairs are stored on the SIM, the processor is further operative to test a version number of the SIM.

27. (New) The mobile station of claim 8, wherein the plurality of home network MCC and MNC pairs correspond to networks of a Home Public Land Mobile Network (HPLMN) list.

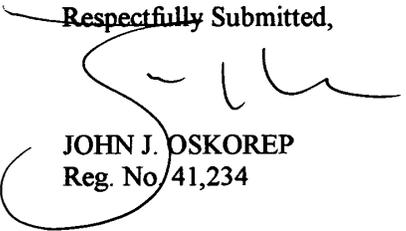
REMARKS

The Applicant respectfully submits this Preliminary Amendment for the present patent application attached herewith. The present patent application is based on and claims priority to European Patent Application No. 03255483.4 entitled "Home Network Name Displaying Methods And Apparatus For Multiple Home Networks" having a filing date of 3 September 2004. The Preliminary Amendment adds a statement in a "Cross-Reference To Related Application" section to identify and claim priority to the same.

In addition, the Preliminary Amendment amends claims 1-3, 7-10, and 14-17, and add new claims 21-27. *Therefore claims 1-27 are pending for examination.* The Applicant submits that no new matter has been added by this Preliminary Amendment. For example, the amendments to claims 1, 8, and 15 correspond to language of previous claims 7 and 14 with further support on page 19 at lines 8-19, on page 16 at lines 28-31, on page 17 at lines 25-29, and SIM interface 262 in FIG. 2.

Thank you. The Examiner is invited to contact the undersigned if necessary to further expedite this matter.

Respectfully Submitted,



JOHN J. OSKOREP  
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Date: 2 Sept 2004

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Zinn et al. Docket No.: 0108-0221/US  
Serial No.: Not Yet Assigned Art Unit: Not Yet Assigned  
Filing Date: Not Yet Assigned Examiner: Not Yet Assigned  
Title: HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS

MAIL STOP PATENT APPLICATION  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

SIR:

INFORMATION DISCLOSURE STATEMENT

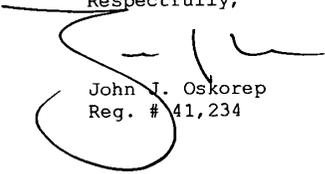
In accordance with 37 CFR 1.97(b), the enclosed Information Disclosure Statement, with attached reference(s), is submitted for consideration in the above-identified application.

A copy of each of the listed documents is enclosed.

NO FEE IS REQUIRED.

The Examiner is respectfully requested to make the listed documents of record in connection with the prosecution of the subject application.

Respectfully,

  
John J. Oskorep  
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Date: 02 Sept 2004

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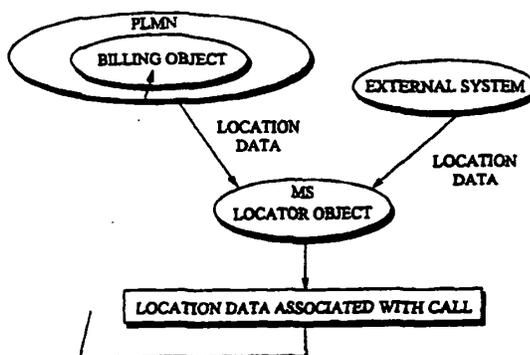




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(54) Title: CHARGING METHOD IN A MOBILE TELECOMMUNICATION SYSTEM



(57) Abstract

The charging principles regarding mobile calls can be improved by providing the mobile station with a locator object, which at certain intervals determines the cell in which the mobile station is currently located. Stored in the mobile station is also a list of areas permitting application of a special rate. The locator object monitors calls made from the mobile station. When it detects that a call is being started, it checks whether the mobile station was in a special rate area at the time when its location was determined last. If this is the case, then the object will inform the network that the call is entitled to a special rate. As the last location function was executed just before the call setup was started, a special rate call is possible even if the mobile station has moved some distance into the area of a cell applying a normal rate. Placed in a billing centre is a billing object, to which the locator object sends data indicating whether the call was started from a cell or area where a special rate is applicable, as well as data identifying the call. The second object receives the billing records generated by the mobile switching centre, which also contain call identifying data, and compares the call-specific data in them with the data sent by the first object. In this way, the second object can find from the billing records the calls that are entitled to a special rate, regardless of whether the mobile station has moved during call setup from the original cell into a cell where another rate, e.g. a higher rate is applicable.

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**CHARGING METHOD IN A MOBILE TELECOMMUNICATION SYSTEM****SCOPE OF THE INVENTION**

The present invention relates to the formation of the principles of calculation of call price in a cellular mobile communication system.

**TECHNOLOGICAL BACKGROUND**

In a wired network, the charge for a call depends on whether the call is a local call, a trunk call or an international call, in other words, a geographically defined call, or whether it is a call to a service number. Thus, when dialling the number of a called subscriber, the calling subscriber already knows the principles on which the price of the call will be calculated.

The principles used in a wired network for calculating the call price cannot be directly applied in mobile telephone networks. This is because the mobile subscriber is not tied to a given locality while the called subscriber may be a locality-dependent wired network subscriber or a mobile subscriber in the same mobile communication network or a subscriber in another operator's mobile communication network. Within the mobile communication network, no distinction is made between local calls and long-distance calls regarding pricing; moreover, in distinction from the wired network, even the called subscriber is liable to pay a portion of the price of a received call in certain cases.

In mobile communication networks, a difficulty in locality-dependent determination of price is that the exact locality of neither the calling nor the called subscriber is known. To give an understanding of the principles of calculation of call price, the

call setup process in a mobile communication network will now be described in general outline, referring to Fig. 1.

When a calling subscriber in cell a1 in location area 1 under mobile switching centre MSC1 makes a call to a subscriber in location area 2 under another mobile switching centre MSC2, he/she will dial the MSISDN number (Mobile Subscriber International ISDN number) of the called subscriber on his/her mobile station MS-A, which sends it in a message to the base transceiver station 1, step 1. Upon receiving the message, MSC1 checks whether the request can be accepted. As a part of this check, the subscriber data of the calling subscriber are retrieved from the visitor location register VLR1 associated with MSC1, where they have been stored in conjunction with the location updating procedure. If the request is accepted, the mobile switching centre MSC1 will send to the home location register HLR an enquiry containing the called subscriber's MSISDN number, step 2. Based on this number, the HLR retrieves the data for the called subscriber, which indicate that the called subscriber has roamed to visitor location register VLR2. Next, the HLR sends the IMSI (International Mobile Subscriber Identity) data to visitor location register VLR2, asking the latter to give the roaming number, step 3, whereupon VLR2 sends the roaming number MSRN to the home location register HLR, step 4, from where it is sent further to MSC1, step 5.

After this, the call can be routed from mobile switching centre MSC1 to mobile switching centre MSC2 on the basis of the MSRN number (Mobile Subscriber Roaming Number) received from VLR2, step 6. Upon receiving the start message, the mobile switching centre MSC2 of the called subscriber retrieves the subscriber data for the called subscriber from the associated VLR2. From the subscriber data, MSC2 learns

the location area LAI 2 of the called subscriber, so MSC2 is able to send a paging message via the appropriate base station controller 2 (step 7) to the cells b1, b2, b3 in the location area in question. After the called subscriber's mobile station MS-B has responded to the paging, the call is finally set up to the called subscriber. From what was said above, it is obvious that it is only after the called subscriber's mobile station has responded to the paging message that the relevant mobile switching centre MSC2 is informed of the called subscriber's location at the cell level.

The mobile switching centre may also be linked to a service switching point SSP of an intelligent network IN to allow connections from the mobile communication network to the intelligent network. Via an intelligent network, a wide variety of services can be offered to the subscribers of the mobile communication network, including services like follow-me-diversion of calls, call rerouting distribution, premium rate calls, etc.

In a state-of-the-art mobile communication network, the main rule regarding call charging is that the calling subscriber is charged for the connection between him/her and the home network of the called subscriber while the called subscriber is charged for the connection between his/her current locality and his/her home network.

To increase flexibility regarding the billing principles, a known method is to set a special billing parameter that allows calls made from the subscriber number associated with the parameter to be billed at a rate lower than normal at times when the load on the mobile communication network is low and, correspondingly, at a higher rate when the load on the mobile communication network is high. This parameter creates a time-dependent call charging principle, but in other

respects the pricing of calls follows the above-mentioned principles. Another known practice is to charge a lower price for calls between a mobile station and a specified wired network telephone than for normal calls. This can be implemented by assigning for all subscribers to the service a common service number, e.g. 020100, as the called subscriber number, which directs the call to an intelligent network. In the intelligent network, a service program searches a database to find the called subscriber number associated with the calling subscriber number, and the call is routed to this number.

A comparison of the principles of call price calculation used in mobile communication networks with those used in wired networks reveals certain problems. Since all cells are equal with respect to the mobile communication network, it is difficult to offer the various user groups any other principles of call price calculation than e.g. the aforesaid price variation based on the time of the day. At present, there are no special call price calculation principles applicable to calls within the same cell or calls between certain cells. However, it would be attractive for a mobile telephone network operator to be able to provide various services dependent on the locality where the call is started and/or where it is terminated. Such services include e.g. locality-dependent pricing solutions.

Specifications WO-96/20570 and WO/96/20571 present solutions for determining the principles of call price calculation. The price calculation principles can be improved by setting a given cell or a number of cells of a mobile telephone network as a special cell group. During call setup, the mobile switching centre or a service control point SCP in an intelligent network analyses the call to determine whether the cell in whose area the calling subscriber is lo-

cated and/or the cell in whose area the called subscriber is located belong(s) to the group of special cells. When the calling and called subscribers are located in cells belonging to different switching centres, data regarding the cell of the called subscriber is transmitted to the switching centre of the calling subscriber or to an intelligent network before a voice connection is established. Thus, based on whether the subscribers are in a group of special cells or not, it is possible to vary the call charging rates applied.

Specification WO-96/34499 describes a system in which the subscribers are divided into normal subscribers and "fixed" subscribers. A normal subscriber may start a call in any cell, whereas a fixed subscriber has limited access to the network from a subscriber area comprising one or more cells. When a fixed subscriber is at the boundary of his/her area, the call is forcibly directed to the base transceiver station of the subscriber area if possible.

These solutions allow the application of more fine-grained call charging principles than those generally used. A feature common to these solutions is that the right to a differently priced call is determined according to the cell in whose area the subscriber is physically located at the time of the call, i.e. according to the base transceiver station that connects the subscriber to the network. This is because the metering record generated at the start of the call includes, among other data, an identifier of the base transceiver station via which the connection is set up, and the base station identifier again reveals whether the base station belongs to a group of special cells. In other words, the base station identifier functions as a factor that ultimately determines the price of the call.

However, there is a problem associated with these prior-art solutions. In most mobile telephone

systems, it is the network that makes the decision as to which base station is to be used to transmit the subscriber's calls. When the subscriber is in the fringe area of a cell where a lower call charge is applicable, the network may repeatedly command the mobile station to perform a handover between two base stations, which means that the calling end of the connection alternates between the base station of a "cheaper" cell and the base station of an adjacent cell. If the adjacent cell is not one of the cells where a lower call charge is applicable, then the result would be that the call price would vary during the same call as the connection is handed over from one base station to another, the call charge being thus lower at one moment and higher at the next, without the subscriber having any chance to influence the situation in any way.

One solution proposed to cope with this problem is to give the mobile station some of the handover control functions between base stations. In the idle state, the mobile station would remain as long as possible in signalling contact with a cell applying a lower call charge when in the fringe area of the cell, in other words, the mobile station would remain "hanging" in the cell even when a neighbouring cell would provide a better connection quality. During a communication connection, too, the mobile station would continue hanging in the old cell when in the area of another cell, and it would inform the network e.g. in conjunction with a change of base station or the call setup procedure that it gives preference to the old base station providing cheaper service instead of other base stations.

However, this solution has the drawback of increased co-channel interference, which is due to the fact that, when the communication connection is forcibly maintained via the base station of a cheaper cell

although the mobile station is located in the area of an adjacent cell that would provide a better connection, the mobile station has to use a higher transmission power to compensate for the signal attenuation caused by the longer distance. Therefore, the mobile telephone interferes with other mobile stations using the same frequency that are communicating at the reuse distance of this frequency. Another drawback is that changes need to be made in certain network components, such as the base station controller and the telephone itself. Changes must be made at least in the handover criterion and algorithm.

Another solution proposed to deal with the problem is to have information presented on the display of the mobile station in the idle state to indicate the cell in whose area the mobile station is currently located. The idea is to allow the subscriber to move into the area of a cell with a lower call charge at least when the subscriber is at the boundary between cells. A drawback with this solution is that, as the billing record is generated at the beginning of the call when the telephone is already in the active state, the subscriber may move on to the area of a cell with a higher call charge during the call setup procedure although the subscriber has seen from the display before the transmission of the call setup request that the mobile station is still located in the area of a cheap cell.

The object of the present invention is to achieve a system that is free of the drawbacks of prior-art systems and that does not produce co-channel interference. In the system, determination of location of a mobile station should be implemented in a manner that allows a call started from a special cell to continue being charged at the rate applicable in that cell even if the mobile station should move on to a cell with a normal charging rate during call setup. A

further object is to ensure that, even if call setup is started in a cell with a normal charging rate but a moment earlier the mobile station has been in a special cell, the call can still be charged at the rate applicable in the special cell. The length of time of the moment should also be adjustable.

Yet another object is to achieve a system in which the area of a specially priced call is not dependent on the cell coverage area but may consist of any geographic area. The area may even consist of a part of one cell and a part of another cell. Location of the mobile station should therefore be independent of the information transmitted by the base stations.

The objects stated above can be achieved with the attributes defined in the independent claims.

#### SUMMARY OF THE INVENTION

According to the basic idea of the invention, the mobile station is provided with a first object, a locator object, which determines the location of the mobile station. The location function can be carried out with an accuracy of a cell or a sub-area of a cell, making use of the existing properties of the mobile communication system. By utilising location methods external to the mobile telephone system, completely cell-independent location can be achieved. The location function is executed at certain intervals. The mobile station also contains a stored list of cells and/or areas where a special charging rate is applicable. The locator object monitors the calls originated from the mobile station. When it detects that a call is being started, it checks whether the mobile station was in a cell or area with a special charging rate at the time when the location function was executed last. If this is the case, then the object will inform the network that the call is entitled

to a special rate. The last location function has even been executed before call setup is started, so a call chargeable at a special rate is possible even if the mobile station has moved some distance into the area of a cell applying a normal rate. Channel allocation is done independently of location in accordance with the normal procedures in the system, which means that co-channel interference is avoided.

One of the network elements is provided with a second object, a billing object, to which the first object sends information indicating whether the call has been started from a cell or area where a special rate is applicable. The second object receives the billing records generated by the mobile switching centre and compares the call-specific data in them with the data sent by the first object. In this way, the second object can find those calls in the billing records that are entitled to a special rate, even if the mobile station has moved during the call setup from the original cell or area into a cell where another rate, e.g. a higher rate is applicable.

Cells allowing the application of a special rate can be divided into groups of cells or areas, and each of the groups may have a different rate applicable in that group. Thus, when the final telephone bill is being compiled, the rate applicable in the special rate group can be checked and the call charge can be determined accordingly.

The locator object may send the data regarding a call entitled to a special rate to the network during the call or alternatively it may collect such data for a desired length of time and send the data at once to the billing object. However, the latter method has the drawback that it leads to a more difficult generation of the telephone bill if the data are received after the call records received during the billing period have been subjected to post-processing.

**LIST OF FIGURES**

A preferred embodiment of the invention is described by referring to the attached figures, of which

5

Fig. 1 illustrates call setup in a mobile telephone network,

Fig. 2 illustrates the principle of the invention in a simplified form,

10

Fig. 3 illustrates the system in a mobile telephone network, and

Fig. 4 presents a flow and signalling diagram consistent with the procedure, applied to a known mobile telephone system.

15

**DETAILED DESCRIPTION OF THE INVENTION**

Fig. 2 illustrates the principle of the invention in a simplified form. A mobile telephone system PLMN (Public Land Mobile Network) 22 is provided with a billing object. It is placed in a network element where call data are collected in a centralised manner for billing purposes, so a natural place for it is the billing centre, to which the mobile switching centres send their call data records. Installed in the mobile station, i.e. mobile telephone MS, is a locator object 21, whose function is to establish the location of the mobile station and to send the location data to the billing object 22.

The locator object receives the information required for the determination of location in two ways: either from the mobile telephone network PLMN or from an external system.

The first-mentioned method is based on the fact that the base stations in all known mobile telephone networks transmit information about themselves in a signal that, depending on the system, can be

called e.g. a beacon signal, a broadcast signal, a pilot signal, or using a corresponding designation. From this signal, the locator object can easily determine its location at least with an accuracy of one cell. In some countries, the regulations by authorities stipulate mobile station location determination with an accuracy beyond the level of the cell coverage area. To meet this requirement, several different methods have been proposed, such as methods based on a timing advance. In these, the network measures timing advance values between several base stations and the mobile station, and since the timing advance between the mobile station and each base station is directly proportional to the distance, three timing advance values will be sufficient to produce coordinates defining the location of the mobile station with a reasonable accuracy. If the PLMN network computes the location data, then these data are transmitted to the locator object.

The second method is based on the principle that the mobile station determines its location in a manner independent of the PLMN network by using some external system. Such a system could be e.g. the previously known GPS (Global Positioning System) satellite location system. In this case, the locator object would contain a GPS receiver.

In both methods, the location data is transmitted during or after the call to the billing object, which uses it as a basis for calculating the charge for the call.

Next, a description will be given of how the invention is applied in the previously known GSM system.

Fig. 3 presents the essential parts of the system, complemented with objects according to the invention. Many of the network elements have already been described in conjunction with Fig. 1. In the state-of-the-art system, when a mobile station MS ini-

tiates a call, the mobile switching centre MSC generates a call data record CDR, in which a desired amount of information relating to the call is stored. Usually this information comprises at least the call start  
5 time, termination time, calling and called numbers and a cell identifier Cell ID. The mobile switching centre MSC transmits a large number of CDR records at a time to the billing centre, where a billing program post-processes the call data records and generates the  
10 bills to be sent to the subscribers.

In the GSM system, as in other modern systems, the mobile station MS actually consists of two parts: mobile equipment ME and SIM card (Subscriber Identity Module), so a workable mobile station MS is  
15 only obtained by inserting a SIM card into the mobile equipment ME. The SIM card can be used as a storage medium for storing telephone numbers, but above all it is used for subscriber authentication. Identification based on the SIM card inserted by the user into the  
20 mobile station MS is designed to prevent illicit use of e.g. stolen equipment and to ensure that only subscribers who pay their bills can use the network. Stored on the card are a user identifier, i.e. PIN code (Personal Identity Number) as well as a subscriber identity code IMSI to be used in the network,  
25 the identification algorithm A3 to be used in the authentication and a subscriber-specific identification key  $K_i$ .

According to the invention, the mobile station MS is provided with a new function, which in this  
30 context is designated as locator object, Fig. 3. The function of the locator object is to establish whether the mobile station is in an area where the charging rate applied to calls originated from that area are  
35 different from the rate for calls made from other areas. Usually the rate is lower. For this purpose, the locator object needs to know the location of the mo-

bile station. In the determination of location, the broadcast information sent by the base transceiver stations is utilised. The base transceiver stations keep on sending information about themselves and their environment in their broadcast control channel. This information includes a cell identity code CI, information about adjacent cells and a location area identifier LAI. In its idle state, according to the specification, the mobile station performs frequency measurements on the BCCH (Broadcast Control Channel) channels. From a certain number of BCCH signals, e.g. six signals of highest strength, it decodes the BCCH data block, from which it obtains the BSIC data (Base Transceiver Station Colour Code). Each signal contains a cell identity code CI. The cell identity code and the carrier frequency form a pair that is individual to each base transceiver station. The one of the base transceiver stations that sends the BCCH frequency with the highest signal strength is regarded by the mobile station as its "own" base station. If the mobile station MS detects upon a change of base transceiver station BTS that the location area identifier LAI has changed, then it will send a location update request to the network.

Instead of the actual cell identity code CI, the location data used may consist of almost any unambiguous code obtained from the BSIC and updated at  $\frac{1}{2}$  second intervals that allows identification of the network cell or cell area. Such codes include the components of the world-wide CGI identifier (Cell Global Identification), which, according to the GSM recommendations, comprise a Mobile Country Code MCC, a Mobile Network Code MNC, a Location Area Identifier LAI and the above-mentioned Cell Identity code CI.

From the data listed above, a desired item can be selected to be used as the location data monitored by the locator object, so the area permitting

calls at a special charging rate can be defined as the entire network of the operator, as a location area or as a group of one or more cells.

The locator object picks the location data decoded by the mobile equipment and stores it in memory. The picking frequency may be the same as the frequency at which the identifiers are decoded, but since the mobile station cannot advance a long way in half a second, it is preferable to use a lower picking frequency. A suitable frequency is about once in a minute. This length of time is such that the mobile station may start a call setup process in one cell, whose base station identifier it has decoded, but the call setup process is terminated in another cell, whose base station identifier is decoded and placed in the call data record to be generated.

Stored in the memory of the locator object is a list of location data for cells permitting special call charging rates. The locator object compares the decoded location data it has picked with the stored data, and if the location data is found in the storage, then the object may give a command to display the data on the display of the equipment. It may display the cell identity code as it is or it may display e.g. a text saying "special cell" or the like to indicate to the user that calls in the current location area are cheaper. If the decoded location data cannot be found in the storage, this means that calls in the location area are charged for at normal rates, so there is no need to display any information. In this case, a list of special cells has been stored in the memory of the locator object and the locator object compares the located cell identity code with the identifiers in the list, and when this comparison indicates sameness, the above-mentioned texts are displayed.

When the locator object detects that the user is entering a telephone number and that the last loca-

tion check indicates that the mobile station is currently in an area where a special charging rate is applicable, it creates a record of the call data record type, which is designated here as compensation record.  
5 The compensation record contains the location data either as such or preferably as a suitable code. Moreover, it contains at least the calling and the called subscriber numbers.

The locator object transmits the compensation  
10 record in a special call data message to the billing object 22 in the network, Fig. 3. The billing object is located in the billing centre. The compensation record may be transmitted either during the call or after the call. The locator object may also collect  
15 compensation records for a longer time and send the collected compensation records periodically to the billing object. The billing object gathers the call data records sent by the mobile switching centre and the  
20 compensation records sent by the locator object and finds the ones of the call data records that are entitled to a different (lower) call charge even if the cell identity code in the call data record should indicate that the call is a normal rate call.

The locator object can be implemented as follows:  
25

In the so-called Phase 2+ of the follow-up specification of the GSM system by ETSI (European Telecommunications Standards Institute), the functions of the SIM card have been considerably increased as  
30 compared with the original specifications. The new definitions are presented in detail in specification GSM 11.14 "Digital cellular communications system (Phase 2+): Specification of the SIM Application Toolkit for the Subscriber Identity Module-Mobile  
35 Equipment (SIM-ME) Interface. It defines mechanisms that allow applications on the SIM card to cooperate and work with any mobile equipment ME that supports

these functions. The features that can be utilised in the implementation of the invention include Proactive SIM, which provides mechanisms by means of which, upon initiative by the SIM card, the mobile equipment performs certain functions, such as sending a message of max. 160 characters from the SIM card and displaying it, sending an USSD string (Unstructured Supplementary Service Data) to the network. An important feature in respect of the invention is the Call Control by SIM function described in section 9 in the specification. When this function has been activated on the SIM card, the mobile equipment ME will perform the following functions:

- During each call attempt, the mobile equipment transfers the numbers dialled by the user as well as the associated parameters to the SIM card. The only exception is a redialled attempt, of which only certain details of call setup are transferred to the SIM card.

- The SIM gives a certain response to the mobile equipment, according to which the mobile equipment either starts call setup in accordance with the numbers dialled, does not start call setup at all or uses the data given by the SIM in the call setup procedure.

- If an extra service function is in use, the mobile equipment ME transfers a service control string to the SIM card before the service is implemented.

- The SIM gives the mobile equipment a response of the same type as in the case of dialled numbers, whereupon the mobile equipment either starts the service or does not start it or starts it in accordance with the instructions given by the SIM card.

Moreover, section 6.4.15 of Phase 2+ defines the command PROVIDE LOCAL INFORMATION, which the SIM can use to request the mobile equipment to send current location information. When the SIM issues this

command to the mobile equipment, the latter responds by giving a TERMINAL RESPONSE, which contains the Mobile Country Code MCC, Mobile Network Code MNC, Location Area Identifier LAI and the Cell Identity code CI.

In addition, Phase 2+ defines the command DISPLAY TEXT. By giving this command, the SIM can cause the mobile equipment to display a desired text on the display of the equipment.

These new features of the SIM-ME interface as defined in Phase 2+ are preferably utilised in the implementation of the invention. Referring to Fig. 4, the operation of the locator object will now be described by using the concepts mentioned above. The figure illustrates the functions of the locator object and the messages exchanged between the SIM card, the mobile equipment ME and the base transceiver station BTS.

The locator object, which is a suitable program, is implemented on the SIM card. At regular time intervals  $\Delta T$ , the object sends a PROVIDE LOCAL INFORMATION message to the mobile equipment ME. In response to this message, the mobile equipment sends a TERMINAL RESPONSE message, which contains the mobile country code MCC, mobile network code MOBILE NETWORK CODE MNC, location area code LAC and the cell identity code CI (Cell Id). Let us suppose that the object uses the cell identity code CI as location data. Upon receiving the message, the locator object checks whether the cell identity code is included in the list stored on the SIM card. The list has been stored on the card beforehand by the network operator. If it is not found in the list, then the cell identity data last saved is reset and, after the set time interval  $\Delta T$ , the locator object sends a new request for location data and again compares the cell identity code received with the

list. But if the cell identity code is found in the list, this means that the mobile equipment has received location data from the BCCH carrier while in a cell for which the operator has set a special charging rate for calls originated from that cell. In this case, the location data is stored in memory. Again, after an interval of  $\Delta T$ , a request for location data is sent and the above-described procedure is repeated. If the cell identity code is not found in the list, then the previously stored cell identity code is reset.

When the location data has been stored, the locator object sends a DISPLAY TEXT message to the mobile equipment, which then displays the cell identity code comprised in the message either as it is or in plain-language form, e.g. "Reduced call charge" or the like.

When the user dials a telephone number to make a call, the mobile equipment transfers the called number dialled by the user in an ENVELOPE message to the SIM card. If the locator object accepts the number, it will send an ALLOWED acknowledgement message. After this, call setup proceeds in the normal manner and ends with a CONNECT message sent by the network, whereupon the speech path is connected. In response to the CONNECT message, the mobile equipment sends a TERMINAL RESPONSE message to the SIM card, letting the locator object know that the speech path has been connected.

The locator object now retrieves the location data from the storage. If it is not zero, which would mean "not a special rate cell", the locator object will start generating a compensation record by placing in the record the location data and call identification data specifying the call so that the billing object will be able to link the compensation record and the call data record generated by the mobile switching

centre together. The call identification data may include at least a running sequence number  $N$ , which is reset when it reaches a maximum value  $M$ . The sequence number thus changes as modulo  $M$ . Each successful call would thus be given a sequence number, but since a compensation record is not generated for every call, the locator object will receive compensation records with a sequence number  $N$  that does not grow regularly. For this reason, the mobile switching centre must be provided with a function that adds to the call data record a sequence number  $N$  increasing in the same way modulo  $M$ . Thus, the billing object will be able to link the compensation records with call data records having the same  $N$  value and charge the customer on the basis of the location data given in the compensation record. Of course it is also possible to include the calling and the called numbers in the compensation record.

During the call, the locator object transfers the compensation record to the mobile equipment, which sends it over the network to the billing object during the call. The transmission can also be effected in the form of a short message SMS (Short Message Service), in which case the locator object will give the mobile equipment a Send SMS command, or using the USSD (Unstructured Supplementary Service Data) consistent with the GSM standard, in which case it will give a Send USSD command.

In the foregoing description, the compensation record was sent during the call. As another alternative, the locator object may collect compensation records for some time and send them to the billing object in a larger batch. The limit for the batch size is set by the maximum length of the short message, which is 160 characters. The transmission of the batch can be done in the same way as the transmission of a compensation record during a call. However, if the compensation records are not sent during the call but

periodically in larger batches, there is a risk that the compensation records associated with the calls will be received after the actual billing period. This would be difficult because it would be necessary to  
5 send credit notes to the customers. Therefore, real-time transmission of compensation records is a preferable alternative.

In both alternatives, the billing object gathers the call data records sent by the mobile  
10 switching centre and the compensation records sent by the locator object together and finds those ones of the call data records which, according to the compensation record, are entitled to a different (lower) call charge, even if the cell identity code in the  
15 call data record should indicate that the call is a normal rate call. If the billing object cannot match a call data record produced by the mobile switching centre with a compensation record produced by the locator object, then it will assume that the call has been  
20 made in a normal rate area.

For the transmission of the compensation records to the billing object, a reliable data transmission link must be available between the objects. The SMS and USSD used in the GSM system are sufficiently  
25 reliable for this purpose.

The invention is not restricted to the example presented in the foregoing, but many different embodiments are possible within the scope of the definitions given in the claims. The locator object may also  
30 be implemented in the mobile equipment while only a list of special cells is stored on the SIM card by the operator.

Besides the cell identity code CI, the data used as location data may consist of the mobile country code MCC, the mobile network code MNC or the location area code LAC or a combination of these. In the  
35 CDMA system, the base station pilot signal data can be

used as location data because each base station keeps sending its own individual pilot signal. If the mobile communication system comprises, e.g. because required by the authorities, a feature for calculating the location of the mobile station using timing advance values or some other method, then this information is transmitted e.g. in the form of coordinates to the locator object. In this case, the locator object can be provided with tables of special location areas, whose boundaries need not coincide with cell area boundaries. The tables contain e.g. coordinate values and the locator object compares the current location data with the table to establish whether the location is within a special area. It is also possible to provide the mobile station with a location system such as a GPS receiver. The locator object compares the coordinate values obtained from the system with the table values and proceeds as above.

## CLAIMS

1. Procedure for forming the principle of calculation of call charge in a cellular mobile telephone network, which comprises

5 a mobile switching centre, which produces a call data record for each call,

and a plurality of base transceiver stations, each of which transmits the calls of the mobile stations located in the area served by the respective  
10 base transceiver station,

and in which at least one special area has been formed and a special charging rate has been set for calls originated from such an area, and in which the mobile station determines its location at time intervals of a predetermined length,  
15

characterised in that

a list of the location identifiers of the special areas is stored in the mobile station in advance,  
20

and that in the mobile station;

a check is carried out to establish whether the location data of the mobile station is comprised in the special areas on the list,

the location data is stored in memory for  
25 said time interval of predetermined length if it is comprised in the list,

a compensation record associated with a call initiated from the mobile station is generated during the call if the location data has been stored in memory, the information placed in said compensation record comprising at least the location data and data  
30 identifying the call,

the compensation record is transmitted to the mobile telephone network,

35 and that in the mobile telephone network;

to determine the charge for the call, the data in the compensation record and the data in the call data record are combined.

5       2. Procedure as defined in claim 1, characterised in that the determination of location is effected by utilising identifier data sent by the mobile telephone network.

10       3. Procedure as defined in claim 1, characterised in that the determination of location is effected by utilising data sent by an external system.

4. Procedure as defined in claim 3, characterised in that the external system used is a satellite positioning system.

15       5. Procedure as defined in claim 1, characterised in that the data identifying the call is a parameter placed in both the compensation record and the call data record, being the same in both records.

20       6. Procedure for improving the principles of calculation of call charge in a cellular mobile telephone network, in which

25       the mobile stations order the broadcast channels received from different base transceiver stations according to signal strength and decode at least from the strongest broadcast channel the various identifier data sent by the base transceiver station,

30       at least one special area has been formed and a special charging rate has been set for calls started from such an area, and

the mobile station determines its location at time intervals of a predetermined length,

characterised in that

35       a list of special areas is stored in the mobile station,

and that in the mobile station;

a check is carried out to establish whether the mobile station is located in a special area,

the location data is stored in memory for said time interval of predetermined length if the mobile station is in a special area,

a compensation record associated with a call started from the mobile station is generated during the call if the location data has been stored in memory, the information placed in said compensation record comprising at least the location data and data identifying the call,

the compensation record is transmitted to the mobile telephone network.

7. Procedure as defined in claim 6, characterised in that, when the identifier data is stored in memory, information indicating that the mobile station is in a special area is shown on the display of the mobile station.

8. Procedure as defined in claim 6, characterised in that the length of the predetermined time interval is substantially longer than the interval at which the mobile station decodes the signal of the strongest broadcast channel.

9. Procedure as defined in claim 6, characterised in that the special area comprises at least one cell and the list of special areas contains the identifiers of the cells in the special areas.

10. Procedure as defined in claim 6, characterised in that the compensation record is sent during the call.

11. Procedure as defined in claim 6, characterised in that a plurality of compensation records are collected into a batch and the batch is sent to the mobile telephone network.

12. Procedure as defined in claim 6, characterised in that the call data records generated by the mobile switching centre are compared

with the compensation records sent by the mobile station and when, based on the data identifying the call, records corresponding to each other are found, the price of the call is calculated on the basis of the rate set for the special area specified by the background record.

13. Procedure as defined in claim 6, characterised in that the list of special areas is stored in the Subscriber Identity Module.

14. Cellular mobile telephone system, which comprises

a mobile switching centre,

a plurality of base transceiver stations, each of which keeps sending its own identifier data in its broadcast channel,

mobile stations which consist of a mobile equipment (ME) and a subscriber identity module mounted in it and which order the broadcast channels received from different base transceiver stations according to signal strength and decode at least from the strongest broadcast channel the identifier data sent by the base transceiver station,

and in which system at least one special area has been formed and a special charging rate has been set for calls made from such an area, and

characterised in that the mobile station contains a list containing data regarding the special areas, and a locator object which

determines the location of the mobile station at time intervals of predetermined length and compares the resulting location data with the list,

stores the location data in memory for said time interval of predetermined length if it is comprised in the list,

during a call started from a mobile telephone, generates a compensation record associated with the call if the location data is currently stored in

memory and places in the compensation record at least the location data and data identifying the call and sends the compensation record to the mobile telephone network,

5           and that the system contains a billing object, which compares the compensation records with the call data records generated by the mobile switching centre and, when the call identifying data in said records correspond to each other, generates a call  
10 charge using the rate set for the special area indicated in the compensation record.

15           15. System as defined in claim 14, characterised in that the locator object is located in the subscriber identity module (SIM) and the billing object is located in conjunction with a billing centre.

20           16. System as defined in claim 14, characterised in that the interface between the mobile equipment and the subscriber identity module is consistent with GSM system specification 11.14.

25           17. System as defined in claim 16, characterised in that the locator object sends to the mobile equipment a Provide Local Information message at time intervals of predetermined length, and in response to a Terminal Response return message the locator object checks whether the decoded identifier data is included in the list.

30           18. System as defined in claim 17, characterised in that, when the identifier data is included in the list, the locator object sends to the mobile equipment a Display Text message, in response to which the mobile equipment displays the identifier data on its display screen.

35           19. System as defined in claim 14, characterised in that, in response to a message sent to the subscriber identity module (SIM) indicating es-

establishment of a speech connection, the locator object generates a compensation record.

20. System as defined in claim 14, characterised in that the locator object sends to  
5 the mobile equipment a Send Short Message message, in response to which the mobile equipment sends the compensation record to the billing object.

21. System as defined in claim 14, characterised in that the locator object sends to  
10 the mobile equipment a Send USSD message, in response to which the mobile equipment sends the compensation record to the billing object.

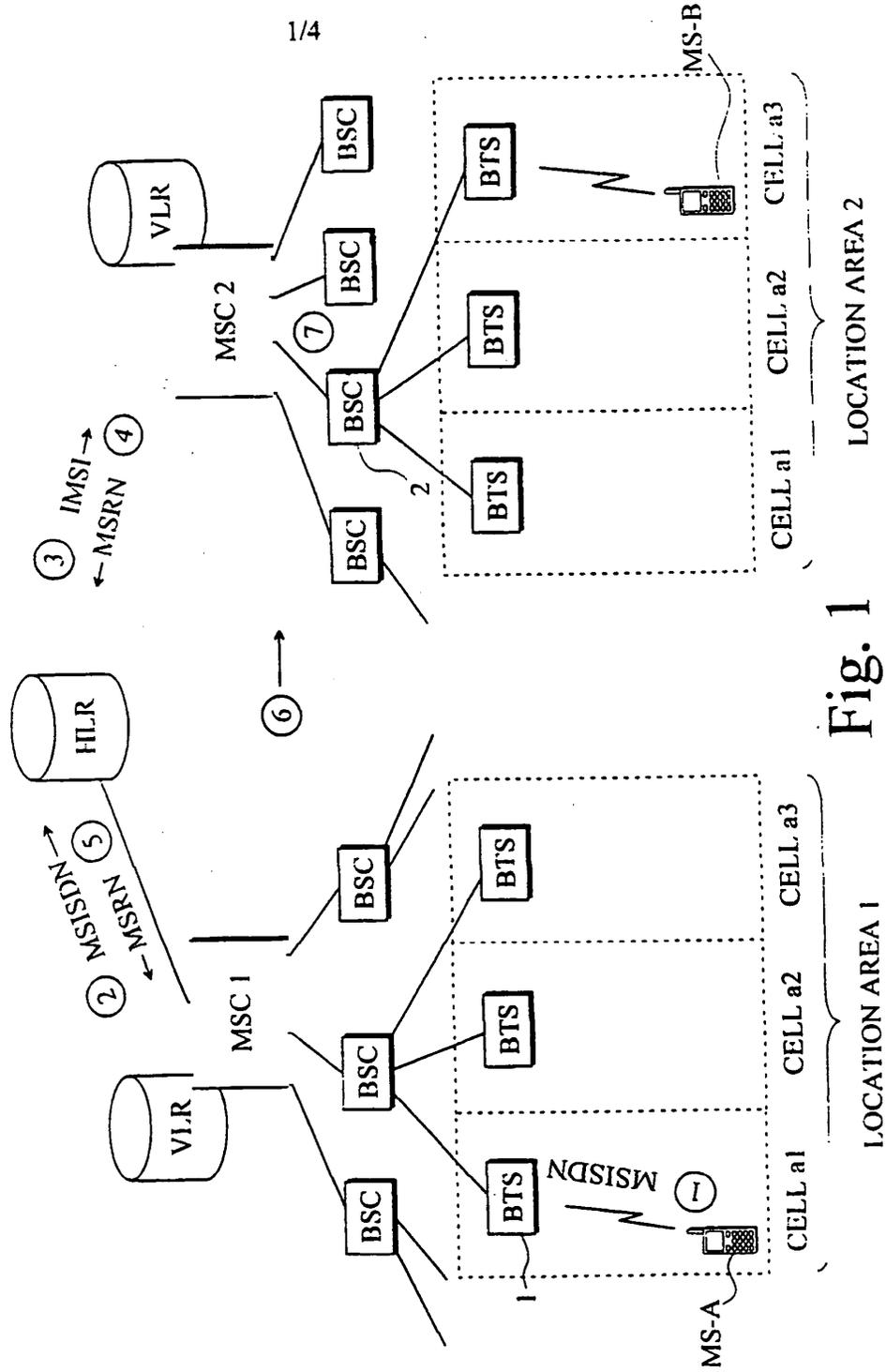


Fig. 1

2/4

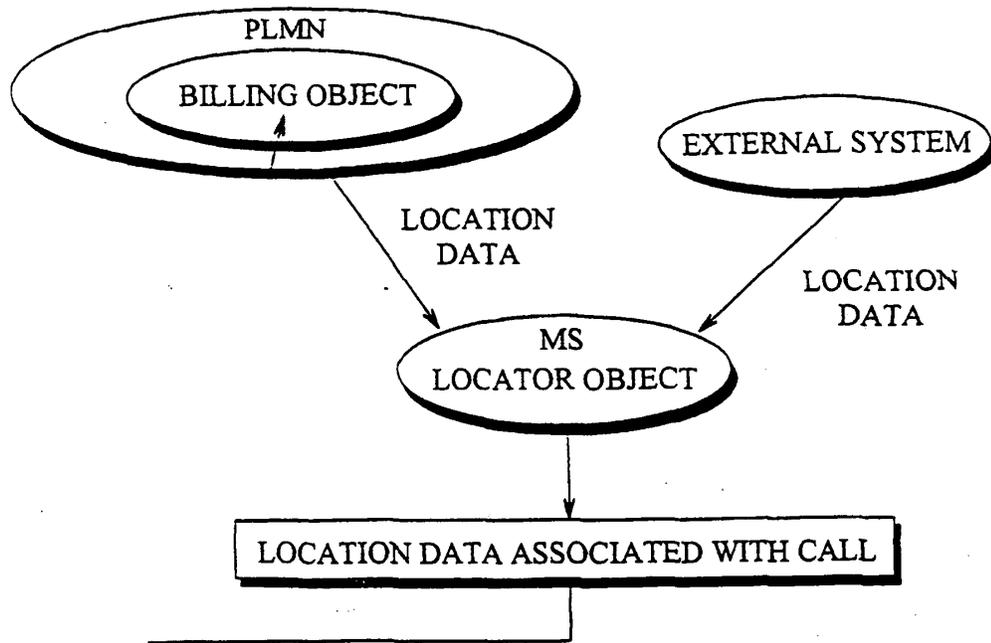
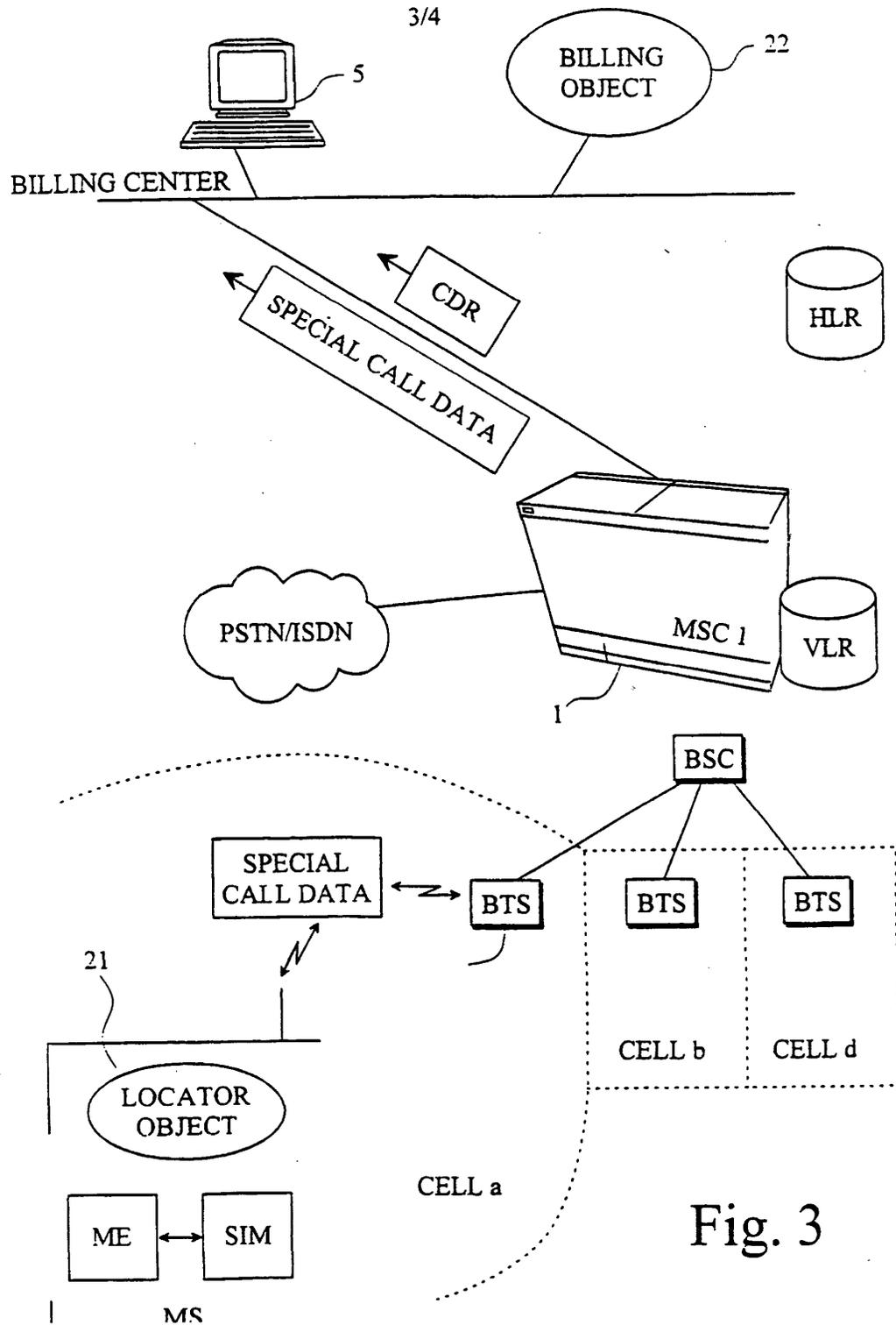


Fig. 2



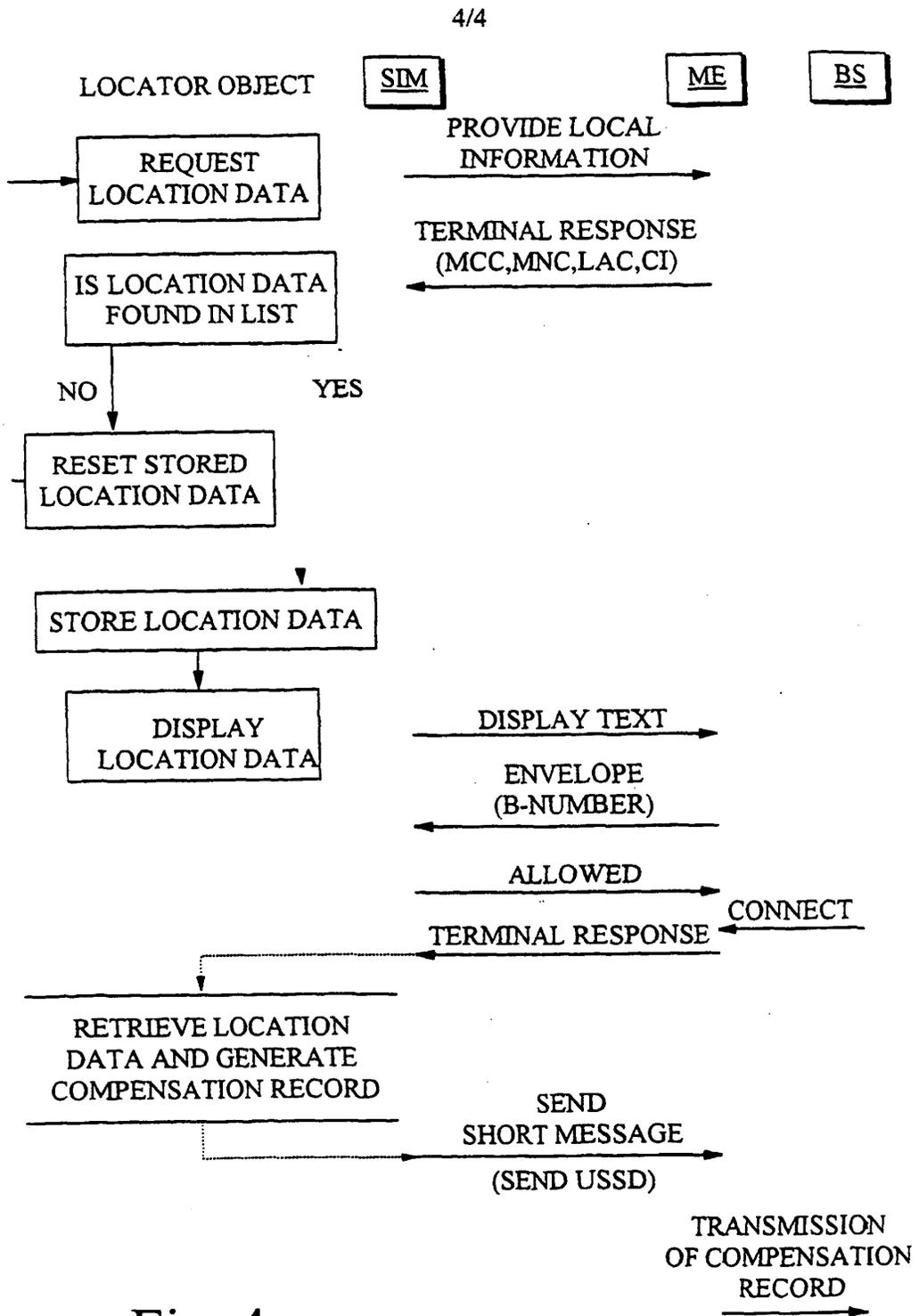


Fig. 4

**INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/FI 98/00515

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC6: H04Q 7/22, H04M 15/00  
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)

IPC6: H04Q, H04M, G01S

Documentation searched other than minimum documentation: to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, EDOC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Y	EP 0734144 A2 (SIEMENS AKTIENGESELLSCHAFT), 25 Sept 1996 (25.09.96), column 3, line 5 - column 5, line 9, figure 3, abstract	1-21
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Further documents are listed in the continuation of Box C.  See patent family annex.

- \* Special categories of cited documents:
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Date of the actual completion of the international search

Date of mailing of the international search report

2 November 1998

05-11-1998

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**INTERNATIONAL SEARCH REPORT**International application No.  
PCT/FI 98/00515

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

05/10/98

International application No.

PCT/FI 98/00515

Patent document: cited in search report	Publication date	Patent family member(s)	Publication date
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PATENT APPLICATION SERIAL NO. \_\_\_\_\_

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02/14/2005 HNGUYEN 00000026 501995 10932899

01 FC:1051	130.00 DA
02 FC:1251	120.00 DA

PTO-1556  
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\*U.S. GPO: 2000-165-887/335565



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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/932,899	09/02/2004	Zinn	0108-0221/US

33787  
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 ONE MAGNIFICENT MILE CENTER  
 980 N. MICHIGAN AVE.  
 SUITE 1400  
 CHICAGO, IL 60611

CONFIRMATION NO. 3787

## FORMALITIES LETTER



\*OC000000014266074\*

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## NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

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*Filing Date Granted***Items Required To Avoid Abandonment:**

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is missing.  
*A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.*
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

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- **\$130** Late oath or declaration Surcharge.

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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/932,899
	Filing Date	22 September 2004
	First Named Inventor	Zinn et al.
	Art Unit	Not Yet Assigned
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	0108-0221/US
Total Number of Pages in This Submission	32	

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For the President of the European Patent Office

Le Président de l'Office européen des brevets  
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**R C van Dijk**

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Home network name displaying methods and apparatus for multiple home networks

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HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS  
FOR MULTIPLE HOME NETWORKS

BACKGROUND

5 Field of the Technology

The present application relates generally to mobile stations and home network name displaying methods employed thereby.

Description of the Related Art

10 Wireless communication devices, such as mobile stations, have the ability to communicate with other devices (e.g. telephones, servers, personal computers (PCs), etc.) through wireless communication networks. A wireless communication network includes a plurality of base stations, each of which provides near-exclusive communication coverage within a given geographic area. However, more than one wireless network is typically  
15 available in many, if not most, geographic regions in a competing fashion. Typically, an end user contracts with and pays to receive communication services exclusively from a single "service provider" for a limited period of time (e.g. one year).

Although different networks are available, a mobile station automatically selects and registers with its home communication network (i.e. the network of the contracted service  
20 provider) for operation. Typically, the mobile station receives a Mobile Country Code (MCC) and a Mobile Network Code (MNC) from each network and operates with a preference towards choosing that network having the MCC/MNC pair uniquely associated with the home network. The MCC/MNC pair of the home network is stored on a Subscriber Identify Module (SIM) in a home public land mobile network (HPLMN) file. Other  
25 networks are stored in a prioritized fashion in a "preferred" PLMN list on the SIM. After selecting and registering with a particular network (e.g. the home network), the mobile station retrieves and displays a service provider name (e.g. "T-Mobile" or "AT&T Wireless") from the SIM which corresponds to the unique MCC and MNC combination of the selected network. This name may be obtained and displayed in accordance with what is known as an  
30 "Operator Named String" (ONS) procedure.

Although exclusive service agreements typically exist between the subscriber and the home network, otherwise competing wireless networks have established relationships whereby mobile stations can receive services through the other's network when necessary or desired. When a mobile station is located in a geographic region where service provider has

not established any network infrastructure, for example, the mobile station may receive services and communicate through a different network associated with an MCC/MNC pair different from that of the home network. In a competitive network relationship, the subscriber is likely to incur additional service charges (e.g. "roaming" charges) and the name of the competitor's network service may be displayed in the visual display.

In a more cooperative network relationship, the subscriber might incur only standard charges (i.e. no roaming charges) using the alternative network. Per the ONS naming procedure, however, a service provider name different from that of the home network is displayed on the mobile station. This may be confusing to a subscriber who may believe that, for example, roaming charges are being incurred due to use of the alternative network when in fact they are not. Fortunately, there has been a recent shift to provide an alternative naming technique referred to as "Enhanced Operator Named String" (EONS) procedure. EONS is described in, for example, 3GPP 51.001 Specifications of the SIM-ME Interface R4 (v4.2.0 or later). One purpose of EONS is to reduce the naming confusion created in scenarios like the one described above. In particular, instead of displaying a name that is different from that of the home network in the above-scenario, the same or substantially similar "home network" name may be displayed even though a different network is actually being used. Subscribers often prefer such transparency and simplification of operation and desire to understand when additional service charges may be incurred.

Another situation has been encountered where the service provider becomes the new owner of one or more networks which have MCC/MNC pairs different from that of the primary home network's. A mobile station might be provided with multiple MCC/MNC pairs corresponding to all of these "home" networks, and operate to preferentially select and register with these networks over others. However, the name displayed on the mobile station may not correspond to the home network if the selected network has a different MCC/MNC pair from that of the primary home network's. If steps were taken to provide the mobile station with special home network name displaying capabilities, compatibility issues may arise between previous, current, and future versions mobile stations and SIMs.

Accordingly, there is a resulting need for improved home network name displaying methods and apparatus for multiple home networks.

#### SUMMARY

Home network name displaying methods and apparatus for multiple home networks are described herein. A mobile station scans to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of communication networks within a coverage area. The mobile station selects and registers with a communication network associated with one of the received MCC and MNC pairs for communication. After the network is selected, the received MCC and MNC pair is compared with a plurality of home network MCC and MNC pairs which are associated with a single home network display name. Based on identifying a match between the received MCC and MNC pair and any one of the home network MCC and MNC pairs, the home network display name is visually displayed in a display of the mobile station. If no match exists, an alternate name is selected for display. The plurality of home network MCC and MNC pairs may be stored in memory of the mobile station or, alternatively, on a Subscriber Identify Module (SIM). Advantageously, a single home network name is displayed when a network associated with any of the home network MCC and MNC pairs is selected for communication. Preferably, a Location Area Code (LAC) is also utilized along with the MCC and MNC pairs for these purposes.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of present invention will now be described by way of example with reference to attached figures, wherein:

FIG. 1 is a block diagram of a communication system which includes a mobile station for communicating in a wireless communication network which may be its home communication network;

FIG. 2 is a more detailed example of a mobile station for use in the wireless communication network;

FIG. 3 is a particular structure of the system for communicating with the mobile station;

FIG. 4 is a simplified illustration of the mobile station and a plurality of wireless communication networks, each of which is associated with a unique Mobile Country Code (MCC) and Mobile Network Code (MNC) pair;

FIG. 5 shows a list of home network MCC and MNC pairs stored in association with a home network display name from a home network name file;

FIG. 6 is an illustration of a visual display of the mobile station which may visually display a network or service provider name with which the mobile station has registered; and

FIG. 7 is a flowchart for describing a home network name displaying method for multiple home networks.

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#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Home network name displaying methods and apparatus for multiple home networks are described herein. A mobile station scans to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of communication networks within a coverage area. The mobile station selects a communication network associated with one of the received MCC and MNC pairs for communication. After the network is selected, the received MCC and MNC pair is compared with a plurality of home network MCC and MNC pairs which are associated with a single home network display name. Based on identifying a match between the received MCC and MNC pair and any one of the home network MCC and MNC pairs, the home network display name is visually displayed in a display of the mobile station. If no match exists, an alternate name is selected for display. The plurality of home network MCC and MNC pairs may be stored in memory of the mobile station or, alternatively, on a Subscriber Identify Module (SIM). Advantageously, a single home network name is displayed when a network associated with any of the home network MCC and MNC pairs is selected for communication.

FIG. 1 is a block diagram of a communication system 100 which includes a wireless communication device 102 which communicates through a wireless communication network 104. In the preferred embodiment, wireless communication device 102 is a mobile station and therefore this term is used throughout this text. Mobile station 102 preferably includes a visual display 112, a keyboard 114, and perhaps one or more auxiliary user interfaces (UI) 116, each of which are coupled to a controller 106. Controller 106 is also coupled to radio frequency (RF) transceiver circuitry 108 and an antenna 110.

In most modern communication devices, controller 106 is embodied as a central processing unit (CPU) which runs operating system software in a memory component (not shown). Controller 106 will normally control overall operation of mobile station 102, whereas signal processing operations associated with communication functions are typically

performed in RF transceiver circuitry 108. Controller 106 interfaces with device display 112 to display received information, stored information, user inputs, and the like. Keyboard 114, which may be a telephone type keypad or full alphanumeric keyboard, is normally provided for entering data for storage in mobile station 102, information for transmission to network  
5 104, a telephone number to place a telephone call, commands to be executed on mobile station 102, and possibly other or different user inputs.

Mobile station 102 sends communication signals to and receives communication signals from network 104 over a wireless link via antenna 110. RF transceiver circuitry 108 performs functions similar to those of base station 120, including for example  
10 modulation/demodulation and possibly encoding/decoding and encryption/decryption. It is also contemplated that RF transceiver circuitry 108 may perform certain functions in addition to those performed by base station 120. It will be apparent to those skilled in art that RF transceiver circuitry 108 will be adapted to particular wireless network or networks in which mobile station 102 is intended to operate.

15 Mobile station 102 includes a battery interface 134 for receiving one or more rechargeable batteries 132. Battery 132 provides electrical power to (most if not all) electrical circuitry in mobile station 102, and battery interface 132 provides for a mechanical and electrical connection for battery 132. Battery interface 132 is coupled to a regulator 136 which regulates power for the device. When mobile station 102 is fully operational, an RF  
20 transmitter of RF transceiver circuitry 108 is typically keyed or turned on only when it is sending to network, and is otherwise turned off to conserve resources. Such intermittent operation of transmitter has a dramatic effect on power consumption of mobile station 102. Similarly, an RF receiver of RF transceiver circuitry 108 is typically periodically turned off to conserve power until it is needed to receive signals or information (if at all) during  
25 designated time periods.

Mobile station 102 may consist of a single unit, such as a data communication device, a cellular telephone, a multiple-function communication device with data and voice communication capabilities, a personal digital assistant (PDA) enabled for wireless communication, or a computer incorporating an internal modem. Alternatively, mobile  
30 station 102 may be a multiple-module unit comprising a plurality of separate components, including but in no way limited to a computer or other device connected to a wireless modem. In particular, for example, in the mobile station block diagram of FIG. 1, RF

transceiver circuitry 108 and antenna 110 may be implemented as a radio modem unit that may be inserted into a port on a laptop computer. In this case, the laptop computer would include display 112, keyboard 114, one or more auxiliary UIs 116, and controller 106 embodied as the computer's CPU. It is also contemplated that a computer or other  
5 equipment not normally capable of wireless communication may be adapted to connect to and effectively assume control of RF transceiver circuitry 108 and antenna 110 of a single-unit device such as one of those described above.

Mobile station 102 operates using a Subscriber Identity Module (SIM) 140 which is connected to or inserted in mobile station 102 at a SIM interface 142. SIM 140 is one type of  
10 a conventional "smart card" used to identify an end user (or subscriber) of mobile station 102 and to personalize the device, among other things. Without SIM 140, the wireless terminal is not fully operational for communication through wireless network 104. By inserting SIM 140 into the wireless terminal, an end user can have access to any and all of his/her subscribed services. In order to identify the subscriber, SIM 140 contains some user  
15 parameters such as an International Mobile Subscriber Identity (IMSI). In addition, SIM 140 is typically protected by a four-digit Personal Identification Number (PIN) which is stored therein and known only by the end user. An advantage of using SIM 140 is that end users are not necessarily bound by any single physical wireless device. Typically, the only element that personalizes a wireless terminal is a SIM card. Therefore, the user can access subscribed  
20 services using any wireless terminal equipped to operate with the user's SIM.

In general, SIM 140 includes a processor and memory for storing information. Information may be transferred between controller 106 and SIM 140 through data and control lines 144. SIM and its interfacing standards are well known. For interfacing with a  
25 standard GSM device having SIM interface 142, a conventional SIM 140 has six (6) connections. A typical SIM 140 may store the following information: (1) an International Mobile Subscriber Identity (IMSI); (2) an individual subscriber's authentication key (Ki); (3) a ciphering key generating algorithm (A8) -- with Ki and RAND it generates a 64-bit key (Kc); (4) an authentication algorithm (A3) -- with Ki and RAND it generates a 32-bit signed response (SRED); and (5) a user PIN code (1 & 2); and (6) a PUK code (1 & 2) (this is also  
30 referred to as the SPIN). SIM 140 may also store user-specific information as well, including a user phone book, Short Message Service (SMS) messages, datebook (or calendar) information, and recent call information.

SIM 140 also stores a list of MCC and MNC pairs associated with a plurality of communication networks which are part of the "home network". The list may be referred to as a Home Public Land Mobile Network (HPLMN) list. In addition, SIM 140 stores a list of MCC and MNC pairs associated with a plurality of "preferred" communication networks. This list may be referred to as a Preferred PLMN (PPLMN) list. Typically, networks identified in the PPLMN list are not associated with the home network and their use may impart "roaming" status to mobile station 102.

In FIG. 1, mobile station 102 communicates through wireless communication network 104. In the embodiment of FIG. 1, wireless network 104 is a Global Systems for Mobile (GSM) and General Packet Radio Service (GPRS) network. Wireless network 104 includes a base station 120 with an associated antenna tower 118, a Mobile Switching Center (MSC) 122, a Home Location Register (HLR) 132, a Serving General Packet Radio Service (GPRS) Support Node (SGSN) 126, and a Gateway GPRS Support Node (GGSN) 128. MSC 122 is coupled to base station 120 and to a landline network, such as a Public Switched Telephone Network (PSTN) 124. SGSN 126 is coupled to base station 120 and to GGSN 128, which is in turn coupled to a public or private data network 130 (such as the Internet). HLR 132 is coupled to MSC 122, SGSN 126, and GGSN 128.

Base station 120, including its associated controller and antenna tower 118, provides wireless network coverage for a particular coverage area commonly referred to as a "cell". Base station 120 transmits communication signals to and receives communication signals from mobile stations within its cell via antenna tower 118. Base station 120 normally performs such functions as modulation and possibly encoding and/or encryption of signals to be transmitted to the mobile station in accordance with particular, usually predetermined, communication protocols and parameters, under control of its controller. Base station 120 similarly demodulates and possibly decodes and decrypts, if necessary, any communication signals received from mobile station 102 within its cell. Communication protocols and parameters may vary between different networks. For example, one network may employ a different modulation scheme and operate at different frequencies than other networks.

The wireless link shown in communication system 100 of FIG. 1 represents one or more different channels, typically different radio frequency (RF) channels, and associated protocols used between wireless network 104 and mobile station 102. An RF channel is a limited resource that must be conserved, typically due to limits in overall bandwidth and a

limited battery power of mobile station 102. Those skilled in art will appreciate that a wireless network in actual practice may include hundreds of cells, each served by a distinct base station 120 and transceiver, depending upon desired overall expanse of network coverage. All base station controllers and base stations may be connected by multiple switches and routers (not shown), controlled by multiple network controllers.

For all mobile station's 102 registered with a network operator, permanent data (such as mobile station 102 user's profile) as well as temporary data (such as mobile station's 102 current location) are stored in HLR 132. In case of a voice call to mobile station 102, HLR 132 is queried to determine the current location of mobile station 102. A Visitor Location Register (VLR) of MSC 122 is responsible for a group of location areas and stores the data of those mobile stations that are currently in its area of responsibility. This includes parts of the permanent mobile station data that have been transmitted from HLR 132 to the VLR for faster access. However, the VLR of MSC 122 may also assign and store local data, such as temporary identifications. Optionally, the VLR of MSC 122 can be enhanced for more efficient co-ordination of GPRS and non-GPRS services and functionality (e.g. paging for circuit-switched calls which can be performed more efficiently via SGSN 126, and combined GPRS and non-GPRS location updates).

Being part of the GPRS network, Serving GPRS Support Node (SGSN) 126 is at the same hierarchical level as MSC 122 and keeps track of the individual locations of mobile stations. SGSN 126 also performs security functions and access control. Gateway GPRS Support Node (GGSN) 128 provides interworking with external packet-switched networks and is connected with SGSNs (such as SGSN 126) via an IP-based GPRS backbone network. SGSN 126 performs authentication and cipher setting procedures based on the same algorithms, keys, and criteria as in existing GSM. In conventional operation, cell selection may be performed autonomously by mobile station 102 or by base station 120 instructing mobile station 102 to select a particular cell. Mobile station 102 informs wireless network 104 when it reselects another cell or group of cells, known as a routing area.

In order to access GPRS services, mobile station 102 first makes its presence known to wireless network 104 by performing what is known as a GPRS "attach". This operation establishes a logical link between mobile station 102 and SGSN 126 and makes mobile station 102 available to receive, for example, pages via SGSN, notifications of incoming GPRS data, or SMS messages over GPRS. In order to send and receive GPRS data, mobile

station 102 assists in activating the packet data address that it wants to use. This operation makes mobile station 102 known to GGSN 128; interworking with external data networks can thereafter commence. User data may be transferred transparently between mobile station 102 and the external data networks using, for example, encapsulation and tunneling. Data packets are equipped with GPRS-specific protocol information and transferred between mobile station 102 and GGSN 128.

As apparent from the above, the wireless network includes fixed network components including RF transceivers, amplifiers, base station controllers, network servers, and servers connected to network. Those skilled in art will appreciate that a wireless network may be connected to other systems, possibly including other networks, not explicitly shown in FIG. 1. A network will normally be transmitting at very least some sort of paging and system information on an ongoing basis, even if there is no actual packet data exchanged. Although the network consists of many parts, these parts all work together to result in certain behaviours at the wireless link.

FIG. 2 is a detailed block diagram of a preferred mobile station 202 which may be utilized in system 100 of FIG. 1. Mobile station 202 is a two-way communication device having at least voice and data communication capabilities, including the capability to communicate with other computer systems. Depending on the functionality provided by mobile station 202, it may be referred to as a data messaging device, a two-way pager, a cellular telephone with data messaging capabilities, a wireless Internet appliance, or a data communication device (with or without telephony capabilities). Mobile station 202 includes a battery interface 254 for receiving one or more rechargeable batteries 256. Such a battery 256 provides electrical power to most if not all electrical circuitry in mobile station 202, and battery interface 254 provides for a mechanical and electrical connection for it. Battery interface 254 is coupled to a regulator (not shown in FIG. 2) which regulates power to all of the circuitry.

Mobile station 202 will normally incorporate a communication subsystem 211, which includes a receiver 212, a transmitter 214, and associated components, such as one or more (preferably embedded or internal) antenna elements 216 and 218, local oscillators (LOs) 213, and a processing module such as a digital signal processor (DSP) 220. Communication subsystem 211 is analogous to RF transceiver circuitry 108 and antenna 110 shown in FIG. 1. As will be apparent to those skilled in field of communications, particular design of

communication subsystem 211 depends on the communication network in which mobile station 202 is intended to operate.

Network access requirements will also vary depending upon type of network utilized. In GPRS networks, for example, network access is associated with a subscriber or user of mobile station 202. A GPRS device therefore requires a Subscriber Identity Module, commonly referred to as a SIM card (i.e. SIM 262 of FIG. 2), in order to operate on the GPRS network. Without such a SIM 262, a GPRS device will not be fully functional. Local or non-network communication functions (if any) may be operable, but mobile station 202 will be unable to carry out any functions involving communications over the network. SIM 262 includes those features described in relation to FIG. 1 (i.e. those described for SIM 140 of FIG. 1), such as the HPLMN list and the PPLMN list.

Mobile station 202 may send and receive communication signals over the network after required network registration or activation procedures have been completed. Signals received by antenna 216 through the network are input to receiver 212, which may perform such common receiver functions as signal amplification, frequency down conversion, filtering, channel selection, and like, and in example shown in FIG. 2, analog-to-digital (A/D) conversion. A/D conversion of a received signal allows more complex communication functions such as demodulation and decoding to be performed in DSP 220. In a similar manner, signals to be transmitted are processed, including modulation and encoding, for example, by DSP 220. These DSP-processed signals are input to transmitter 214 for digital-to-analog (D/A) conversion, frequency up conversion, filtering, amplification and transmission over communication network via antenna 218. DSP 220 not only processes communication signals, but also provides for receiver and transmitter control. For example, the gains applied to communication signals in receiver 212 and transmitter 214 may be adaptively controlled through automatic gain control algorithms implemented in DSP 220.

Mobile station 202 includes a microprocessor 238 (which is one implementation of controller 106 of FIG. 1) which controls overall operation of mobile station 202. This control includes network selection and network name displaying techniques of the present application. Communication functions, including at least data and voice communications, are performed through communication subsystem 211. Microprocessor 238 also interacts with additional device subsystems such as a display 222, a flash memory 224, a random access memory (RAM) 226, auxiliary input/output (I/O) subsystems 228, a serial port 230, a

keyboard 232, a speaker 234, a microphone 236, a short-range communications subsystem 240, and any other device subsystems generally designated at 242. Data and control lines extend between a SIM interface 264 and microprocessor 238 for communicating data therebetween and for control. Some of the subsystems shown in FIG. 2 perform  
5 communication-related functions, whereas other subsystems may provide "resident" or on-device functions. Notably, some subsystems, such as keyboard 232 and display 222, for example, may be used for both communication-related functions, such as entering a text message for transmission over a communication network, and device-resident functions such as a calculator or task list. Operating system software used by microprocessor 238 is  
10 preferably stored in a persistent store such as flash memory 224, which may alternatively be a read-only memory (ROM) or similar storage element (not shown). Those skilled in the art will appreciate that the operating system, specific device applications, or parts thereof, may be temporarily loaded into a volatile store such as RAM 226.

Microprocessor 238, in addition to its operating system functions, preferably enables  
15 execution of software applications on mobile station 202. A predetermined set of applications which control basic device operations, including at least data and voice communication applications, will normally be installed on mobile station 202 during its manufacture. A preferred application that may be loaded onto mobile station 202 may be a personal information manager (PIM) application having the ability to organize and manage  
20 data items relating to user such as, but not limited to, e-mail, calendar events, voice mails, appointments, and task items. Naturally, one or more memory stores are available on mobile station 202 and SIM 256 to facilitate storage of PIM data items and other information.

The PIM application preferably has the ability to send and receive data items via the wireless network. In a preferred embodiment, PIM data items are seamlessly integrated,  
25 synchronized, and updated via the wireless network, with the mobile station user's corresponding data items stored and/or associated with a host computer system thereby creating a mirrored host computer on mobile station 202 with respect to such items. This is especially advantageous where the host computer system is the mobile station user's office computer system. Additional applications may also be loaded onto mobile station 202  
30 through network, an auxiliary I/O subsystem 228, serial port 230, short-range communications subsystem 240, or any other suitable subsystem 242, and installed by a user in RAM 226 or preferably a non-volatile store (not shown) for execution by microprocessor

238. Such flexibility in application installation increases the functionality of mobile station 202 and may provide enhanced on-device functions, communication-related functions, or both. For example, secure communication applications may enable electronic commerce functions and other such financial transactions to be performed using mobile station 202.

5           In a data communication mode, a received signal such as a text message or web page download will be processed by communication subsystem 211 and input to microprocessor 238. Microprocessor 238 will preferably further process the signal for output to display 222 or alternatively to auxiliary I/O device 228. A user of mobile station 202 may also compose data items, such as e-mail messages or short message service (SMS) messages, for example,  
10           using keyboard 232 in conjunction with display 222 and possibly auxiliary I/O device 228. Keyboard 232 is preferably a complete alphanumeric keyboard and/or telephone-type keypad. These composed items may be transmitted over a communication network through communication subsystem 211.

          For voice communications, the overall operation of mobile station 202 is substantially  
15           similar, except that the received signals would be output to speaker 234 and signals for transmission would be generated by microphone 236. Alternative voice or audio I/O subsystems, such as a voice message recording subsystem, may also be implemented on mobile station 202. Although voice or audio signal output is preferably accomplished primarily through speaker 234, display 222 may also be used to provide an indication of the  
20           identity of a calling party, duration of a voice call, or other voice call related information, as some examples.

          Serial port 230 in FIG. 2 is normally implemented in a personal digital assistant (PDA)-type communication device for which synchronization with a user's desktop computer is a desirable, albeit optional, component. Serial port 230 enables a user to set  
25           preferences through an external device or software application and extends the capabilities of mobile station 202 by providing for information or software downloads to mobile station 202 other than through a wireless communication network. The alternate download path may, for example, be used to load an encryption key onto mobile station 202 through a direct and thus reliable and trusted connection to thereby provide secure device communication.

30           Short-range communications subsystem 240 of FIG. 2 is an additional optional component which provides for communication between mobile station 202 and different systems or devices, which need not necessarily be similar devices. For example, subsystem

240 may include an infrared device and associated circuits and components, or a Bluetooth™ communication module to provide for communication with similarly-enabled systems and devices. Bluetooth™ is a registered trademark of Bluetooth SIG, Inc.

FIG. 3 shows a particular system structure for communicating with mobile station  
5 202. In particular, FIG. 3 shows basic components of an IP-based wireless data network, such as a GPRS network. Mobile station 202 of FIG. 3 communicates with a wireless packet data network 145, and may also be capable of communicating with a wireless voice network (not shown). The voice network may be associated with IP-based wireless network 145 similar to, for example, GSM and GPRS networks, or alternatively may be a completely  
10 separate network. The GPRS IP-based data network is unique in that it is effectively an overlay on the GSM voice network. As such, GPRS components will either extend existing GSM components, such as base stations 320, or require additional components to be added, such as an advanced Gateway GPRS Service Node (GGSN) as a network entry point 305.

As shown in FIG. 3, a gateway 140 may be coupled to an internal or external address  
15 resolution component 335 and one or more network entry points 305. Data packets are transmitted from gateway 140, which is source of information to be transmitted to mobile station 202, through network 145 by setting up a wireless network tunnel 325 from gateway 140 to mobile station 202. In order to create this wireless tunnel 325, a unique network address is associated with mobile station 202. In an IP-based wireless network, however,  
20 network addresses are typically not permanently assigned to a particular mobile station 202 but instead are dynamically allocated on an as-needed basis. It is thus preferable for mobile station 202 to acquire a network address and for gateway 140 to determine this address so as to establish wireless tunnel 325.

Network entry point 305 is generally used to multiplex and demultiplex amongst  
25 many gateways, corporate servers, and bulk connections such as the Internet, for example. There are normally very few of these network entry points 305, since they are also intended to centralize externally available wireless network services. Network entry points 305 often use some form of an address resolution component 335 that assists in address assignment and lookup between gateways and mobile stations. In this example, address resolution  
30 component 335 is shown as a dynamic host configuration protocol (DHCP) as one method for providing an address resolution mechanism.

A central internal component of wireless data network 145 is a network router 315. Normally, network routers 315 are proprietary to the particular network, but they could alternatively be constructed from standard commercially available hardware. The purpose of network routers 315 is to centralize thousands of base stations 320 normally implemented in a relatively large network into a central location for a long-haul connection back to network entry point 305. In some networks there may be multiple tiers of network routers 315 and cases where there are master and slave network routers 315, but in all such cases the functions are similar. Often network router 315 will access a name server 307, in this case shown as a dynamic name server (DNS) 307 as used in the Internet, to look up destinations for routing data messages. Base stations 320, as described above, provide wireless links to mobile stations such as mobile station 202.

Wireless network tunnels such as a wireless tunnel 325 are opened across wireless network 345 in order to allocate necessary memory, routing, and address resources to deliver IP packets. In GPRS, such tunnels 325 are established as part of what are referred to as "PDP contexts" (i.e. data sessions). To open wireless tunnel 325, mobile station 202 must use a specific technique associated with wireless network 345. The step of opening such a wireless tunnel 325 may require mobile station 202 to indicate the domain, or network entry point 305 with which it wishes to open wireless tunnel 325. In this example, the tunnel first reaches network router 315 which uses name server 307 to determine which network entry point 305 matches the domain provided. Multiple wireless tunnels can be opened from one mobile station 202 for redundancy, or to access different gateways and services on the network. Once the domain name is found, the tunnel is then extended to network entry point 305 and necessary resources are allocated at each of the nodes along the way. Network entry point 305 then uses the address resolution (or DHCP 335) component to allocate an IP address for mobile station 202. When an IP address has been allocated to mobile station 202 and communicated to gateway 140, information can then be forwarded from gateway 140 to mobile station 202.

Wireless tunnel 325 typically has a limited life, depending on mobile station's 202 coverage profile and activity. Wireless network 145 will tear down wireless tunnel 325 after a certain period of inactivity or out-of-coverage period, in order to recapture resources held by this wireless tunnel 325 for other users. The main reason for this is to reclaim the IP address temporarily reserved for mobile station 202 when wireless tunnel 325 was first

opened. Once the IP address is lost and wireless tunnel 325 is torn down, gateway 140 loses all ability to initiate IP data packets to mobile station 202, whether over Transmission Control Protocol (TCP) or over User Datagram Protocol (UDP).

In this application, an "IP-based wireless network" (one specific type of wireless communication network) may include but is not limited to: (1) a Code Division Multiple Access (CDMA) network that has been developed and operated by Qualcomm; (2) a General Packet Radio Service (GPRS) network for use in conjunction with Global System for Mobile Communications (GSM) network both developed by standards committee of European Conference of Postal and Telecommunications Administrations (CEPT); and (3) future third-generation (3G) networks like Enhanced Data rates for GSM Evolution (EDGE) and Universal Mobile Telecommunications System (UMTS). It is to be understood that although particular IP-based wireless networks have been described, the network selection schemes of the present application could be utilized in any similar type of wireless network. The infrastructure shown and described in relation to FIG. 3 may be representative of each one of a number of different networks which are provided and available in the same geographic region. One of these communication networks will be selected by the mobile station for communications at any given time.

FIG. 4 is a simplified illustration a plurality of wireless communication networks 402 which may be available to mobile station 202 for communication. The plurality of networks 402 shown in FIG. 4 include different networks such as network "ABC" 104 (initially described in relation to FIG. 1 and 3), a network "DEF" 404, a network "GHI" 406, a network "JKL" 408, and a network "MNO" 410. In the following description, network ABC 104 is the home communication network and may be referred to as "home network ABC" 104. Since home network ABC 104 is the home network, mobile station 202 prioritizes the selection and operation with home network ABC 104 over other networks. Each network 402 of FIG. 4 is associated with a unique Mobile Country Code (MCC) and Mobile Network Code (MNC) combination. The unique MCC/MNC combination corresponding to home network ABC 104 is stored as a home network.

Traditionally, mobile station's 202 use of networks other than the home network ABC 104 will impart a "roaming" status to mobile station 202. However, some additional networks other than home network ABC 104 are associated with or designated as part of the "home network" as well. In FIG. 4, for example, it is indicated that network GHI 406 and

network JKL 408 are owned by the service provider of home network ABC 104. Thus, mobile station's 202 registration and operation with networks GHI 406 and JKL 408 will not impart the roaming status to mobile station 102, even though networks GHI 406 and JKL 408 have MCC and MNC pairs different from that of home network ABC 104. Thus, the unique  
5 MCC/MNC combinations corresponding to networks GHI 406 and JKL 408 are also stored as home networks. The remaining networks, namely, networks DEF 404 and MNO 410, are not associated with the home network and their use will indeed impart roaming status to mobile station 102.

Referring now to FIG. 6 in combination with FIG. 4, display 222 of the mobile station  
10 will visually display the same service provider name 602 of home network ABC 104 regardless of whether network ABC 104, network GHI 406, or network JKL 408 is selected by the mobile station. As shown in FIG. 6, the displayed name "PROVIDER ABC" may correspond to use of network ABC 104, network GHI 406 (which is owned by ABC), or network JKL 408 (which is also owned by ABC). Note that no "roaming" status indicator is  
15 enabled or activated in display 222, since the mobile station is not roaming when registered with network ABC 104, network GHI 406, or network JKL 408. A network name different from "PROVIDER ABC" will be displayed when networks DEF 404 and MNO 410 are utilized.

Referring now to FIG. 5, what is shown is relevant information stored in memory 502  
20 of mobile station 202 and/or in memory 504 of SIM 262 to help achieve the advantages described above in relation to FIGs. 4 and 6. The discussion of FIG. 5 will begin with a description related to memory 502 of mobile station 202. Memory 502, which may be a permanently-installed memory of mobile station 202, such as a Read-Only Memory (ROM), an Electrically Erasable/Programmable ROM (EEPROM), flash memory, etc., is a separate  
25 memory component from memory 504 of SIM 262.

As shown in FIG. 5, memory 502 may store a list 510 of home network MCC/MNC  
pairs which are associated with a home network display name 530. This list 510 of home network MCC/MNC pairs are prestored in memory 502 in a (semi-) permanent fashion during the manufacturing process of mobile station 202. In FIG. 5, it is shown that the  
30 example list 510 includes four (4) home network MCC/MNC pairs, namely, home network MCC/MNC pairs 512, 514, 516, and 518. Only a relatively small number of MCC/MNC pairs in list 510 are shown for illustrative clarity; any suitable number of pairs may be

utilized, such as between 5 – 50 pairs. As an example, MCC/MNC pair 512 may correspond to home network ABC 104 of FIG. 4, MCC/MNC pair 514 may correspond to network GHI 406 of FIG. 4, MCC/MNC pair 516 may correspond to network JKL 408 of FIG. 4, and MCC/MNC pair 518 may correspond to another home network not shown. Home network display name 530 (e.g. “T-Mobile” or “AT&T Wireless”), the name string used for mobile station’s display for all home-related networks, is associated and used with all of MCC/MNC pairs in list 510.

In general, mobile station 202 operates to preferentially select and register with home networks over non-home networks. If no home network is available, mobile station 202 operates to preferentially select and register with one of the networks its PPLMN list. In any case, after mobile station 202 selects and registers with a communication network, it first consults with list 510 of MCC/MNC pairs to assist in determining what network name should be displayed in its visual display. Specifically, mobile station 202 compares the MCC/MNC pair of the selected network with the MCC/MNC pairs in list 510. If mobile station 202 identifies a match between the MCC/MNC pair and any one of the MCC/MNC pairs in list 510, it reads and causes the home network display name 530 to be displayed in its visual display. Otherwise, it selects an alternate network name for visual display. Advantageously, a single home network name is displayed when any of the networks associated with the home network MCC and MNC pairs in list 510 is selected for communication. Preferably, although the technique described focuses on the use of only an MCC and MNC pair, the technique may include the use of a Location Area Code (LAC) in addition to the MCC and MNC (i.e. the tuple MCC/MNC/LAC is used to identify the home network display name).

In an alternative embodiment, the SIM 262 utilized with mobile station 202 may include the same or similar information. As shown in FIG. 5, memory 504 of SIM 262 may alternatively store a list 520 of home network MCC/MNC pairs in association with home network display name 530. This list 520 of home network MCC/MNC pairs are prestored in memory 504 in a (semi-) permanent fashion during the initial programming of SIM 262. In FIG. 5, it is shown that the example list 520 includes four (4) home network MCC/MNC pairs, namely, home network MCC/MNC pairs 522, 524, 526, and 528. Only a relatively small number of MCC/MNC pairs in list 520 are shown for illustrative clarity; any suitable number of pairs may be utilized, such as between 5 – 50. As an example, MCC/MNC pair 522 may correspond to home network ABC 104 of FIG. 4, MCC/MNC pair 524 may

correspond to network GHI 406 of FIG. 4, MCC/MNC pair 526 may correspond to network JKL 408 of FIG. 4, and MCC/MNC pair 528 may correspond to another home network not shown. Home network display name 530 (e.g. "T-Mobile" or "AT&T Wireless"), the name string used for mobile station's display for all home-related networks, is associated and used  
5 with all of MCC/MNC pairs in list 520. In this alternative example, mobile station 202 operates in the same manner in relation to the information in memory 504 of SIM 262 as was described above in relation to the information in memory 502 of mobile station 202. Preferably, although this technique describes focuses on the use of only an MCC and MNC pair, the technique may include the use of a Location Area Code (LAC) in addition to the  
10 MCC and MNC (i.e. it uses this tuple to identify the home network display name).

FIG. 7 is a flowchart for describing a home network name displaying method for multiple home networks. Such a method may be employed in connection with components shown and described above in relation to FIGs. 1-6. Beginning with a start block 702, a mobile station scans to receive a plurality of Mobile Country Code (MCC) and Mobile  
15 Network Code (MNC) pairs which correspond to a plurality of wireless communication networks within a given coverage area (step 704). Next, the mobile station compares a received MCC/MNC pair with multiple MCC/MNC pairs associated with a home communication network (step 706). These multiple MCC/MNC pairs may be stored in a Home Public Land Mobile Network (HPLMN) list on a Subscriber Identity Module (SIM).  
20 Alternatively, the multiple MCC/MNC pairs may be stored in memory of the mobile station. If there is a match at step 708 with one of the MCC/MNC pairs, the mobile station selects this "home" network which is associated with the MCC/MNC pair for communication (step 712). Otherwise, if there is no match, the mobile station selects a preferred network or other non-home network for communication (step 710). In any case, the mobile station tunes to  
25 the appropriate channel and initiates registration onto the network associated with the selected MCC/MNC pair (step 714).

Next, the mobile station compares the received MCC and MNC pair associated with the selected network with each one of the multiple home network MCC/MNC pairs (step 716). Based on a match at step 718, the mobile station reads and causes a home network  
30 name associated with the home network MCC/MNC pairs to be displayed in its visual display (step 722). Thus, the same network name will be displayed for any MCC and MNC pair found in the home network list. If there is no match in the list at step 718 (i.e. no

match), however, then the mobile station visually displays an alternate non-home network name in the visual display (step 720). Preferably, although the method of FIG. 7 focuses on the use of only an MCC and MNC pair, the method may include the use of a Location Area Code (LAC) in addition to the MCC and MNC (i.e. a tuple MCC/MNC/LAC is used for selection).

In a slight variation of the method of FIG. 7, the mobile station utilizes a multiple home network list on the SIM if it is stored on the SIM but, if such a list is not stored on the SIM, the mobile station utilizes a multiple home network list stored in its own memory. The mobile station may identify or detect whether there is a multiple home network list on the SIM by testing if a predetermined designated area of memory on the SIM includes this list or associated data. Alternatively, the mobile station may perform this identification by testing if a version number of the SIM corresponds to having such a multiple home network list (e.g. a less recent version number of SIM may not specify such list whereas a more recent predetermined version number may do so). This test may be performed every time the mobile station goes through the network name displaying technique or, alternatively, only once during or shortly after a SIM initialization procedure performed by the mobile station.

Advantageously, issues arising from a service provider becoming the new owner of one or more networks which have MCC/MNC pairs different from that of the home network's are alleviated. All home network MCC/MNC pairs are appropriately stored in memory of the mobile station or SIM which is updated when new networks are added to the home network. Visually displaying the (same) service provider name for these networks is suitably performed based on the present techniques. In one implementation, compatibility is provided between previous, current, and future versions mobile stations and SIMs by providing a test to identify the availability of such a list on the SIM and a similar backup list on the mobile station.

Final Comments. Home network name displaying methods and apparatus for multiple home networks are described herein. A mobile station scans to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of communication networks within a coverage area. The mobile station selects and registers with a communication network associated with one of the received MCC and MNC pairs for communication. After the network is selected, the received MCC and MNC pair is compared with a plurality of home network MCC and MNC pairs which are associated with

a single home network display name. Based on identifying a match between the received MCC and MNC pair and any one of the home network MCC and MNC pairs, the home network display name is visually displayed in a display of the mobile station. If no match exists, an alternate name is selected for display. The plurality of home network MCC and MNC pairs may be stored in memory of the mobile station or, alternatively, on a Subscriber Identify Module (SIM). Advantageously, a single home network name is displayed when a network associated with any of the home network MCC and MNC pairs is selected for communication.

A computer program product of the present application includes a computer storage medium as well as computer instructions stored on the computer storage medium. The computer storage medium may be any memory in mobile station 202 or even a floppy disk or CD-ROM, as examples; detailed computer instructions are written in accordance with the methods and logic described in the present application. Specifically, the computer instructions are executable by a processor (e.g. a microprocessor) to perform the steps of scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area; scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area; selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs; comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs; and causing a home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

A mobile station of the present application includes a transceiver which is operative to scan to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area; memory which stores a plurality of home network MCC and MNC pairs which are associated with a home network display name; and a processor which is operative to select and register with a wireless communication network associated with one of the received MCC and MNC pairs; compare the MCC and MNC pair of the selected network with the plurality of home network MCC and MNC pairs; and cause the home network

display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

The above-described embodiments of invention are intended to be examples only.

- 5 Alterations, modifications, and variations may be effected to particular embodiments by those of skill in art without departing from scope of invention, which is defined solely by claims appended hereto.

What is claimed is:

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CLAIMS

1. In a mobile station, a network name displaying method comprising:  
scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network  
5 Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;  
selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs;  
comparing the MCC and MNC pair of the selected network with a plurality of home  
10 network MCC and MNC pairs; and  
causing a home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.
- 15 2. The method of claim 1, wherein the plurality of home network MCC and MNC pairs are stored in a Subscriber Identity Module (SIM).
3. The method of claim 1, wherein the plurality of home network MCC and MNC pairs are stored in memory of the mobile station.
- 20 4. The method of claim 1, wherein the home network display name is the same for all of the home network MCC and MNC pairs.
5. The method of claim 1, wherein a Location Area Code (LAC) is used in  
25 addition to the MCC and the MNC in the acts of comparing and identifying.
6. The method of claim 1, further comprising:  
causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and one of  
30 the home network MCC and MNC pairs.
7. The method of claim 1, further comprising:

identifying whether the plurality of home network MCC and MNC pairs are stored on a Subscriber Identity Module (SIM);

using the plurality of home network MCC and MNC pairs stored on the SIM based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM;

5 and

otherwise, using the plurality of home network MCC and MNC pairs stored in memory of the mobile station.

8. A mobile station, comprising:

10 a transceiver being operative to scan to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

memory which stores a plurality of home network MCC and MNC pairs which are associated with a home network display name;

15 a processor being operative to:

select and register with a wireless communication network associated with one of the received MCC and MNC pairs;

compare the MCC and MNC pair of the selected network with the plurality of home network MCC and MNC pairs; and

20 cause the home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

25 9. The mobile station of claim 8, wherein the memory comprises a Subscriber Identify Module (SIM).

10. The mobile station of claim 8, wherein the memory is separate and apart from a Subscriber Identify Module (SIM) in the mobile station.

30

11. The mobile station of claim 8, wherein the home network display name is the same for all of the home network MCC and MNC pairs.

12. The mobile station of claim 8, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

5 13. The mobile station of claim 8, wherein the processor is further operative to:  
cause an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

10 14. The mobile station of claim 8, wherein the processor is further operative to:  
identify whether the plurality of home network MCC and MNC pairs are stored on a Subscriber Identity Module (SIM);  
use the plurality of home network MCC and MNC pairs stored on the SIM based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM;  
15 and  
otherwise, use the plurality of home network MCC and MNC pairs stored in memory of the mobile station.

20 15. A computer program product, comprising:  
a computer storage medium;  
computer instructions stored on the computer storage medium;  
the computer instructions being executable by a processor for executing the steps of:  
causing a scanning process to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of  
25 wireless communication networks within a coverage area;  
selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs;  
comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs; and  
30 causing a home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and

MNC pair of the selected network and one of the home network MCC and MNC pairs.

5 16. The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in a Subscriber Identity Module (SIM).

17. The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in memory of the mobile station.

10 18. The computer program product of claim 15, wherein the home network display name is the same for all of the home network MCC and MNC pairs.

15 19. The computer program product of claim 15, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

20. The computer program product of claim 15, wherein the computer instructions are further executable for:

causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs.

25



HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS  
FOR MULTIPLE HOME NETWORKS

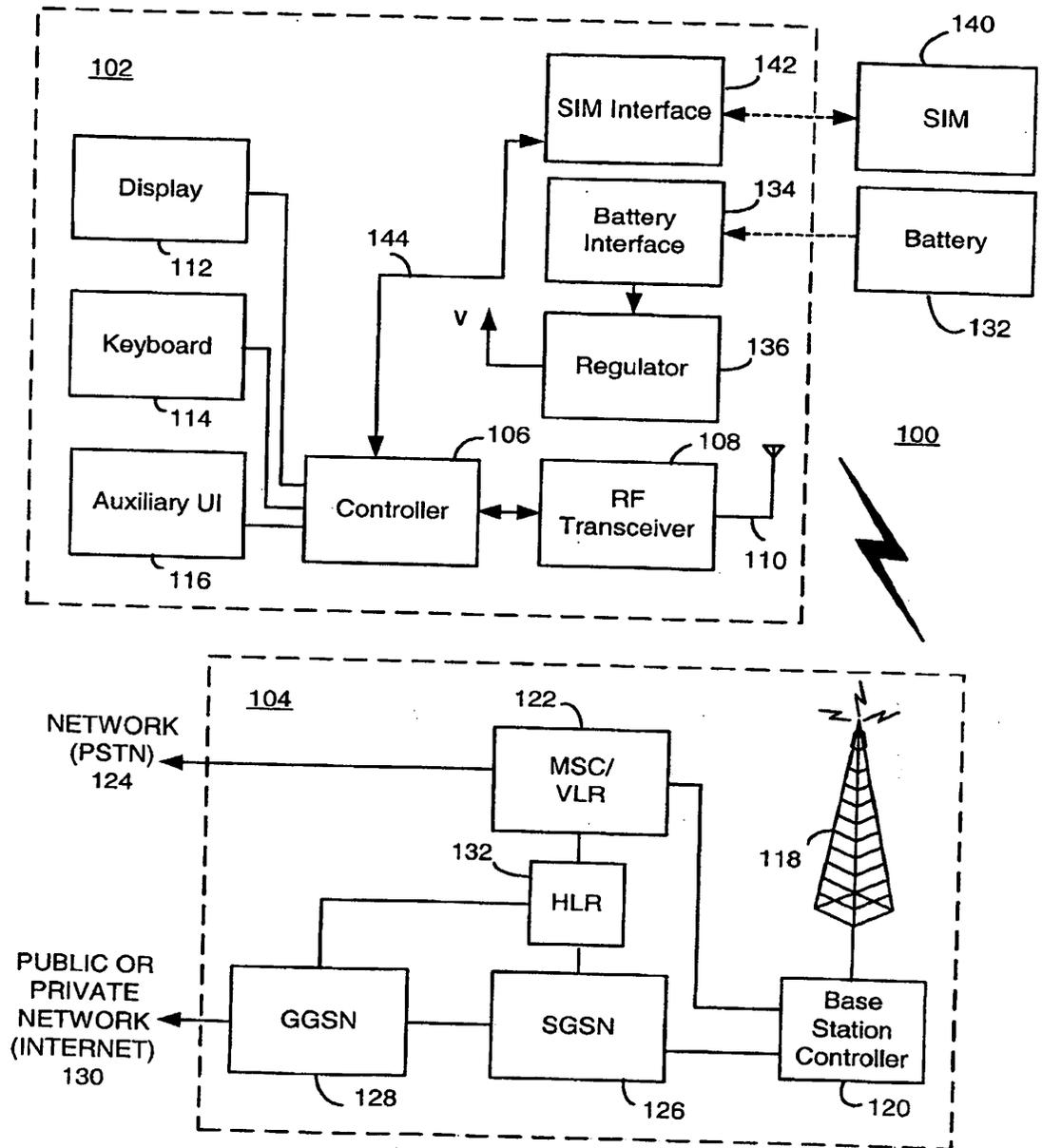
ABSTRACT OF THE DISCLOSURE

5 Home network name displaying methods and apparatus for multiple home networks  
are disclosed. A mobile station scans to receive a plurality of Mobile Country Code (MCC)  
and Mobile Network Code (MNC) pairs corresponding to a plurality of communication  
networks within a coverage area. The mobile station selects and registers with a  
communication network associated with one of the received MCC and MNC pairs for  
10 communication. After the network is selected, the received MCC and MNC pair is compared  
with a plurality of home network MCC and MNC pairs which are associated with a single  
home network display name. Based on identifying a match between the received MCC and  
MNC pair and any one of the home network MCC and MNC pairs, the home network display  
name is visually displayed in a display of the mobile station. If no match exists, an alternate  
15 name is selected for display. The plurality of home network MCC and MNC pairs may be  
stored in memory of the mobile station or, alternatively, on a Subscriber Identify Module  
(SIM). Advantageously, a single home network name is displayed when a network  
associated with any of the home network MCC and MNC pairs is selected for  
communication.

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FIG. 1

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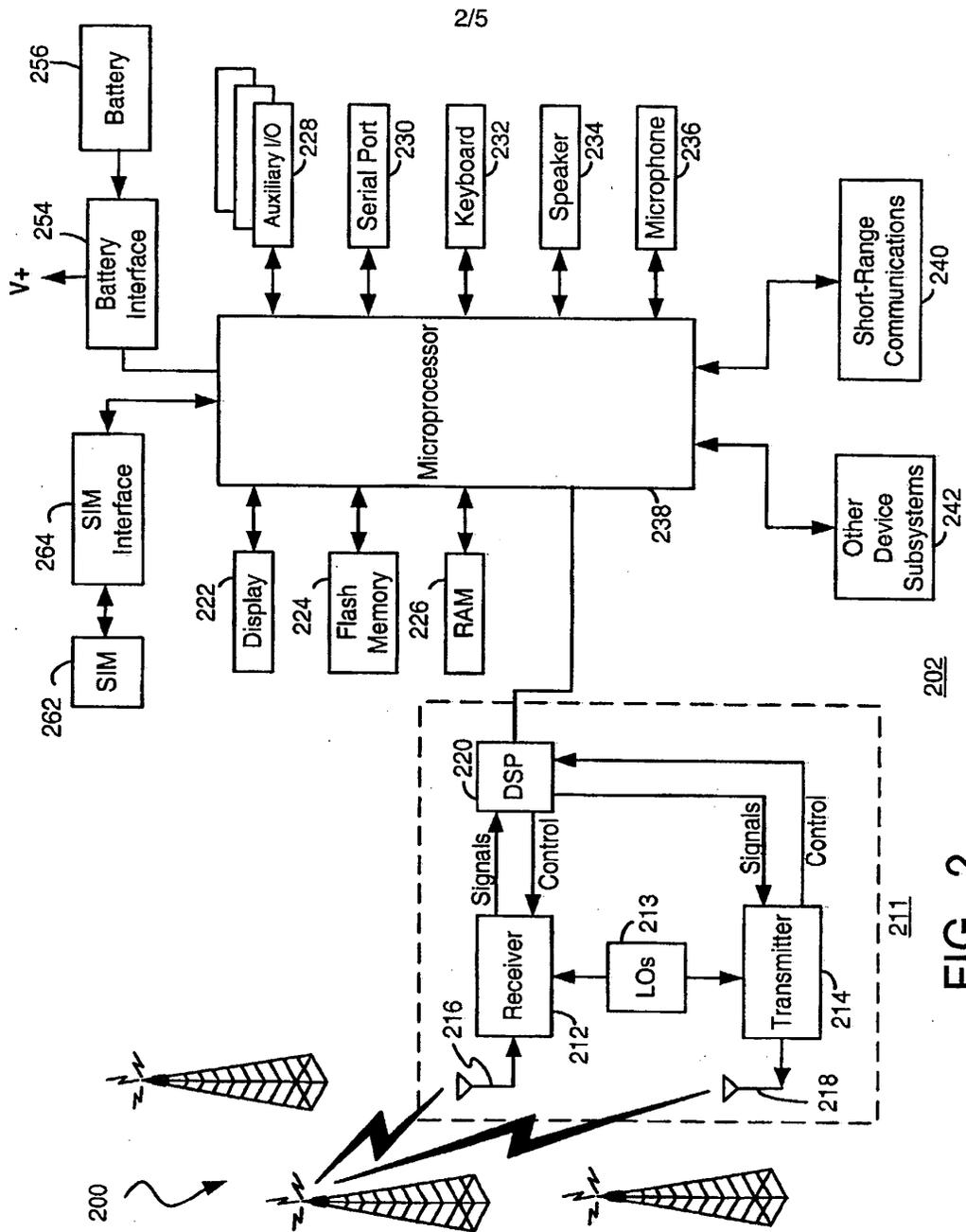


FIG. 2

FIG. 3

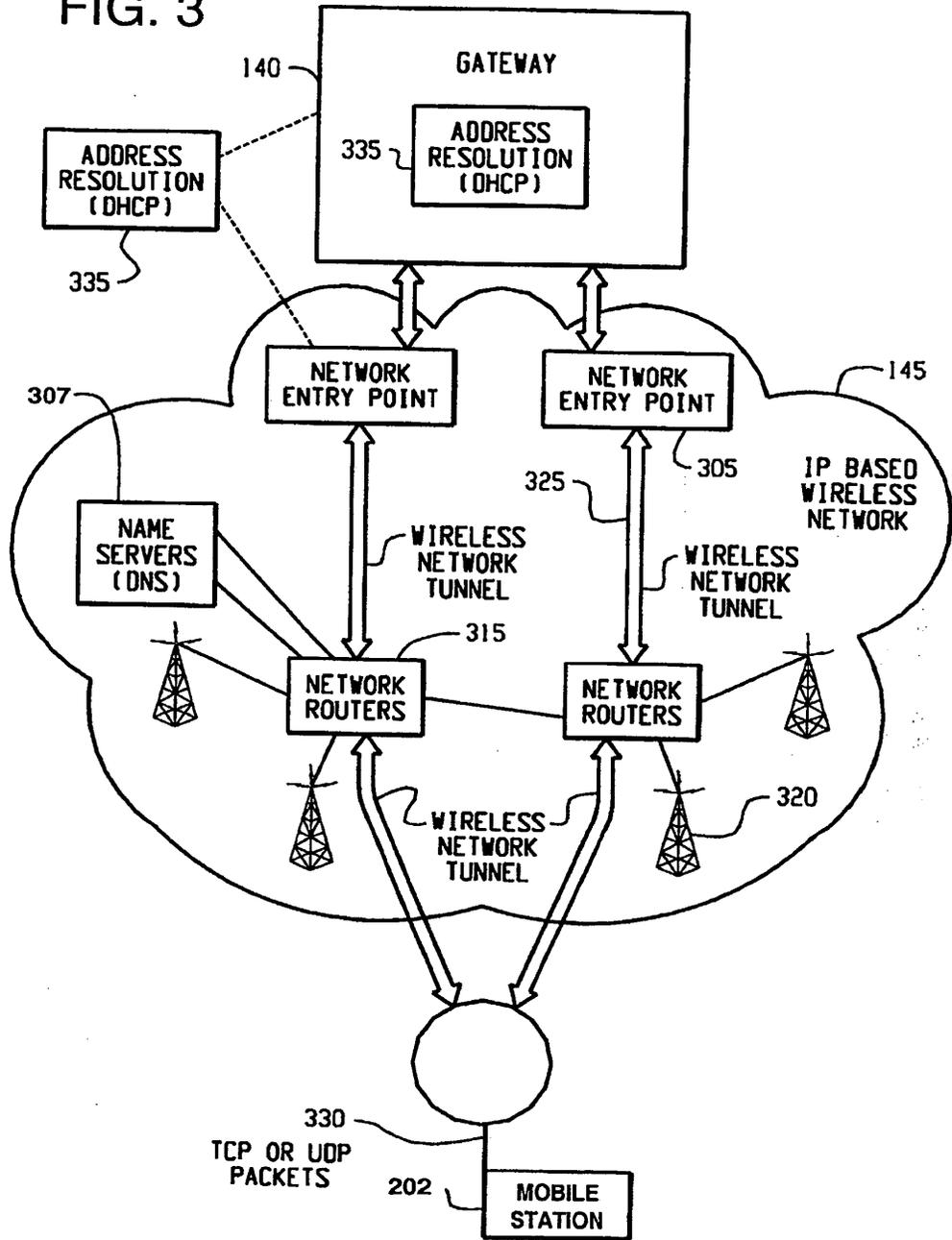


FIG. 4

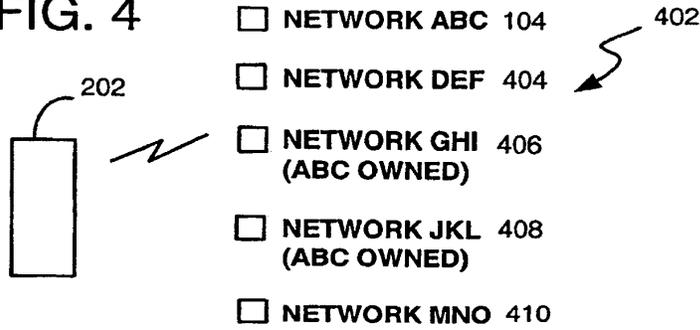


FIG. 5

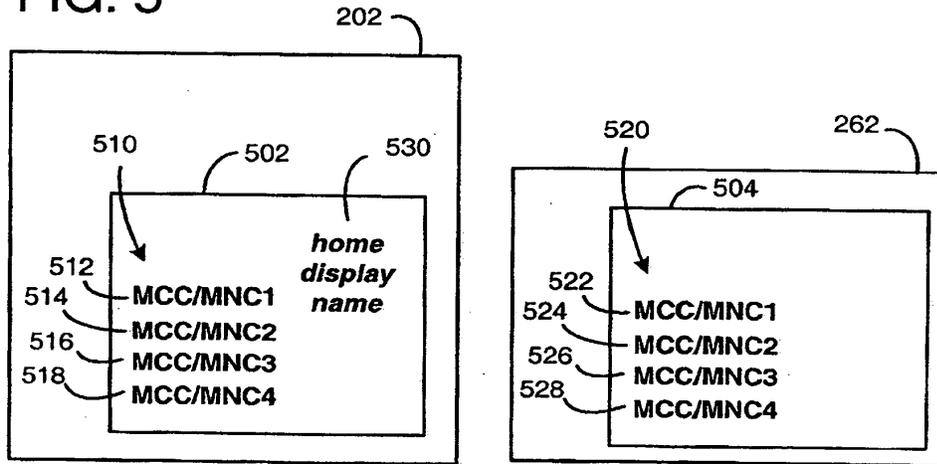


FIG. 6

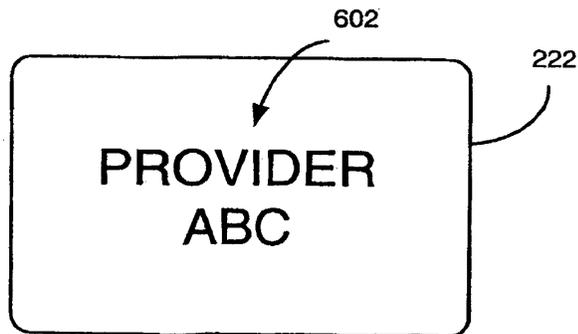
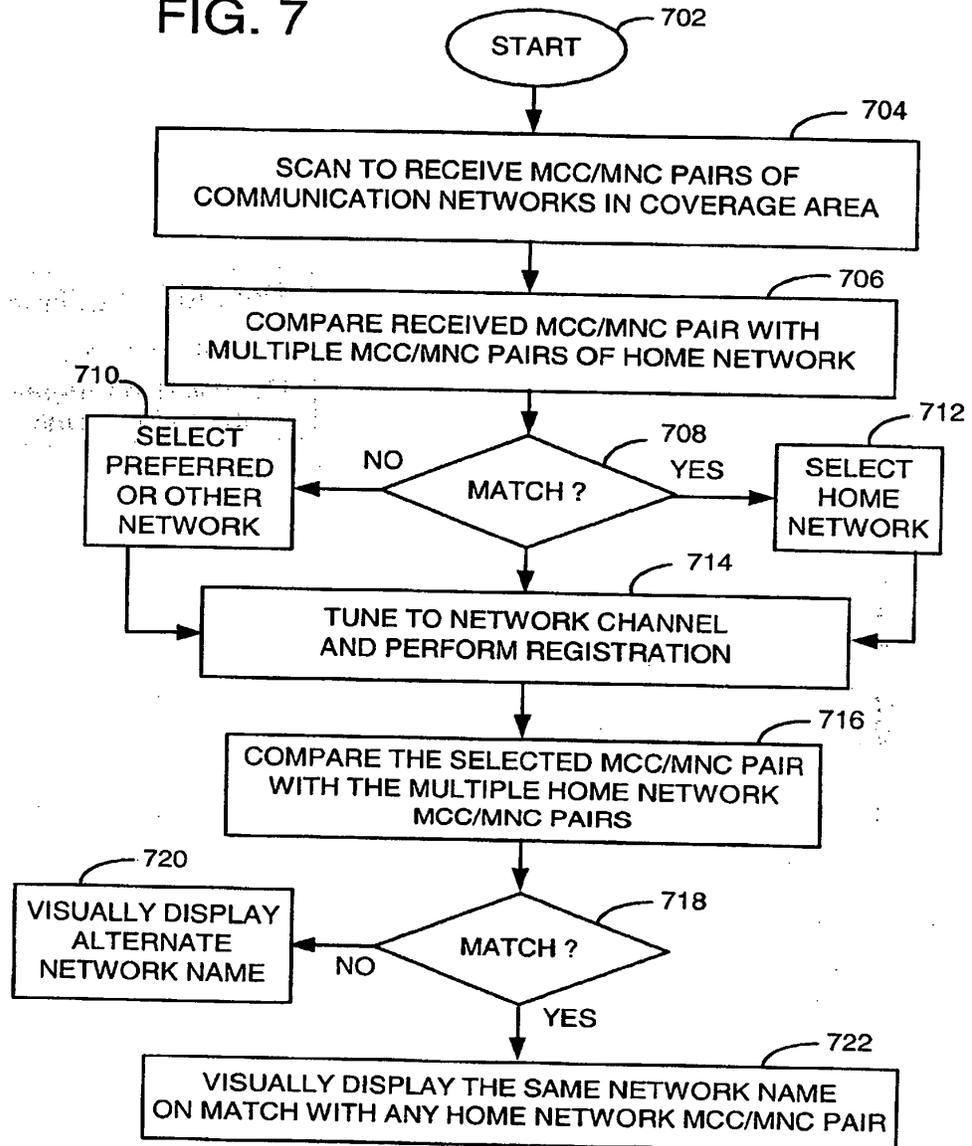
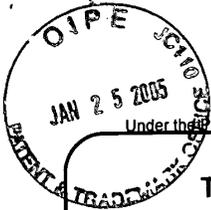


FIG. 7



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<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)	Application Number	10/932,899
	Filing Date	02 September 2004
	First Named Inventor	Zinn et al.
	Art Unit	2686
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	0108-0221/US
Total Number of Pages in This Submission	9	

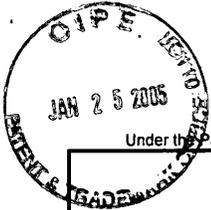
ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input checked="" type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): -Statement Under 37 CFR 3.73 (b) >Executed Worldwide Assignment
Remarks RIM Identification No.: ID-0482 RIM U.S. File No.: Not Yet Assigned U.S. Attorney Docket No.: 0108-0221/US USPTO Application No.: 10/932,899		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	John J. Oskorep, Esq.
Signature	
Date	21 January 2005

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**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant/Patent Owner: Research In Motion Limited

Application No./Patent No.: 10/932,899 Filed/Issue Date: 02 September 2004

HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS

Entitled: \_\_\_\_\_

Research In Motion Limited, a corporation  
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1.  the assignee of the entire right, title, and interest; or

2.  an assignee of less than the entire right, title and interest.  
The extent (by percentage) of its ownership interest is \_\_\_\_\_%

in the patent application/patent identified above by virtue of either:

RIM Identification No.: ID-0482  
RIM U.S. File No.: Not Yet Assigned  
U.S. Attorney Docket No.: 0108-0221/US  
USPTO Application No.: 10/932,899

A.  An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

**OR**

B.  A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

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The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

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Additional documents in the chain of title are listed on a supplemental sheet.

Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

21 January 2005

Date

312-222-1860

Telephone number

John J. Oskorep, Esq.

Typed or printed name

Signature

Patent Attorney

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE, (hereinafter referred to as the "ASSIGNOR(S)"):

<b>Ronald Scott Zinn</b>	of 319 Erinbrook, Kitchener, Ontario N2E 3M2, Canada,
<b>Catherine M. Phillips</b>	of 437 Laurel Gate Drive, Waterloo, Ontario N2T 2S5, Canada,
<b>Noushad Naqvi</b>	of 617 Yarmouth Drive, Waterloo, Ontario N2K 4C1, Canada, and
<b>Ingo W. Weigele</b>	of 600 Brookmill Crest, Waterloo, Ontario N2V 2M2, Canada

has/have invented certain new and useful improvements in an invention entitled

**HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS**

for which an application for United States Letters Patent will be or has been filed, and as further identified by:

**RIM Identification No.: ID-0482**  
**RIM U.S. File No.: Not Yet Assigned**  
**U.S. Attorney Docket No.: 0108-0221/US**  
**USPTO Application No.: Not Yet Assigned**

WHEREAS, **RESEARCH IN MOTION LIMITED**, (hereinafter referred to as the "ASSIGNEE"), a corporation organized under the laws of the Province of Ontario, CANADA, having a place of business at 295 Phillip Street, Waterloo, Ontario, CANADA, N2L 3W8, is desirous of acquiring the full and exclusive right, title and interest in and to said application inclusive of any and all priority rights derived therefrom and the inventions therein disclosed, and in and to all Letters Patent, both United States and foreign, to be granted for said inventions;

NOW, THEREFORE, for a valuable consideration, the receipt whereof is hereby acknowledged, I/WE, ASSIGNOR(S) does/do hereby confirm sale, assignment, transfer, and set over, and hereby sell, assign, transfer, and set over unto the ASSIGNEE, its successors and assigns, the full and exclusive right, title and interest in and to the aforesaid application for United States Letters Patent inclusive of any and all priority rights derived therefrom, and the inventions therein disclosed, and in and to all Letters Patent and issues thereof which may be granted upon said application and in and to all Letters Patent which may be issued upon any substitutes, divisions, or continuations of said application, and in and to any and all Letters Patent which may be granted for said inventions in any foreign country or countries; the same to be held and enjoyed by the ASSIGNEE for its own use and behoof, and for the use and behoof of its successors and assigns, to the full end of the term or terms for which said Letters Patent and reissues thereof may be granted as fully and entirely as the same would have been held and enjoyed by them had this assignment and sale not been made;

AND I/WE, ASSIGNOR(S) hereby agrees/agree to execute, upon request, any and all further papers which may be necessary or desirable to enable the ASSIGNEE, its successors and assigns, to file and prosecute said application, and any and all substitutes, divisions, or continuations thereof, and any and all reissues of the Letters Patent granted upon said application, or upon any substitutes, divisions, or continuations thereof, and any and all applications for foreign Letters Patent on said inventions; and ASSIGNOR(S)

RIM Identification No. : ID-0482  
RIM U.S. File No. : Not Yet Assigned  
U.S. Attorney Docket No. : 0108-0221/US  
USPTO Application No. : Not Yet Assigned

further agrees/agree to execute any and all further papers which may be necessary or desirable to vest or perfect the title of ASSIGNEE, its successors and assigns, in and to said application and the inventions therein disclosed, and in and to any and all Letters Patent and reissues thereof, both United States and foreign, which may be granted upon said application, and any substitutes, divisions, or continuations thereof, and upon any foreign applications.

AND I/WE, ASSIGNOR(S) hereby authorizes/authorize and requests/request The Commissioner of Patents to issue each and every Letters Patent to be granted upon the aforesaid application for United States Letters Patent, and upon any and all substitutes, divisions, and continuations of said application, and each and every reissue of said Letters Patent, to the ASSIGNEE, its successors and assigns, as the assignee of the entire right, title and interest therein, in accordance with this assignment.

IN WITNESS WHEREOF, this assignment has been executed below by the undersigned:

RIM Identification No.: ID-0482  
RIM U.S. File No.: Not Yet Assigned  
U.S. Attorney Docket No.: 0108-0221/US  
USPTO Application No.: 10/932,899

(1) Dec 8/04 DATE *R Scott Zinn* SIGNATURE  
Ronald Scott Zinn  
375 Briarcliffe Place Waterloo, Ontario N2L 5T9, Canada ADDRESS

STATEMENT BY WITNESS

I, PHIL NGUYEN, whose full Post Office  
address is

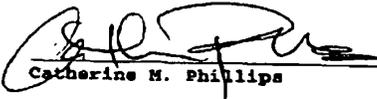
6 TEMPLETON DR. KITCHENER ON N2A 3M7  
(Address of Witness)

hereby declare that I was personally present and did see the above named  
person, personally known to me to be the person named in the assignment, duly  
sign and execute the same.

DEC 8, 2004  
(Date)

*[Signature]*  
(Signature of Witness)

RIM Identification No.: ID-0482  
RIM U.S. File No.: Not Yet Assigned  
U.S. Attorney Docket No.: 0108-0221/US  
USPTO Application No.: 10/932,899

(2) 11/29/04 DATE  SIGNATURE  
Catherine M. Phillips  
437 Laurel Gate Drive, Waterloo, Ontario N2T 2S5, Canada ADDRESS

STATEMENT BY WITNESS

I, Anand Sinha, whose full Post Office  
address is

150 Aberdeen Avenue Hamilton, Ontario  
(Address of Witness)

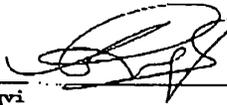
hereby declare that I was personally present and did see the above named  
person, personally known to me to be the person named in the assignment, duly  
sign and execute the same.

Nov 29/04  
(Date)

Anand Sinha  
(Signature of Witness)

RIM Identification No.: ID-0482  
RIM U.S. File No.: Not Yet Assigned  
U.S. Attorney Docket No.: 0108-0221/US  
USPTO Application No.: 10/932,899

(3) 20-01-05 DATE

 SIGNATURE  
Noushad Naqvi

617 Yarmouth Drive, Waterloo, Ontario N2K 4C1, Canada ADDRESS

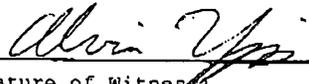
STATEMENT BY WITNESS

I, ALVIN YIP, whose full Post Office address is

803-10 ELLEN ST. E, KITCHENER, ONTARIO, N2H6R8, CANADA  
(Address of Witness)

hercby declare that I was personally present and did see the above named person, personally known to me to be the person named in the assignment, duly sign and execute the same.

JAN 20, 2005  
(Date)

  
(Signature of Witness)

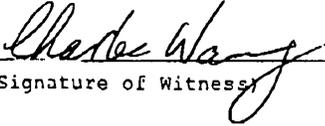
RIM Identification No.: ID-0482  
RIM U.S. File No.: Not Yet Assigned  
U.S. Attorney Docket No.: 0109-0221/US  
USPTO Application No.: Not Yet Assigned

(1) Dec. 8, 2004 DATE  SIGNATURE  
Isaac W. Weigle  
600 Brookmill Crst, Waterloo, Ontario N2V 2M2, Canada ADDRESS

STATEMENT BY WITNESS

I, Charles Wang, whose full Post Office  
address is 300 Regina St. N. Bldg. 1 Apt. 1404 Waterloo ON  
(Address of Witness)

hereby declare that I was personally present and did see the above named  
person, personally known to me to be the person named in the assignment, duly  
sign and execute the same.

Dec. 8, 2004 (Date)  (Signature of Witness)



**POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO**

I hereby appoint:

Practitioners associated with the Customer Number:

33787

OR

Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Assignee Name and Address:

Research In Motion Limited  
 295 Phillip Street  
 Waterloo, Ontario, Canada N2L 3W8

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

**SIGNATURE of Assignee of Record**

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Name	Mihail Lazaridis		Date	4 Feb 2004
Signature			Telephone	519-888-7465
Title	President & Co-CEO			

This collection of information is required by 37 CFR 1.31 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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\$IFW



UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/932,899	09/02/2004	Zinn	0108-0221/US

CONFIRMATION NO. 3787

33787

JOHN J. OSKOREP, ESQ.  
 ONE MAGNIFICENT MILE CENTER  
 980 N. MICHIGAN AVE.  
 SUITE 1400  
 CHICAGO, IL 60611

FORMALITIES LETTER



\*OC00000014266074\*

Date Mailed: 11/02/2004

## NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

*Filing Date Granted*

### Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is missing.  
*A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.*
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

### SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$130** for a Large Entity

- **\$130** Late oath or declaration Surcharge.

Replies should be mailed to: Mail Stop Missing Parts  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria VA 22313-1450

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

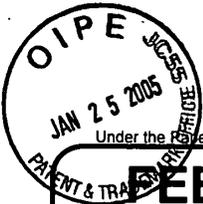
*Haine*

~~Customer Service Center~~

Initial Patent Examination Division (703) 308-1202

PART 2 - COPY TO BE RETURNED WITH RESPONSE





Approved for use through 07/31/2006. 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.

<b>FEE TRANSMITTAL</b>		<b>Complete if Known</b>	
<b>for FY 2004</b>		Application Number	10/932,899
<i>Effective 10/01/2003. Patent fees are subject to annual revision.</i>		Filing Date	02 September 2005
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		First Named Inventor	Zinn et al.
<b>TOTAL AMOUNT OF PAYMENT</b> (\$) 240.00		Examiner Name	Not Yet Assigned
		Art Unit	2686
		Attorney Docket No.	0108-0221/US

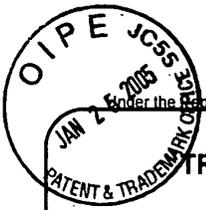
<p><b>METHOD OF PAYMENT</b> (check all that apply)</p> <p><input type="checkbox"/> Check <input type="checkbox"/> Credit card <input type="checkbox"/> Money Order <input type="checkbox"/> Other <input type="checkbox"/> None</p> <p><input checked="" type="checkbox"/> Deposit Account:</p> <p>Deposit Account Number: 50-1995</p> <p>Deposit Account Name: Research In Motion Limited</p> <p>The Director is authorized to: (check all that apply)</p> <p><input checked="" type="checkbox"/> Charge fee(s) indicated below <input checked="" type="checkbox"/> Credit any overpayments</p> <p><input checked="" type="checkbox"/> Charge any additional fee(s) or any underpayment of fee(s)</p> <p><input type="checkbox"/> Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.</p>	<p><b>FEE CALCULATION</b> (continued)</p> <p><b>3. ADDITIONAL FEES</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Fee Description</th> <th rowspan="2">Fee Paid</th> </tr> <tr> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr><td>1051</td><td>130</td><td>2051</td><td>65</td><td>Surcharge - late filing fee or oath</td><td>130.00</td></tr> <tr><td>1052</td><td>50</td><td>2052</td><td>25</td><td>Surcharge - late provisional filing fee or cover sheet</td><td></td></tr> <tr><td>1053</td><td>130</td><td>1053</td><td>130</td><td>Non-English specification</td><td></td></tr> <tr><td>1812</td><td>2,520</td><td>1812</td><td>2,520</td><td>For filing a request for ex parte reexamination</td><td></td></tr> <tr><td>1804</td><td>920*</td><td>1804</td><td>920*</td><td>Requesting publication of SIR prior to Examiner action</td><td></td></tr> <tr><td>1805</td><td>1,840*</td><td>1805</td><td>1,840*</td><td>Requesting publication of SIR after Examiner action</td><td></td></tr> <tr><td>1251</td><td>110</td><td>2251</td><td>55</td><td>Extension for reply within first month</td><td>110.00</td></tr> <tr><td>1252</td><td>420</td><td>2252</td><td>210</td><td>Extension for reply within second month</td><td></td></tr> <tr><td>1253</td><td>950</td><td>2253</td><td>475</td><td>Extension for reply within third month</td><td></td></tr> <tr><td>1254</td><td>1,480</td><td>2254</td><td>740</td><td>Extension for reply within fourth month</td><td></td></tr> <tr><td>1255</td><td>2,010</td><td>2255</td><td>1,005</td><td>Extension for reply within fifth month</td><td></td></tr> <tr><td>1401</td><td>330</td><td>2401</td><td>165</td><td>Notice of Appeal</td><td></td></tr> <tr><td>1402</td><td>330</td><td>2402</td><td>165</td><td>Filing a brief in support of an appeal</td><td></td></tr> <tr><td>1403</td><td>290</td><td>2403</td><td>145</td><td>Request for oral hearing</td><td></td></tr> <tr><td>1451</td><td>1,510</td><td>1451</td><td>1,510</td><td>Petition to institute a public use proceeding</td><td></td></tr> <tr><td>1452</td><td>110</td><td>2452</td><td>55</td><td>Petition to revive - unavoidable</td><td></td></tr> <tr><td>1453</td><td>1,330</td><td>2453</td><td>665</td><td>Petition to revive - unintentional</td><td></td></tr> <tr><td>1501</td><td>1,330</td><td>2501</td><td>665</td><td>Utility issue fee (or reissue)</td><td></td></tr> <tr><td>1502</td><td>480</td><td>2502</td><td>240</td><td>Design issue fee</td><td></td></tr> <tr><td>1503</td><td>640</td><td>2503</td><td>320</td><td>Plant issue fee</td><td></td></tr> <tr><td>1460</td><td>130</td><td>1460</td><td>130</td><td>Petitions to the Commissioner</td><td></td></tr> <tr><td>1807</td><td>50</td><td>1807</td><td>50</td><td>Processing fee under 37 CFR 1.17(q)</td><td></td></tr> <tr><td>1806</td><td>180</td><td>1806</td><td>180</td><td>Submission of Information Disclosure Stmt</td><td></td></tr> <tr><td>8021</td><td>40</td><td>8021</td><td>40</td><td>Recording each patent assignment per property (times number of properties)</td><td></td></tr> <tr><td>1809</td><td>770</td><td>2809</td><td>385</td><td>Filing a submission after final rejection (37 CFR 1.129(a))</td><td></td></tr> <tr><td>1810</td><td>770</td><td>2810</td><td>385</td><td>For each additional invention to be examined (37 CFR 1.129(b))</td><td></td></tr> <tr><td>1801</td><td>770</td><td>2801</td><td>385</td><td>Request for Continued Examination (RCE)</td><td></td></tr> <tr><td>1802</td><td>900</td><td>1802</td><td>900</td><td>Request for expedited examination of a design application</td><td></td></tr> </tbody> </table> <p>Other fee (specify) _____</p> <p>*Reduced by Basic Filing Fee Paid</p> <p><b>SUBTOTAL (3)</b> (\$) 240.00</p>	Large Entity		Small Entity		Fee Description	Fee Paid	Fee Code	Fee (\$)	Fee Code	Fee (\$)	1051	130	2051	65	Surcharge - late filing fee or oath	130.00	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		1251	110	2251	55	Extension for reply within first month	110.00	1252	420	2252	210	Extension for reply within second month		1253	950	2253	475	Extension for reply within third month		1254	1,480	2254	740	Extension for reply within fourth month		1255	2,010	2255	1,005	Extension for reply within fifth month		1401	330	2401	165	Notice of Appeal		1402	330	2402	165	Filing a brief in support of an appeal		1403	290	2403	145	Request for oral hearing		1451	1,510	1451	1,510	Petition to institute a public use proceeding		1452	110	2452	55	Petition to revive - unavoidable		1453	1,330	2453	665	Petition to revive - unintentional		1501	1,330	2501	665	Utility issue fee (or reissue)		1502	480	2502	240	Design issue fee		1503	640	2503	320	Plant issue fee		1460	130	1460	130	Petitions to the Commissioner		1807	50	1807	50	Processing fee under 37 CFR 1.17(q)		1806	180	1806	180	Submission of Information Disclosure Stmt		8021	40	8021	40	Recording each patent assignment per property (times number of properties)		1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))		1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))		1801	770	2801	385	Request for Continued Examination (RCE)		1802	900	1802	900	Request for expedited examination of a design application	
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<b>SUBMITTED BY</b>		<i>(Complete if applicable)</i>	
Name (Print/Type)	John J. Oskorep, Esq.	Registration No. (Attorney/Agent)	41,234
Signature		Telephone	312-222-1860
		Date	21 January 2005

**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.**

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<b>TRANSMITTAL FORM</b> <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/932,899	
	Filing Date	02 September 2005	
	First Named Inventor	Zinn et al.	
	Art Unit	2686	
	Examiner Name	Not Yet Assigned	
Total Number of Pages in This Submission	10	Attorney Docket Number	0108-0221/US

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input checked="" type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input checked="" type="checkbox"/> Petition *Extension of Time* <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <b>-Executed Declaration</b>
Remarks <b>RIM Identification No.:</b> ID-0482 <b>RIM U.S. File No.:</b> Not Yet Assigned <b>U.S. Attorney Docket No.:</b> 0108-0221/US <b>USPTO Application No.:</b> 10/932,899		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	John J. Oskorep, Esq.
Signature	
Date	21 January 2005

CERTIFICATE OF TRANSMISSION/MAILING	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.	
Typed or printed name	John J. Oskorep, Esq.
Signature	
Date	21 January 2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)**

Declaration Submitted With Initial Filing **OR**  Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	0108-0221/US
First Named Inventor	Zinn et al.
COMPLETE IF KNOWN	
Application Number	10/932,899
Filing Date	02 September 2005
Art Unit	2686
Examiner Name	Not Yet Assigned

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS

*(Title of the Invention)*

the specification of which

is attached hereto

**OR**

was filed on (MM/DD/YYYY) 02 September 2005 as United States Application Number or PCT International

Application Number 10/932,899 and was amended on (MM/DD/YYYY)   (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 37 CFR 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.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				Yes	No
03255483.4	EP	09/13/2003	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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RIM Identification No.: ID-0482  
 RIM U.S. File No.: Not Yet Assigned  
 U.S. Attorney Docket No.: 0108-0221/US  
 USPTO Application No.: 10/932,899

PTO/SB/01 (08-03)  
 Approved for use through 07/31/2006. OMB 0651-0032  
 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**DECLARATION — Utility or Design Patent Application**

Direct all correspondence to: <input checked="" type="checkbox"/> Customer Number: <input type="text" value="33787"/>		OR <input checked="" type="checkbox"/> Correspondence address below	
Name John J. Oskorep, Esq.			
Address One Magnificent Mile Center 980 North Michigan Avenue, Suite 1400			
City Chicago		State Illinois	ZIP 60611
Country United States of America	Telephone 312-222-1860	Fax 312-214-6303	
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 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.			
NAME OF SOLE OR FIRST INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any]) Ronald Scotte		Family Name or Surname Zinn	
Inventor's Signature <i>R Scotte Zinn</i>		Date Dec 8/04	
Residence: 375 Briarcliffe Place Waterloo, Ontario N2L 5T9, Canada			
Citizenship: Canada			
Mailing Address: Same As Above			
<input checked="" type="checkbox"/> Additional inventors or a legal representative are being named on the 3 supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.			

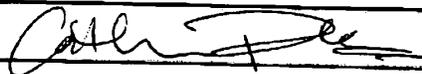
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RIM Identification No.: ID-0482  
 RIM U.S. File No.: Not Yet Assigned  
 U.S. Attorney Docket No.: 0108-0221/US  
 USPTO Application No.: 10/932,899

PTO/SB/02A (08-09)  
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<b>DECLARATION</b>	<b>ADDITIONAL INVENTOR(S)</b> Supplemental Sheet
Page <u>1</u> of <u>3</u>	

Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor
Given Name (first and middle, if any)	Family Name or Surname	
Catherine M.	Phillips	
Inventor's Signature	Date	
	11/29/04	
Residence: 437 Laurel Gate Drive, Waterloo, Ontario N2T 2S5, Canada		
Citizenship: Canada		
Mailing Address: Same As Above		

This collection of information is required by 35 U.S.C. 115 and 37 C.F.R. 1.60. The information is required to obtain or retain a benefit by the public which is to be (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 C.F.R. 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22304-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22304-1450.

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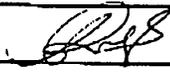
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RIM Identification No.: ID-0482  
 RIM U.S. File No.: Not Yet Assigned  
 U.S. Attorney Docket No.: 0108-0221/us  
 USPTO Application No.: 10/932,899

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<b>DECLARATION</b>	<b>ADDITIONAL INVENTOR(S)</b> Supplemental Sheet
	Page <u>2</u> of <u>3</u>

<b>Name of Additional Joint Inventor, if any:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor
Given Name (first and middle (if any))		Family Name or Surname
Noushad		Naqvi
Inventor's Signature		Date <u>20-01-05</u>
Residence: 617 Yarmouth Drive, Waterloo, Ontario N2K 4C1, Canada		
Citizenship: Canada		
Mailing Address: Same As Above		

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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RIM Identification No.: ID-0482  
 RIM U.S. File No.: Not Yet Assigned  
 U.S. Attorney Docket No.: 0108-0221/US  
 USPTO Application No.: Not Yet Assigned

PTO/SB/02A (08-03)  
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 U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

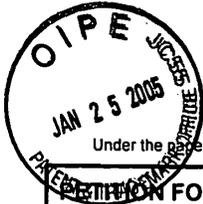
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<b>DECLARATION</b>	<b>ADDITIONAL INVENTOR(S)</b> Supplemental Sheet Page <u>3</u> of <u>3</u>
--------------------	--

<b>Name of Additional Joint Inventor, if any:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor
Given Name (first and middle (if any))	Family Name or Surname	
Ingo W.	Weigele	
Inventor's Signature 	Date Dec 8, 2004	
Residence: 600 Brookmill Crest, Waterloo, Ontario N2V 2M2, Canada		
Citizenship: Canada		
Mailing Address: Same As Above		

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<b>APPLICATION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)</b>	Docket Number (Optional)																								
<b>FY 2005</b> (fees effective on or after October 1, 2004)	0108-0221/US																								
Application Number <b>10/932,899</b>	Filed <b>02 September 2004</b>																								
For <b>HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS</b>																									
Art Unit <b>2686</b>	Examiner <b>Not Yet Assigned</b>																								
<p>This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.</p> <p>The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:15%; text-align: center;"><u>Fee</u></th> <th style="width:15%; text-align: center;"><u>Small Entity Fee</u></th> <th style="width:20%;"></th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> One month (37 CFR 1.17(a)(1))</td> <td style="text-align: center;">\$110</td> <td style="text-align: center;">\$55</td> <td style="text-align: right;">\$ <u>110.00</u></td> </tr> <tr> <td><input type="checkbox"/> Two months (37 CFR 1.17(a)(2))</td> <td style="text-align: center;">\$430</td> <td style="text-align: center;">\$215</td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Three months (37 CFR 1.17(a)(3))</td> <td style="text-align: center;">\$980</td> <td style="text-align: center;">\$490</td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Four months (37 CFR 1.17(a)(4))</td> <td style="text-align: center;">\$1530</td> <td style="text-align: center;">\$765</td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Five months (37 CFR 1.17(a)(5))</td> <td style="text-align: center;">\$2080</td> <td style="text-align: center;">\$1040</td> <td style="text-align: right;">\$ _____</td> </tr> </tbody> </table> <p><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.</p> <p><input type="checkbox"/> A check in the amount of the fee is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input checked="" type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account.</p> <p><input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>50-1995</u>. I have enclosed a duplicate copy of this sheet.</p> <p><b>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.</b></p> <p>I am the <input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration Number <u>41,234</u></p> <p><input type="checkbox"/> attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p> <p>_____ Signature</p> <p style="text-align: right;">21 January 2005 _____ Date</p> <p>John J. Oskorep, Esq. _____ Typed or printed name</p> <p style="text-align: right;">312-222-1860 _____ Telephone Number</p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p> <p><input type="checkbox"/> Total of _____ forms are submitted.</p>			<u>Fee</u>	<u>Small Entity Fee</u>		<input checked="" type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$110	\$55	\$ <u>110.00</u>	<input type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$430	\$215	\$ _____	<input type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$980	\$490	\$ _____	<input type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$1530	\$765	\$ _____	<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$2080	\$1040	\$ _____
	<u>Fee</u>	<u>Small Entity Fee</u>																							
<input checked="" type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$110	\$55	\$ <u>110.00</u>																						
<input type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$430	\$215	\$ _____																						
<input type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$980	\$490	\$ _____																						
<input type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$1530	\$765	\$ _____																						
<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$2080	\$1040	\$ _____																						

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DATE 01-28-05

TO MP

FROM Office of Initial Patent Examination

AMOUNT \$130.00

APPLICATION NUMBER 10932899

A fee is due for the attached document submitted to the U.S. Patent and Trademark Office for the following reason. Please check the application for the appropriate authorization to charge a deposit account. If an authorization is present, please charge the Appropriate fee. If an authorization is not present, notify the applicant of the fee deficiency.

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- Insufficient funds in deposit amount
- Declined credit card
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- No fee submitted per requirement

The correct fee code: 105/1251 amount \$ 130. ~~120.~~  
The suspended fee code: 1999 amount \$ \_\_\_\_\_  
Fee Due amount = \$ 250

If you have any questions, please contact Cynthia Streater at 703-306-5430 or Eleanor Kurtz 703-308-3642.

Terminal Operator AKTAR

Deposit Account Maintenance	
Deposit Account Window Help	
<b>Deposit Account</b>	
Number: 501995	Balance Amount: 95.00
<b>Holder</b>	
Name: RESEARCH IN MOTION LIMITED	
<b>Address</b>	
Attention:	KRISHNA K. PATHIYAL
Street:	295 PHILLIP STREET
Province:	
City:	WATERLOO, ONTARIO
State:	Postal Code: N2L 3W8
Country:	CA
Telephone:	519-888-7465 X2535
Fax:	519-888-1975
<b>Details</b>	
Category Code: NONGOVNMNT	Type: REGULAR
Notification Amt: 0.00	Status: <input checked="" type="radio"/> Active <input type="radio"/> Closed
Access Code: 0444	
ANABI1 01/28/2005	

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JCWSCS 18 FEB 2005

Feb 18 2005 1:53PM

John J. Oskorep, Esq.

3122146303

p. 1

**JOHN J. OSKOREP**

ATTORNEY AT LAW

REGISTERED TO PRACTICE BEFORE THE  
U.S. PATENT & TRADEMARK OFFICE

OFFICE: 312-222-1860

FAX: 312-214-6303

ONE MAGNIFICENT MILE CENTER - 980 NORTH MICHIGAN AVENUE, SUITE 1400  
CHICAGO, ILLINOIS 60611 • JOSKOREP@SECUREPATENTS.COM

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FAX TRANSMISSION COVER SHEET

TO:

OFFICE OF INITIAL PATENT  
EXAMINATION'S FILING RECEIPT  
CORRECTIONS

TELEPHONE:

FAX NUMBER:

703-746-9195

FROM:

JOHN J. OSKOREP, ESQ.

RE:

PATENT APPLICATION ENTITLED:

"HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR  
MULTIPLE HOME NETWORKS "

INVENTORS(S): ZINN ET AL.  
U.S. SERIAL NO.: 10/932,899

PAGES:

3 (INCLUDING THIS FORM)

OTHER:

**JOHN J. OSKOREP**  
ATTORNEY AT LAW  
REGISTERED TO PRACTICE BEFORE THE  
U.S. PATENT & TRADEMARK OFFICE

OFFICE: 312-222-1860

FAX: 312-214-6303

ONE MAGNIFICENT MILE CENTER • 980 NORTH MICHIGAN AVENUE, SUITE 1400  
CHICAGO, ILLINOIS 60611 • JOSKOREP@SECUREPATENTS.COM

TO: OFFICE OF INITIAL PATENT EXAMINATION'S FILING RECEIPT CORRECTIONS

RE: U.S. PATENT APPLICATION ENTITLED:

**HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE  
HOME NETWORKS**

DEAR SIR:

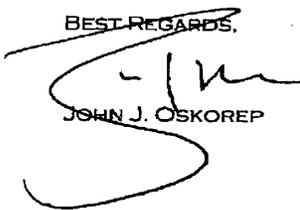
AN ERROR HAS BEEN NOTED ON THE FILING RECEIPT FOR THE ABOVE REFERENCED PATENT APPLICATION. MORE PARTICULARLY, THE ERROR APPEARS IN TWO OF THE INVENTOR'S NAMES WHICH CURRENTLY READ AS "INGO W. WOIGELE. THIS INVENTORS NAME SHOULD CORRECTLY READ AS:

INGO W. WEIGELE

ATTACHED PLEASE FIND A COPY OF THE FILING RECEIPT FOR THE ABOVE REFERENCED PATENT APPLICATION WITH THE CHANGE NOTED THEREON.

PLEASE CONTACT ME IF YOU HAVE ANY QUESTIONS. THANK YOU.

BEST REGARDS,

  
JOHN J. OSKOREP



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/932,899	09/02/2004	2686	1026	0108-0221/US	5	27	3

33787  
JOHN J. OSKOREP, ESQ.  
ONE MAGNIFICENT MILE CENTER  
980 N. MICHIGAN AVE.  
SUITE 1400  
CHICAGO, IL 60611

CONFIRMATION NO. 3787  
UPDATED FILING RECEIPT



Date Mailed: 02/14/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Ronald Scotte Zinn, Waterloo, CANADA;  
Catherine M. Phillips, Waterloo, CANADA;  
Noushad Naqvi, Waterloo, CANADA;  
Ingo W Wolgele, Waterloo, CANADA;

WETGELE

Power of Attorney: None

Domestic Priority data as claimed by applicant

Foreign Applications

EUROPEAN PATENT OFFICE (EPO) 03255483.4 09/13/2003

If Required, Foreign Filing License Granted: 11/01/2004

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US10/932,899**

Projected Publication Date: 05/26/2005

Non-Publication Request: No

Early Publication Request: No

Title

Home network name displaying methods and apparatus for multiple home networks

Preliminary Class

455

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**LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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**PATENT APPLICATION FEE DETERMINATION RECORD**  
Effective October 1, 2003

Application or Docket Number

10932899

**CLAIMS AS FILED - PART I**

	(Column 1)	(Column 2)
TOTAL CLAIMS	27	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	27 minus 20=	* 7
INDEPENDENT CLAIMS	3 minus 3 =	-
MULTIPLE DEPENDENT CLAIM PRESENT <input type="checkbox"/>		

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

**SMALL ENTITY TYPE**  OR

RATE	FEE
BASIC FEE	385.00
XS 9=	
X43=	
+145=	
TOTAL	

OR **OTHER THAN SMALL ENTITY**

RATE	FEE
BASIC FEE	770.00
XS18=	126
X86=	-
+290=	-
TOTAL	896

**CLAIMS AS AMENDED - PART II**

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	* 27 Minus **	=
	Independent	* 3 Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

**SMALL ENTITY** OR

RATE	ADDITIONAL FEE
XS 9=	
X43=	
+145=	
TOTAL ADDIT. FEE	

OR **OTHER THAN SMALL ENTITY**

RATE	ADDITIONAL FEE
XS18=	
X86=	
+290=	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	* Minus **	=
	Independent	* Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE
XS 9=	
X43=	
+145=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
XS18=	
X86=	
+290=	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	* Minus **	=
	Independent	* Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE
XS 9=	
X43=	
+145=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
XS18=	
X86=	
+290=	
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.

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	("6195532").PN.	US-PGPUB; USPAT	OR	OFF	2006/04/14 15:21
S2	0	455/435.2.ccls	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S3	0	455/435.2o.ccls	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S4	0	455/435.20.ccls	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S5	0	455/435.20.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S6	270	455/435.2.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S7	812	455/432.1.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S8	131	455/432.2.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/14 15:29
S9	307	MCC and MNC	US-PGPUB; USPAT	OR	ON	2006/04/14 15:30
S10	37	MCC NEAR10 MNC NEAR10 STOR\$4	US-PGPUB; USPAT	OR	ON	2006/04/14 15:30
S11	3	test near10 (version) near10 SIM	US-PGPUB; USPAT	OR	ON	2006/04/14 16:14
S12	134	test\$3 near10 (version adj number)	US-PGPUB; USPAT	OR	ON	2006/04/14 16:15
S13	1	S12 and S9	US-PGPUB; USPAT	OR	ON	2006/04/14 16:19
S14	1	S12 and S6	US-PGPUB; USPAT	OR	ON	2006/04/14 16:16
S15	0	S12 and S7	US-PGPUB; USPAT	OR	ON	2006/04/14 16:16
S16	0	S12 and S8	US-PGPUB; USPAT	OR	ON	2006/04/14 16:16
S17	1	S12 and S9	US-PGPUB; USPAT	OR	ON	2006/04/14 16:16
S18	2	S12 and SIM	US-PGPUB; USPAT	OR	ON	2006/04/14 16:17
S19	18547	(SIM or (Subscriber adj identity adj module) or (identity adj module) or (subscriber module)) near10 test	US-PGPUB; USPAT	OR	ON	2006/04/14 16:18
S20	348	S19 and version adj number	US-PGPUB; USPAT	OR	ON	2006/04/14 16:18

### EAST Search History

S21	348	S19 and (version adj number)	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S22	2	S21 and S9	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S23	1	S21 and S6	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S24	0	S21 and S7	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S25	0	S21 and S8	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S26	6	S21 and (home adj network)	US-PGPUB; USPAT	OR	ON	2006/04/14 16:26

AM



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/932,899	09/02/2004	Ronald Scotte Zinn	0108-0221/US	3787

33787 7590 05/11/2006  
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EXAMINER

SHEDRICK, CHARLES TERRELL

ART UNIT PAPER NUMBER

2617

DATE MAILED: 05/11/2006

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

<b>Office Action Summary</b>	<b>Application No.</b> 10/932,899	<b>Applicant(s)</b> ZINN ET AL.	
	<b>Examiner</b> Charles Shedrick	<b>Art Unit</b> 2617	

**-- 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) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 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 \_\_\_\_\_.
- 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) 1-27 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) 1-27 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 02 September 2004 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 \_\_\_\_\_.
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_.

## DETAILED ACTION

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims **1-21, 23,25, and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bamburak et al. US Patent No. 6,195,532 B1, "Bamburak"**, hereinafter in view of **Hirsch US Patent Pub. No. US 2001/0001875**.

Consider **claims 1, 8, and 15**, Bamburak teaches a network name displaying method in a mobile station (**figure 11**), the method (**col. 4 lines 3-6**), comprising: scanning to receive a plurality identification pairs corresponding to a plurality of wireless communication networks within a coverage area (**column 4 line 62 – col. 5 line 5**); selecting and registering with a wireless communication network associated with one of the received identifications (**column 4 line 62 – col. 5 line 5**); comparing the identification of the selected network with a plurality of home network identifications (**col. 10 lines 41-62**); for the step of comparing: using a plurality of home network identifications based on identifying that the plurality of home network identifications otherwise using a plurality of home network identifications of the mobile station(**col. 10 lines 41-62**); and causing a home network display name to be visually displayed in a visual display of the mobile station based on identifying a match between the identification of the selected network and one of the home network identifications(**col. 11 lines 12-34**).

However, Bamburak does not specifically teach MCC and MNC pairs stored on a Subscriber Identify Module (SIM).

In the same field of endeavor, Hirsch teaches MCC and MNC pairs stored on a Subscriber Identify Module (SIM) **206 (figure 2)(paragraph 0007 and 0018)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability. Hirsch further teaches using an SID/SOC in paragraph 0008.

Consider claims **2, 9, and 16** and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15, Bamburak teaches the claimed invention except wherein the plurality of home network MCC and MNC pairs are stored in the SIM.

However, in the same field of endeavor, Hirsch teaches wherein the plurality of home network MCC and MNC pairs are stored in the SIM 206 (**figure 2**)(**paragraph 0007 and 0018**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability.

Consider claims **3, 10, and 17** and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15, Bamburak teaches the claimed invention except wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station.

However, in the same field of endeavor, Hirsch teaches wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station (**paragraph 0015**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability.

Consider claims **4, 11, and 17** and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15, Bamburak teaches wherein the home network display name is the same for all of the home network identifications. (col. 11 lines 12-34).

However, Bamburak does not specifically teach MCC and MNC pairs stored on a Subscriber Identify Module (SIM).

In the same field of endeavor, Hirsch teaches MCC and MNC pairs stored on a Subscriber Identify Module (SIM) 206 (figure 2)(paragraph 0007 and 0018).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability. Hirsh further teaches using an SID/SOC in paragraph 0008.

Consider claims **5, 12, and 19** and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15, Bamburak teaches the claimed invention except wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

In the same field of endeavor, Hirsch teaches wherein a Location Area Code (LAC) (i.e., group identification code) is used in addition to the MCC and the MNC in the acts of comparing and identifying (paragraph 0014).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include a Location Area Code (LAC) (i.e., group identification code) is used in addition to the MCC and the MNC in the acts of comparing and

identifying as taught by Hirsch for the purpose of identifying a group of mobile stations assigned by a network provider.

Consider claims **6, 13, and 20** and as applied to method of claim **1, the mobile station of claim 8 and the computer program product of claim 15**, Bamburak teaches the claimed invention further comprising: causing an alternate display name to be visually displayed in the visual display based on identifying no match between the identification of the selected network and one of the home network identification (**col. 10 line 65- col. 11 line 5**).

However, Bamburak does not specifically teach MCC and MNC pairs stored on a Subscriber Identify Module (SIM).

In the same field of endeavor, Hirsch teaches MCC and MNC pairs stored on a Subscriber Identify Module (SIM) **206 (figure 2)(paragraph 0007 and 0018)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability. Hirsch further teaches using an SID/SOC in paragraph 0008.

Consider claims **7, 14, and 21** and as applied to method of claim **1, the mobile station of claim 8 and the computer program product of claim 15**, Bamburak teaches the claimed invention except wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a predetermined designated area of memory on the SIM.

However, in the same field of endeavor, Hirsch teaches wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the

Art Unit: 2617

further step of testing a predetermined designated area of memory on the SIM (**paragraph 0019**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a predetermined designated area of memory on the SIM as taught by Hirsch for the purpose of testing.

Consider claims **23, 25, and 27** and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15, Bamburak teaches the claimed invention except wherein the plurality of home network MCC and MNC pairs correspond to networks of a Home Public Land Mobile Network (HPLMN) list.

In the same field of endeavor, Hirsch teaches MCC and MNC pairs stored on a Subscriber Identify Module (SIM) pairs correspond to networks of a Home Public Land Mobile Network (HPLMN) list **206 (figure 2)(paragraph 0007 and 0018)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC pairs that correspond to networks of a Home Public Land Mobile Network (HPLMN) list as taught by Hirsch for the purpose of interoperability. Hirsch further teaches using an SID/SOC in paragraph 0008.

Claims **22, 24, and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over

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**Bamburak et al. US Patent No. 6,195,532 B1, “Bamburak”, hereinafter in view of Hirsch US Patent Pub. No. US 2001/0001875 and further in view of Hogan et al. US Pub. No. 2002/0111180 A1.**

Consider claims 22, 24, and 26 and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15, Bamburak teaches the claimed invention identifying a plurality of home network identifications (column 4 line 62 – col. 5 line 5).

However, Bamburak does not specifically teach MCC and MNC pairs stored on a Subscriber Identify Module (SIM).

In the same field of endeavor, Hirsch teaches MCC and MNC pairs stored on a Subscriber Identify Module (SIM) 206 (figure 2)(paragraph 0007 and 0018).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability. Hirsch further teaches using an SID/SOC in paragraph 0008.

However, Bamburak as modified by Hirsch does not teach testing a version number.

In the same field of endeavor, Hogan et al. teaches testing a version number (paragraphs 0092-0094).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak as modified by Hirsch to include version testing for the purpose of verifying updates as taught by Hogan et al.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Shedrick whose telephone number is (571)-272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid Lester can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR 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).

Charles Shedrick  
AU 2617  
April 14, 2006

  
NICK CORSARO  
PRIMARY EXAMINER





<b>Notice of References Cited</b>	Application/Control No. 10/932,899	Applicant(s)/Patent Under Reexamination ZINN ET AL.	
	Examiner Charles Shedrick	Art Unit 2617	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2001/0001875	05-2001	Hirsch, Andrew J.	713/1
*	B US-2002/0111180	08-2002	Hogan et al.	455/518
*	C US-6,195,532	02-2001	Bamburak et al.	340/7.42
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			

**FOREIGN PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

**NON-PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
	U				
	V				
	W				
	X				

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
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Bib Data Sheet

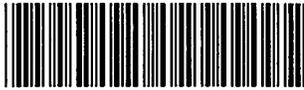
CONFIRMATION NO. 3787

SERIAL NUMBER 10/932,899	FILING DATE 09/02/2004	CLASS 455	GROUP ART UNIT 2617	ATTORNEY DOCKET NO. 0108-0221/US	
APPLICANTS  Ronald Scotte Zinn, Waterloo, CANADA;  Catherine M. Phillips, Waterloo, CANADA; Noushad Naqvi, Waterloo, CANADA; Ingo W. Weigele, Waterloo, CANADA;  ** CONTINUING DATA ***** <i>C.S. NONE 4/14/04</i>  ** FOREIGN APPLICATIONS ***** EUROPEAN PATENT OFFICE (EPO) 03255483.4 09/13/2003 <i>C.S. 4/14/04</i>  IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 11/01/2004					
Foreign Priority claimed 35 USC 119 (a-d) conditions met	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance Examiner's Signature: <i>[Signature]</i> Initials: <i>E.S.</i>	STATE OR COUNTRY CANADA	SHEETS DRAWING 5	TOTAL CLAIMS 27	INDEPENDENT CLAIMS 3
ADDRESS 33787 JOHN J. OSKOREP, ESQ. ONE MAGNIFICENT MILE CENTER 980 N. MICHIGAN AVE. SUITE 1400 CHICAGO , IL 60611					
TITLE Home network name displaying methods and apparatus for multiple home networks					
FILING FEE	FEES: Authority has been given in Paper	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees ( Filing ) <input type="checkbox"/> 1.17 Fees ( Processing Ext. of			

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RECEIVED 1026	No. _____ to charge/credit DEPOSIT ACCOUNT	(time )
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		<input type="checkbox"/> Other _____
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**Index of Claims**



Application/Control No.

10/932,899

Examiner

Charles Shedrick

Applicant(s)/Patent under Reexamination

ZINN ET AL.

Art Unit

2617

√	Rejected
≡	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date						
Final	Original	4/14/06						
	1	√						
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IN THE CLAIMS

*Please amend claims 1, 8, and 15, and cancel claims 4, 6, 11, 13, 18, 20, 23, 25, and 27, as follows:*

1. (Currently Amended) A network name displaying method in a mobile station, the method comprising:

scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs, giving a preference to home networks of a Home Public Land Mobile Network (HPLMN) list over non-home networks of a Preferred PLMN (PPLMN) list;

comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs corresponding to the home networks of the HPLMN list;

for the step of comparing: using a plurality of home network MCC and MNC pairs from the HPLMN list stored on a Subscriber Identify Module (SIM) in the comparing step; based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, otherwise using a plurality of home network MCC and MNC pairs stored in memory of the mobile station in the comparing step; ~~and~~

causing a home network display name which is the same for all of the home network MCC and MNC pairs to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs; and

otherwise causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and the home network MCC and MNC pairs.

2. (Previously Presented) The method of claim 1, wherein the plurality of home network MCC and MNC pairs are stored in-the SIM.

3. (Previously Presented) The method of claim 1, wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station.

4. (Canceled)

5. (Original) The method of claim 1, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

6. (Canceled)

7. The method of claim 1, wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a predetermined designated area of memory on the SIM.

8. (Currently Amended) A mobile station, comprising:

a transceiver being operative to scan to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

a Subscriber Identity Module (SIM) interface for receiving a SIM;

a processor being operative to:

select and register with a wireless communication network associated with one of the received MCC and MNC pairs, giving a preference to home networks of a Home Public Land Mobile Network (HPLMN) list over non-home networks of a Preferred PLMN (PPLMN) list;

compare the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs corresponding to the home networks of the HPLMN list and associated with a home network display name;

for the comparison: using a plurality of home network MCC and MNC pairs from the HPLMN list stored on the SIM for the comparison based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, otherwise using a plurality of home network MCC and MNC pairs stored in memory of the mobile station for the comparison; ~~and~~

cause the home network display name which is the same for all of the home network MCC and MNC pairs to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs; and

otherwise cause an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and the home network MCC and MNC pairs.

9. (Previously Presented) The mobile station of claim 8, wherein the plurality of home network MCC and MNC pairs are stored on the SIM.

10. (Previously Presented) The mobile station of claim 8, wherein the memory is separate and apart from the SIM in the mobile station.

11. (Canceled)

12. (Original) The mobile station of claim 8, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

13. (Canceled)

14. (Previously Presented) The mobile station of claim 8, wherein the processor is further operative to:

identify that the plurality of home network MCC and MNC pairs are stored on the SIM by testing a predetermined designated area of memory on the SIM.

15. (Currently Amended) A computer program product, comprising:  
a computer storage medium;  
computer instructions stored on the computer storage medium;  
the computer instructions being executable by a processor for executing the steps of:

causing a scanning process to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs, giving a preference to home networks of a Home Public Land Mobile Network (HPLMN) list over non-home networks of a Preferred PLMN (PPLMN) list;

comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs corresponding to the home networks in the HPLMN list and associated with a home network display name;

for the comparing: using a plurality of home network MCC and MNC pairs from the HPLMN list stored on a Subscriber Identify Module (SIM) for the comparing based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, otherwise using a plurality of home network MCC and MNC pairs stored in memory of the mobile station for the comparing;  
and

causing the home network display name which is the same for all home network MCC and MNC pairs to be visually displayed in a visual display of the

mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs; and otherwise causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and the home network MCC and MNC pairs.

16. (Previously Presented) The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in the SIM.

17. (Previously Presented) The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station.

18. (Canceled)

19. (Original) The computer program product of claim 15, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

20. (Canceled)

21. (Original) The computer program product of claim 15, wherein the computer instructions are further executable for identifying that the plurality of home network MCC and MNC pairs are stored on the SIM by testing a predetermined designated area of memory on the SIM.

22. (Original) The computer program product of claim 15, wherein the computer instructions are further executable for identifying that the plurality of home network MCC and MNC pairs are stored on the SIM by testing a version number of the SIM.

23. (Canceled)

24. (Original) The method of claim 1, wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a version number of the SIM.

25. (Canceled)

26. (Original) The mobile station of claim 8 wherein, to identify that the plurality of home network MCC and MNC pairs are stored on the SIM, the processor is further operative to test a version number of the SIM.

27. (Canceled)

28. (New) A network name displaying method in a mobile station, the method comprising:

scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs, giving a preference to home networks of a Home Public Land Mobile Network (HPLMN) list over non-home networks of a Preferred PLMN (PPLMN) list;

causing a home network display name which is the same for all of the home network MCC and MNC pairs to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs; and

otherwise causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and the home network MCC and MNC pairs.

## REMARKS

The Applicant respectfully submits this Amendment And Request For Reconsideration in response to the Office Action of 11 May 2006 for the present application.

The present application was originally filed with claims 1-20, which were subsequently amended by preliminary amendment with the addition of new claims 21-27. In the present Amendment and Request for Reconsideration, the Applicants amend 1, 8, and 15, cancel claims 4, 6, 11, 13, 18, 20, 23, 25, and 27, and add new claim 28. Therefore, claims 1-3, 5, 7-10, 12, 14-17, 19, 21-22, 24, and 26 as amended and new claim 28 are pending in the present application.

As required by 35 U.S.C. § 132, no new matter has been added in submission of this Amendment. The amendments made to claims 1, 8, and 15, and new claim 28, are fully supported by the application as originally filed.

*In the Office Action of 11 May 2006, the Examiner rejected claims of the application under 35 U.S.C. § 103(a) as unpatentable over Bamburak et al. (U.S. Patent N. 6,195,532 B1) in view of Hirsch (U.S. Patent Application Publication No. US2001/0001875). In response, the Applicants respectfully disagree with the rejection and submit that such claims are allowable for at least the following reasons.*

For a proper § 103(a) rejection, the prior art in combination must teach or suggest each and every limitation in the claims. In addition, there must be an adequate suggestion or motivation to combine the teachings of the references presented in the § 103(a) rejection.

For one, Bamburak et al. fails to teach or suggest the use of a plurality of home network MNC and MCC pairs corresponding to networks in a Home Public Land Mobile Network (HPLMN) list as claimed. The inventive technique of the present application

utilizes multiple home network MNC and MCC pairs of a HPLMN list. As described in the Background section of the present application:

“[a] situation has been encountered where the service provider becomes the new owner of one or more networks which have MCC/MNC pairs different from that of the primary home network's. A mobile station might be provided with multiple MCC/MNC pairs corresponding to all of these ‘home’ networks, and operate to preferentially select and register with these networks over others.”

See also the description in relation to FIG. 7 of the present application:

“the mobile station compares a received MCC/MNC pair with multiple MCC/MNC pairs associated with a home communication network (step 706). These multiple MCC/MNC pairs may be stored in a Home Public Land Mobile Network (HPLMN) list on a Subscriber Identity Module (SIM). Alternatively, the multiple MCC/MNC pairs may be stored in memory of the mobile station. If there is a match at step 708 with one of the MCC/MNC pairs, the mobile station selects this "home" network which is associated with the MCC/MNC pair for communication (step 712). Otherwise, if there is no match, the mobile station selects a preferred network or other non-home network for communication (step 710). In any case, the mobile station tunes to the appropriate channel and initiates registration onto the network associated with the selected MCC/MNC pair (step 714).

Next, the mobile station compares the received MCC and MNC pair associated with the selected network with each one of the multiple home network MCC/MNC pairs (step 716). Based on a match at step 718, the mobile station reads and causes a home network name associated with the home network MCC/MNC pairs to be displayed in its visual display (step 722). Thus, the same network name will be displayed for any MCC and MNC pair found in the home network list. If there is no match in the list at step 718 (i.e. no match), however, then the mobile station visually displays an alternate non-home network name in the visual display (step 720).”

In contrast, Bamburak et al. merely describes the conventional use of a single home network, a partner with the home network, and preferred networks with whom the home network has a preferential rate and/or service agreement. Using a single home

network and other non-home networks, such as those in a preferred list (e.g. a PPLMN list), are not the same as using a plurality of home networks from a HPLMN list. As apparent, Bamburak et al. does not teach or suggest the use of multiple home MNC and MCC pairs corresponding to multiple home networks from a HPLMN list as claimed.

In addition, the prior art of record fails to teach or suggest the use of a plurality of home network MCC and MNC pairs from the HPLMN list stored on a Subscriber Identify Module (SIM) in the comparing step based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, and otherwise use a plurality of home network MCC and MNC pairs stored in memory of the mobile station in the comparing step. The Examiner suggests that Hirsch teaches limitations of this step. However, the prior art in combination fails to teach or suggest the use of the plurality of home network MCC and MNC pairs stored on the SIM *based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM* and otherwise use the home network MCC and MNC pairs stored in memory.

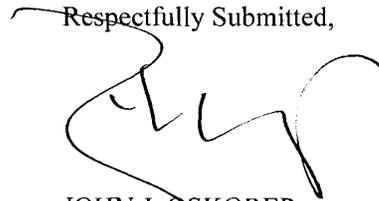
Finally, there is no adequate suggestion or motivation to combine the teachings of Bamburak et al. and Hirsch. The Examiner refers to paragraph 19 of Hirsch in the assertion that Hirsch teaches limitations of the claims. However, paragraph 19 of Hirsch describes the use of a test SIM which “would be placed in the mobile station for testing purposes only, and it would not be necessary and desirable to configure a variant type during testing.” The Applicants respectfully submit that there is no adequate suggestion or motivation to one of ordinary skill in the art to utilize the “test SIM” teachings of Hirsch with a test SIM which “would be place in the mobile station for testing purposes only” in a network name displaying method of Bamburak et al. These teachings are incompatible, and it is not clear how or why they would be combined in a technique that must be utilized during normal communication operations (not test mode) of a mobile station.

Additional reasons for allowability of the claims, including the dependent claims, are apparent to those of ordinary skill in the art and not discussed herein given the above-adequate reasons for allowability of all of the claims.

Based on the above, the Applicant respectfully submits that claims 1-3, 5, 7-10, 12, 14-17, 19, 21-22, 24, and 26 as amended and new claim 28 define subject matter that is inventive over the prior art of record. The present application as amended is now in a condition suitable for allowance.

Thank you. The Examiner is invited to contact the undersigned if necessary to further expedite this matter.

Respectfully Submitted,



JOHN J. OSKOREP  
Reg. No. 41,234

Date: 11 August 2006

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## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	10932899			
<b>Filing Date:</b>	02-Sep-2004			
<b>Title of Invention:</b>	Home network name displaying methods and apparatus for multiple home networks			
<b>First Named Inventor:</b>	Ronald Scotte Zinn			
<b>Filer:</b>	John Jeffrey Oskorep			
<b>Attorney Docket Number:</b>	0108-0221/US			
Filed as Large Entity				
<b>Utility Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
Independent claims in excess of 3	1201	1	200	200
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Post-Allowance-and-Post-Issuance:				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>200</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	1151314
<b>Application Number:</b>	10932899
<b>Confirmation Number:</b>	3787
<b>Title of Invention:</b>	Home network name displaying methods and apparatus for multiple home networks
<b>First Named Inventor:</b>	Ronald Scotte Zinn
<b>Customer Number:</b>	33787
<b>Filer:</b>	John Jeffrey Oskorep
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	0108-0221/US
<b>Receipt Date:</b>	11-AUG-2006
<b>Filing Date:</b>	02-SEP-2004
<b>Time Stamp:</b>	15:23:35
<b>Application Type:</b>	Utility
<b>International Application Number:</b>	

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Payment was successfully received in RAM	\$200
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Deposit Account	501995
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17	

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part	Pages
1	Amendment - After Non-Final Rejection	11094USPATAmendment.pdf	156946	no	12
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (PTO-875)	fee-info.pdf	8170	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			165116		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p>					

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-876					Application or Docket Number <b>10 932899</b>					
<b>APPLICATION AS FILED - PART I</b>										
(Column 1)		(Column 2)			SMALL ENTITY		OR	OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA			RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)	
BASIC FEE (37 CFR 1.18(a), (b), or (c))										
SEARCH FEE (37 CFR 1.18(k), (l), or (m))										
EXAMINATION FEE (37 CFR 1.18(o), (p), or (q))										
TOTAL CLAIMS (37 CFR 1.16(f))	27	minus 20 = *			X	=	OR	X	=	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = *			X	=		X	=	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.					TOTAL			TOTAL		
<b>APPLICATION AS AMENDED - PART II</b>										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT A	A	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	19	Minus	27	= /	X	=	OR	X	=
	Independent (37 CFR 1.16(h))	4	Minus	3	= / 1	X	=	OR	X	=
Application Size Fee (37 CFR 1.16(s))										
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE			TOTAL ADD'L FEE		
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X	=	OR	X	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X	=	OR	X	=
Application Size Fee (37 CFR 1.16(s))										
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE			TOTAL ADD'L 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.  
 This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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12/11



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/932,899	09/02/2004	Ronald Scotte Zinn	0108-0221/US	3787
33787	7590	10/20/2006	EXAMINER	
JOHN J. OSKOREP, ESQ. ONE MAGNIFICENT MILE CENTER 980 N. MICHIGAN AVE. SUITE 1400 CHICAGO, IL 60611			SHEDRICK, CHARLES TERRELL	
			ART UNIT	PAPER NUMBER
			2617	
DATE MAILED: 10/20/2006				

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



## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 8/11/06 have been fully considered but they are not persuasive.

1. In response to applicant's arguments (*page 9 last paragraph*) against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, with respect to the Applicants remarks at the bottom of page 9 of the remarks; Bamburak et al. teaches the use of a plurality of *identities* corresponding to networks in a *mobile network*. For the sake of clarity, The Examiner relies on the combination of Hirsch to teach where the *identities* are *MNC/MCC pairs* corresponding to a *mobile network* which further corresponds to *HPLMN*. The naming convention is consistent with naming conventions associated with a communication standard (i.e., GSM). The definitions regarding the terms above (MCC/MNC and HPLMN) are simply an identifier and Network type respectively as noted in Hirsch paragraph 0007 and admitted by the Applicant on page 1 lines 18 –30 as prior art. A Home Public Land Mobile Network is defined as a public land mobile network where the MCC and MNC (i.e., *the identities*) of the Public Land Mobile Network identity (i.e., *mobile network identity*) match the MCC and MNC stored in the SIM. Based on the above clarification and interpretations the Examiner respectfully notes that it appears (from the claim language) that the Applicant is attempting to distinguish the claimed invention over prior art based solely on a naming convention derived from the wireless standard (i.e., GSM) however, the claimed inventive method/system/steps/ etc. are identical to the cited prior art.

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Applicants argue on *page 11 lines 3-4* that Bamburak et al. does not teach or suggest the use of multiple home MNC and MCC pairs corresponding to multiple home networks from a HPLMN list as claimed.

In response to applicant's arguments (*page 11 lines 3-4*) against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicants argue on *page 11 lines 5-10* that the prior art of record fails to teach or suggest the use of a plurality of home network MCC and MNC pairs from the HPLMN list stored on a Subscribe Identify Module (SIM) in the comparing step based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, **and** otherwise use a plurality of home network MCC and MNC pairs stored in memory of the mobile station in the comparing step.

In response to applicant's argument (*page 11 lines 5-10*) that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **and** otherwise) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, for the sake of clarity regarding arguments on *page 11 lines 5-10*, the term "**and** otherwise" implies that the step(s) are inclusive alternative(s) to the SIM. The term "otherwise" used in the absence of "and" implies a different step, but not necessarily inclusive to the previous

step. Therefore, until further clarification via the claim language the rejection is proper based on the combination of prior art.

In response to applicant's argument (*page 11 lines 15-16*) that *there is no motivation or suggestion to combine*, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In response to applicant's argument that prior art fails to teach the limitations with respect to Independent Claims 8 and 15, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is noted with respect to claims 8 and 15, that the language used by the Applicant merely suggests or makes optional those features described as operative/operable/using; such language does not require steps to be performed nor limits the claim to a particular structure. The manner of operating/using a device does not differentiate apparatus claim from the prior art (MPEP 2114).

Lastly, The examiner respectfully notes that regarding home networks and non-home networks is simply an administrative or filing procedure since the prior art of record can distinguish between one network versus the other. It unclear clear as to how the method or technology of the proposed novel invention differentiates from the prior art based on the procedure/technical functionality.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims **1-3,5,7-10,12,14-17,19,21-22,24,26, and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bamburak et al. US Patent No. 6,195,532 B1, "Bamburak"**, hereinafter in view of **Hirsch US Patent Pub. No. US 2001/0001875**.

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Consider **claims 1, 8, 15, and 28**, Bamburak teaches a network name displaying method in a mobile station (**figure 11**), the method (**col. 4 lines 3-6**), comprising: scanning to receive a plurality identification pairs corresponding to a plurality of wireless communication networks within a coverage area (**column 4 line 62 – col. 5 line 5**); selecting and registering with a wireless communication network associated with one of the received identifications (**column 4 line 62 – col. 5 line 5**), giving preference to a list over networks of another list (i.e., optimal, preferred or prohibited)(**col. 5 lines 1-5**); comparing the identification of the selected network with a plurality of home network identifications corresponding to the home networks of the preferred or optimal lists etc. (**col. 10 lines 41-62**);; for the step of comparing: using a plurality of home network identifications from the list stored on a mobile in the comparing step based on identifying that the plurality of home network identifications are stored in the mobile(**column 4 line 62 – col. 5 line 5 and col. 10 lines 41-62**);and causing a home network display name which is the same for all of the home network identifications to be visually displayed in a visual display of the mobile station based on identifying a match between the identification of the selected network and one of the home network identifications(**col. 11 lines 12-34**); and otherwise causing an alternate display name to be visually displayed in the visual display based on identifying no match between the identification of the selected network and one of the home network identification (**col. 10 line 65- col. 11 line 5**) .

However, Bamburak does not specifically teach MCC and MNC pairs stored on a Subscriber Identify Module (SIM), otherwise using a plurality of home network identifications of the mobile station, or HPLMN list.

In the same field of endeavor, teach MCC and MNC pairs stored on a Subscriber Identify Module (SIM) **206 (figure 2)**, otherwise using a plurality of home network MCC and MNC pairs of the SIM or Memory, and a HPLMN list (**paragraph 0007 and 0018**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability. Hirsch further teaches using an SID/SOC in paragraph 0008.

Consider claims **2, 9, and 16** and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15, Bamburak teaches the claimed invention except wherein the plurality of home network MCC and MNC pairs are stored in the SIM.

However, in the same field of endeavor, Hirsch teaches wherein the plurality of home network MCC and MNC pairs are stored in the SIM **206 (figure 2)(paragraph 0007 and 0018)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability.

Consider claims **3, 10, and 17** and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15, Bamburak teaches the claimed invention except wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station.

However, in the same field of endeavor, Hirsch teaches wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station (**paragraph 0015**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability.

Consider claims **5, 12, and 19 and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15**, Bamburak teaches the claimed invention except wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

In the same field of endeavor, Hirsch teaches wherein a Location Area Code (LAC) (i.e., group identification code) is used in addition to the MCC and the MNC in the acts of comparing and identifying (**paragraph 0014**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include a Location Area Code (LAC) (i.e., group identification code) is used in addition to the MCC and the MNC in the acts of comparing and identifying as taught by Hirsch for the purpose of identifying a group of mobile stations assigned by a network provider.

Consider claims **7, 14, and 21 and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15**, Bamburak teaches the claimed invention except wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a predetermined designated area of memory on the SIM.

However, in the same field of endeavor, Hirsch teaches wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the

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further step of testing a predetermined designated area of memory on the SIM (**paragraph 0019**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a predetermined designated area of memory on the SIM as taught by Hirsch for the purpose of testing.

Claims **22, 24, and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bamburak et al. US Patent No. 6,195,532 B1, "Bamburak"**, hereinafter in view of **Hirsch US Patent Pub. No. US 2001/0001875** and further in view of **Hogan et al. US Pub. No. 2002/0111180 A1**.

Consider claims **22, 24, and 26** and as applied to method of claim 1, the mobile station of claim 8 and the computer program product of claim 15, Bamburak teaches the claimed invention identifying a plurality of home network identifications (**column 4 line 62 – col. 5 line 5**).

However, Bamburak does not specifically teach MCC and MNC pairs stored on a Subscriber Identify Module (SIM).

In the same field of endeavor, Hirsch teaches MCC and MNC pairs stored on a Subscriber Identify Module (SIM) **206 (figure 2)(paragraph 0007 and 0018)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak to include the GSM standard or IS-95 that uses

MNC and MCC as taught by Hirsch for the purpose of interoperability. Hirsch further teaches using an SID/SOC in paragraph 0008.

However, Bamburak as modified by Hirsch does not teach testing a version number.

In the same field of endeavor, Hogan et al. teaches testing a version number (**paragraphs 0092-0094**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Bamburak as modified by Hirsch to include version testing for the purpose of verifying updates as taught by Hogan et al.

#### *Conclusion*

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Shedrick whose telephone number is (571)-272-8621.

The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid Lester can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR 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). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles Shedrick  
AU 2617  
October 13, 2006

  
LESTER G. KINCAID  
SUPERVISORY PRIMARY EXAMINER

<b>Notice of References Cited</b>	Application/Control No. 10/932,899	Applicant(s)/Patent Under Reexamination ZINN ET AL.	
	Examiner Charles Shedrick	Art Unit 2617	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2001/0001875	05-2001	Hirsch, Andrew J.	713/1
*	B US-2002/0111180	08-2002	Hogan et al.	455/518
*	C US-6,195,532	02-2001	Bamburak et al.	340/7.42
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			

**FOREIGN PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
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**NON-PATENT DOCUMENTS**

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
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W	
X	

\*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.

10/932,899

Examiner

Charles Shedrick

Applicant(s)/Patent under Reexamination

ZINN ET AL.

Art Unit

2617

√	Rejected
=	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
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A	Appeal
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Claim		Date			
Final	Original	4/14/06	10/13/06		
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)		
	)		
Zinn et al.	)	Art Unit:	2617
	)		
Serial No.: 10/932,899	)	Examiner:	Shedrick
	)		
Filing Date: 2 September 2004	)	Docket No.:	0108-0221/US
	)		

For: "HOME NETWORK NAME DISPLAYING METHODS  
AND APPARATUS FOR MULTIPLE HOME NETWORKS"

MAIL STOP PATENT APPLICATION  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

AMENDMENT AND REQUEST FOR RECONSIDERATION

The Applicants respectfully submit this Amendment and Request for Reconsideration in response to the Office Action mailed on 20 October 2006 for the above-identified patent application.

IN THE CLAIMS

*Please amend claims 1, 8, and 15 as follows:*

1. (Currently Amended) A network name displaying method in a mobile station, the method comprising:

scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs, giving a preference to home networks of a Home Public Land Mobile Network (HPLMN) list over non-home networks of a Preferred PLMN (PPLMN) list;

comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs corresponding to the home networks of the HPLMN list;

for the step of comparing: using a plurality of home network MCC and MNC pairs from the HPLMN list stored on a Subscriber Identify Module (SIM) in the comparing step based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, and otherwise using a plurality of home network MCC and MNC pairs stored in memory of the mobile station in the comparing step;

causing a home network display name which is the same for all of the home network MCC and MNC pairs to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs; and

otherwise causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and the home network MCC and MNC pairs.

2. (Previously Presented) The method of claim 1, wherein the plurality of home network MCC and MNC pairs are stored in the SIM.

3. (Previously Presented) The method of claim 1, wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station.

4. (Canceled)

5. (Original) The method of claim 1, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

6. (Canceled)

7. The method of claim 1, wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a predetermined designated area of memory on the SIM.

8. (Currently Amended) A mobile station, comprising:  
a transceiver being operative to scan to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;  
a Subscriber Identity Module (SIM) interface for receiving a SIM;  
a processor being operative to:  
select and register with a wireless communication network associated with one of the received MCC and MNC pairs, giving a preference to home networks of a Home Public Land Mobile Network (HPLMN) list over non-home networks of a Preferred PLMN (PPLMN) list;

compare the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs corresponding to the home networks of the HPLMN list and associated with a home network display name;

for the comparison: using a plurality of home network MCC and MNC pairs from the HPLMN list stored on the SIM for the comparison based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, and otherwise using a plurality of home network MCC and MNC pairs stored in memory of the mobile station for the ~~comparison~~ comparision;

cause the home network display name which is the same for all of the home network MCC and MNC pairs to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs; and

otherwise cause an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and the home network MCC and MNC pairs.

9. (Previously Presented) The mobile station of claim 8, wherein the plurality of home network MCC and MNC pairs are stored on the SIM.

10. (Previously Presented) The mobile station of claim 8, wherein the memory is separate and apart from the SIM in the mobile station.

11. (Canceled)

12. (Original) The mobile station of claim 8, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

13. (Canceled)

14. (Previously Presented) The mobile station of claim 8, wherein the processor is further operative to:

identify that the plurality of home network MCC and MNC pairs are stored on the SIM by testing a predetermined designated area of memory on the SIM.

15. (Currently Amended) A computer program product, comprising:  
a computer storage medium;  
computer instructions stored on the computer storage medium;  
the computer instructions being executable by a processor for executing the steps of:

causing a scanning process to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs, giving a preference to home networks of a Home Public Land Mobile Network (HPLMN) list over non-home networks of a Preferred PLMN (PPLMN) list;

comparing the MCC and MNC pair of the selected network with a plurality of home network MCC and MNC pairs corresponding to the home networks in the HPLMN list and associated with a home network display name;

for the comparing: using a plurality of home network MCC and MNC pairs from the HPLMN list stored on a Subscriber Identify Module (SIM) for the comparing based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, and otherwise using a plurality of home network MCC and MNC pairs stored in memory of the mobile station for the comparing;

causing the home network display name which is the same for all home network MCC and MNC pairs to be visually displayed in a visual display of the

mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs; and

otherwise causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and the home network MCC and MNC pairs.

16. (Previously Presented) The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in the SIM.

17. (Previously Presented) The computer program product of claim 15, wherein the plurality of home network MCC and MNC pairs are stored in the memory of the mobile station.

18. (Canceled)

19. (Original) The computer program product of claim 15, wherein a Location Area Code (LAC) is used in addition to the MCC and the MNC in the acts of comparing and identifying.

20. (Canceled)

21. (Original) The computer program product of claim 15, wherein the computer instructions are further executable for identifying that the plurality of home network MCC and MNC pairs are stored on the SIM by testing a predetermined designated area of memory on the SIM.

22. (Original) The computer program product of claim 15, wherein the computer instructions are further executable for identifying that the plurality of home network MCC and MNC pairs are stored on the SIM by testing a version number of the SIM.

23. (Canceled)

24. (Original) The method of claim 1, wherein the step of identifying that the plurality of home network MCC and MNC pairs are stored on the SIM comprises the further step of testing a version number of the SIM.

25. (Canceled)

26. (Original) The mobile station of claim 8 wherein, to identify that the plurality of home network MCC and MNC pairs are stored on the SIM, the processor is further operative to test a version number of the SIM.

27. (Canceled)

28. (Original) A network name displaying method in a mobile station, the method comprising:

scanning to receive a plurality of Mobile Country Code (MCC) and Mobile Network Code (MNC) pairs corresponding to a plurality of wireless communication networks within a coverage area;

selecting and registering with a wireless communication network associated with one of the received MCC and MNC pairs, giving a preference to home networks of a Home Public Land Mobile Network (HPLMN) list over non-home networks of a Preferred PLMN (PPLMN) list;

causing a home network display name which is the same for all of the home network MCC and MNC pairs to be visually displayed in a visual display of the mobile station based on identifying a match between the MCC and MNC pair of the selected network and one of the home network MCC and MNC pairs; and

otherwise causing an alternate display name to be visually displayed in the visual display based on identifying no match between the MCC and MNC pair of the selected network and the home network MCC and MNC pairs.

### REMARKS

The Applicants respectfully submit this Amendment And Request For Reconsideration in response to the Office Action of 20 October 2007 for the present application.

The present application was originally filed with claims 1-20, which were subsequently amended by preliminary amendment with the addition of new claims 21-27. In the previous Amendment and Request for Reconsideration, the Applicants amended 1, 8, and 15, canceled claims 4, 6, 11, 13, 18, 20, 23, 25, and 27, and added new claim 28. In the present Amendment, the Applicants amend claim 1, 8, and 15 for clarification per the suggestion by the Examiner in the Office Action. Thus, claims 1-3, 5, 7-10, 12, 14-17, 19, 21-22, 24, 26, and 28 as amended are pending in the present application. As required by 35 U.S.C. § 132, no new matter has been added in submission of this Amendment. The amendments made to claims 1, 8, and 15 are fully supported by the application as originally filed.

The Applicants respectfully acknowledge that entry of an amendment after final is not granted as a matter of right. However, the amendment is minor in nature, merely adding a single term "and" into the independent claims 1, 8, and 15. Further, the Applicants respectfully submit that there is no difference in interpretation of the claim limitations based on whether the term "and" is included, but is merely added in order to satisfy a stated concern of the Examiner.

*In the Office Action of 20 October 2006, the Examiner rejected claims of the application under 35 U.S.C. § 103(a) as unpatentable over Bamburak et al. (U.S. Patent N. 6,195,532 B1) in view of Hirsch (U.S. Patent Application Publication No. US2001/0001875). In response, the Applicants respectfully disagree with the rejections and submit that such claims are allowable for at least the following reasons.*

For a proper § 103(a) rejection, the prior art in combination must teach or suggest each and every limitation in the claims. In addition, there must be an adequate suggestion or motivation to combine the teachings of the references presented in the § 103(a) rejection.

As stated previously, Bamburak et al. fails to teach or suggest the use of a plurality of home network MNC and MCC pairs corresponding to networks in a Home Public Land Mobile Network (HPLMN) list as claimed. Neither does Hirsch. The inventive technique of the present application utilizes multiple home network MNC and MCC pairs of a HPLMN list. As described in the Background section of the present application:

“[a] situation has been encountered where the service provider becomes the new owner of one or more networks which have MCC/MNC pairs different from that of the primary home network's. A mobile station might be provided with multiple MCC/MNC pairs corresponding to all of these 'home' networks, and operate to preferentially select and register with these networks over others.”

See also the description in relation to FIG. 7 of the present application:

“the mobile station compares a received MCC/MNC pair with multiple MCC/MNC pairs associated with a home communication network (step 706). These multiple MCC/MNC pairs may be stored in a Home Public Land Mobile Network (HPLMN) list on a Subscriber Identity Module (SIM). Alternatively, the multiple MCC/MNC pairs may be stored in memory of the mobile station. If there is a match at step 708 with one of the MCC/MNC pairs, the mobile station selects this "home" network which is associated with the MCC/MNC pair for communication (step 712). Otherwise, if there is no match, the mobile station selects a preferred network or other non-home network for communication (step 710). In any case, the mobile station tunes to the appropriate channel and initiates registration onto the network associated with the selected MCC/MNC pair (step 714).

Next, the mobile station compares the received MCC and MNC pair associated with the selected network with each one of the multiple home network MCC/MNC pairs (step 716). Based on a match at step 718, the

mobile station reads and causes a home network name associated with the home network MCC/MNC pairs to be displayed in its visual display (step 722). Thus, the same network name will be displayed for any MCC and MNC pair found in the home network list. If there is no match in the list at step 718 (i.e. no match), however, then the mobile station visually displays an alternate non-home network name in the visual display (step 720).”

In contrast, Bamburak et al. merely describes the conventional use of a single home network, a partner with the home network, and preferred networks with whom the home network has a preferential rate and/or service agreement. Using a single home network and other non-home networks, such as those in a preferred list (e.g. a PPLMN list), are not the same as using a plurality of home networks from a HPLMN list. As apparent, Bamburak et al. does not teach or suggest the use of multiple home MNC and MCC pairs corresponding to multiple home networks from a HPLMN list as claimed.

The Examiner responds to the Applicants’ assertions by stating that “one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references” (see page 3 of the Office Action). However, the Applicants respectfully disagree with the Examiner’s assessment. In order to demonstrate a prima facie case of obviousness, the Examiner must show that the prior art in combination teaches or suggests each and every limitation of the claims. In this case, the Examiner has failed to demonstrate or articulate any teaching or suggestion of the limitations above regarding a plurality of home network identifications, or HPLMN list, in any of the cited prior art, including Hirsch. Filed in 1998, the Hirsch reference merely teaches a SIM having identity information associated with a single home network. In Hirsch, there is no explicit teaching or suggestion of a plurality of home network identifications of a HPLMN list stored in a SIM or otherwise, and the Examiner has failed to identify the same in the prior art.

If the Examiner is arguing any inherency in Hirsch, the Examiner has failed to articulate and provide any convincing reasoning that such teaching is necessarily present in Hirsch. Such is required to establish a prima facie case of obviousness to provide an adequate opportunity for the Applicants to respond.

Based on the above, the Applicants respectfully request the Examiner to withdraw the § 103 rejections and allow the claims.

Relatedly, the prior art of record (including Hirsch) further fails to teach or suggest a plurality of home network MCC and MNC pairs stored in memory of the mobile station. Hirsch merely teaches mapping data stored in its memory, and these mapping data match particular MCC/MNC combinations to one of the sets of configuration data for the variants. Such stored MCC/MNC combinations are not related to and do not identify home networks of the mobile station; they are merely multiple MCC/MNC combinations. Further, the MCC/MNC combinations stored in memory of Hirsch are not utilized in a technique as is recited in the claims. Thus again, the Applicants respectfully request the Examiner to withdraw the § 103 rejections and allow the claims. Again, if the Examiner is arguing any inherency in Hirsch, the Examiner has failed to articulate and provide any convincing reasoning that such teaching is necessarily present in Hirsch. Such is required to establish a prima facie case of obviousness to provide an adequate opportunity for the Applicants to respond.

On page 4 of the Office Action, the Examiner states that “regarding home networks and non-home networks is simply an administrative or filing procedure since the prior art of record can distinguish between one network versus the other. It unclear clear as to how the method or technology of the proposed novel invention differentiates from the prior art based on the procedural/technical functionality.” In response, the Applicants respectfully assert that the Examiner’s arguments are unclear and misguided. Claims must be given their broadest reasonable interpretation, and this applies equally to limitations associated with “home networks” and “non-home networks.” One ordinarily skilled in the art would understand that home and non-home network identifications are two different information items which are utilized in two different ways in a mobile station. Even as recited in the claims, the mobile station “[selects] and [registers] with a wireless communication network associated with one of the received MCC and MNC pairs, giving a preference to home networks of a Home Public Land Mobile Network

(HPLMN) list over non-home networks of a Preferred PLMN (PPLMN) list.” Therefore, the Examiner’s assertions are incorrect.

The prior art of record also fails to teach or suggest the use of a plurality of home network MCC and MNC pairs from the HPLMN list stored on a Subscriber Identify Module (SIM) in the comparing step, based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM, and otherwise use a plurality of home network MCC and MNC pairs stored in memory of the mobile station in the comparing step. The Examiner suggests that Hirsch teaches limitations of this step. However, the prior art in combination fails to teach or suggest the use of the plurality of home network MCC and MNC pairs stored on the SIM based on identifying that the plurality of home network MCC and MNC pairs are stored on the SIM and otherwise use the home network MCC and MNC pairs stored in memory.

The Examiner suggests that the above-described limitations have not been interpreted by the Examiner as urged by the Applicants, as the term “**and**” was not inserted before the term “otherwise” in the claims. The Applicants respectfully submit that there is no difference in interpretation of the claim limitations based on whether the term “and” is included. The claims should be interpreted as urged by the Applicants, and as one ordinarily skilled in the art would interpret them as described above, in a reasonable manner. To satisfy the Examiner’s concerns, the Applicants amend claims 1, 8, and 15 to insert the term “**and**” as suggested.

Finally, there is no adequate suggestion or motivation to combine the teachings of Bamburak et al. and Hirsch. The Examiner states the suggestion or motivation to be “to include the GSM standard or IS-95 that uses MNC and MCC as taught by Hirsch for the purpose of interoperability” (see e.g. page 7 of the Office Action). The Applicants respectfully disagree. When describing the teachings of Hirsch, the Examiner refers to paragraphs 7 and 18 in the assertion that Hirsch teaches limitations of the claims. In the relevant teachings, however, Hirsch describes a “one-time” configuration procedure of the mobile station which is performed prior to any steady-state processing procedures of the mobile station. The Applicants respectfully submit that there is no adequate

suggestion or motivation to one of ordinary skill in the art to utilize MCC/MNC combinations of the one-time configuration procedure of Hirsch in a network name displaying method of Bamburak et al. These teachings are incompatible, and it is not clear how or why they would be combined in a technique that must be utilized during normal communication operations (not initialization) of a mobile station. The teachings of multiple MCC and MNC combinations stored in memory of the mobile station for a one-time setup procedure would have nothing to do with providing interoperability.

Additional reasons for allowability of the claims, including the dependent claims, are apparent to those of ordinary skill in the art and not discussed herein given the above-adequate reasons for allowability of all of the claims.

Based on the above, the Applicant respectfully submits that claims 1-3, 5, 7-10, 12, 14-17, 19, 21-22, 24, 26, and 28 as amended define subject matter that is inventive over the prior art of record. The present application as amended is now in a condition suitable for allowance.

Thank you. The Examiner is invited to contact the undersigned if necessary to further expedite this matter.

Respectfully Submitted,

/John J. Oskorep/

Date: 29 January 2007

JOHN J. OSKOREP  
Reg. No. 41,234

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## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	10932899			
<b>Filing Date:</b>	02-Sep-2004			
<b>Title of Invention:</b>	Home network name displaying methods and apparatus for multiple home networks			
First Named Inventor/Applicant Name:	Ronald Scotte Zinn			
<b>Filer:</b>	John Jeffrey Oskorep			
<b>Attorney Docket Number:</b>	0108-0221/US			
Filed as Large Entity				
<b>Utility Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Post-Allowance-and-Post-Issuance:				
<b>Extension-of-Time:</b>				
Extension - 1 month with \$0 paid	1251	1	120	120

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>120</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	1473887
<b>Application Number:</b>	10932899
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3787
<b>Title of Invention:</b>	Home network name displaying methods and apparatus for multiple home networks
<b>First Named Inventor/Applicant Name:</b>	Ronald Scotte Zinn
<b>Customer Number:</b>	33787
<b>Filer:</b>	John Jeffrey Oskorep
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	0108-0221/US
<b>Receipt Date:</b>	29-JAN-2007
<b>Filing Date:</b>	02-SEP-2004
<b>Time Stamp:</b>	17:39:38
<b>Application Type:</b>	Utility

### Payment information:

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RAM confirmation Number	819
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The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17	

### File Listing:

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Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	11094-US-PAT_Transmittal.pdf	309152	no	1
<b>Warnings:</b>					
<b>Information:</b>					
2	Amendment After Final	11094-US-PAT_Amendment_29Jan2007.pdf	2983611	no	14
<b>Warnings:</b>					
<b>Information:</b>					
3	Fee Worksheet (PTO-06)	fee-info.pdf	8175	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			3300938		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

<b>TRANSMITTAL FORM</b>	Application Number	10/932,899	
	Filing Date	02 September 2004	
	First Named Inventor	Zinn et al.	
	Art Unit	2617	
	Examiner Name	Shedrick	
(to be used for all correspondence after initial filing)		Attorney Docket Number	0108-0221/US
Total Number of Pages in This Submission	16		

<b>ENCLOSURES (Check all that apply)</b>		
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input checked="" type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<b>Remarks</b> Amendment And Request for Reconsideration	

<b>SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT</b>			
Firm Name	John J. Oskorep, Esq. LLC		
Signature	/John J. Oskorep/		
Printed name	John J. Oskorep		
Date	29 January 2007	Reg. No.	41,234

<b>CERTIFICATE OF TRANSMISSION/MAILING</b>			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature	/John J. Oskorep/		
Typed or printed name	John J. Oskorep	Date	29 January 2007

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-876				Application or Docket Number <b>10 932899</b>					
<b>APPLICATION AS FILED - PART I</b>				SMALL ENTITY		OR		OTHER THAN SMALL ENTITY	
(Column 1)		(Column 2)							
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	
BASIC FEE (37 CFR 1.16(a), (b), or (c))									
SEARCH FEE (37 CFR 1.16(b), (d), or (m))									
EXAMINATION FEE (37 CFR 1.16(e), (f), or (q))									
TOTAL CLAIMS (37 CFR 1.18(f))	27	minus 20 =	X	=	X	=	X	=	
INDEPENDENT CLAIMS (37 CFR 1.16(n))	3	minus 3 =	X	=	X	=	X	=	
APPLICATION SIZE FEE (37 CFR 1.18(e))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(e).								
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(d))									
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL		TOTAL			
<b>APPLICATION AS AMENDED - PART II</b>				SMALL ENTITY		OR		OTHER THAN SMALL ENTITY	
(Column 1)		(Column 2)		(Column 3)					
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	
A	19	Minus	27	=	X	=	X	=	
Total (37 CFR 1.18(f))	19	Minus	27	=	X	=	X	=	
Independent (37 CFR 1.18(f))	4	Minus	3	=	X	=	X	=	
Application Size Fee (37 CFR 1.16(e))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))									
TOTAL ADD'L FEE						TOTAL ADD'L FEE			
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	
12/29/07	19	Minus	27	=	X	=	X	=	
Total (37 CFR 1.18(f))	19	Minus	27	=	X	=	X	=	
Independent (37 CFR 1.18(f))	4	Minus	4	=	X	=	X	=	
Application Size Fee (37 CFR 1.16(e))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))									
TOTAL ADD'L FEE						TOTAL ADD'L 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.									

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-8199 and select option 2.

**Index of Claims**



Application/Control No.

10/932,899

Examiner

Charles Shedrick

Applicant(s)/Patent under Reexamination

ZINN ET AL.

Art Unit

2617

✓	Rejected
=	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date	
Final	Original	4/14/08	10/13/08
1	✓	✓	✓
2	✓	✓	✓
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5	✓	✓	✓
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/932,899	09/02/2004	Ronald Scotte Zinn	0108-0221/US	3787

33787 7590 02/07/2007  
JOHN J. OSKOREP, ESQ.  
ONE MAGNIFICENT MILE CENTER  
980 N. MICHIGAN AVE.  
SUITE 1400  
CHICAGO, IL 60611

EXAMINER

SHEDRICK, CHARLES TERRELL

ART UNIT PAPER NUMBER

2617

MAIL DATE DELIVERY MODE

02/07/2007

PAPER

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

**Advisory Action  
Before the Filing of an Appeal Brief**

<b>Application No.</b> 10/932,899	<b>Applicant(s)</b> ZINN ET AL.	
<b>Examiner</b> Charles Shedrick	<b>Art Unit</b> 2617	

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

THE REPLY FILED 29 January 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1.  The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a)  The period for reply expires 3 months from the mailing date of the final rejection.  
 b)  The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2.  The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3.  The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
 (a)  They raise new issues that would require further consideration and/or search (see NOTE below);  
 (b)  They raise the issue of new matter (see NOTE below);  
 (c)  They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
 (d)  They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

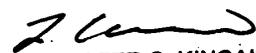
4.  The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
 5.  Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
 6.  Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
 7.  For purposes of appeal, the proposed amendment(s): a)  will not be entered, or b)  will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
 The status of the claim(s) is (or will be) as follows:  
 Claim(s) allowed: \_\_\_\_\_.  
 Claim(s) objected to: \_\_\_\_\_.  
 Claim(s) rejected: \_\_\_\_\_.  
 Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8.  The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
 9.  The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
 10.  The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11.  The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_  
 12.  Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
 13.  Other: \_\_\_\_\_.

  
LESTER G. KINCAID

**SUPERVISORY PRIMARY EXAMINER**



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Request for Continued Examination (RCE) Transmittal</b>  Address to: Mail Stop RCE Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number	10/932,699
	Filing Date	02 September 2004
	First Named Inventor	Zinn et al.
	Art Unit	2617
	Examiner Name	Shedrick, Charles Terrell
	Attorney Docket Number	0108-0221/US

**This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.**  
 Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

- Submission required under 37 CFR 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

  - Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
    - Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_
    - Other Amendment After Final of 29 January 2007
  - Enclosed
    - Amendment/Reply
    - Affidavit(s)/ Declaration(s)
    - Information Disclosure Statement (IDS)
    - Other \_\_\_\_\_
- Miscellaneous**

  - Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of \_\_\_\_\_ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
  - Other \_\_\_\_\_
- Fees** The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed. The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 50-3972. I have enclosed a duplicate copy of this sheet.

  - RCE fee required under 37 CFR 1.17(e)
  - Extension of time fee (37 CFR 1.136 and 1.17)
  - Other \_\_\_\_\_
  - Check in the amount of \$ \_\_\_\_\_ enclosed
  - Payment by credit card (Form PTO-2038 enclosed)

**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.**

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED			
Signature	/John J. Oskorep/	Date	16 February 2007
Name (Print/Type)	John J. Oskorep	Registration No.	41,234

CERTIFICATE OF MAILING OR TRANSMISSION			
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: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.			
Signature	/John J. Oskorep/	Date	16 February 2007
Name (Print/Type)	John J. Oskorep		

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.  
 If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	10932899			
<b>Filing Date:</b>	02-Sep-2004			
<b>Title of Invention:</b>	Home network name displaying methods and apparatus for multiple home networks			
First Named Inventor/Applicant Name:	Ronald Scotte Zinn			
<b>Filer:</b>	John Jeffrey Oskorep			
<b>Attorney Docket Number:</b>	0108-0221/US			
Filed as Large Entity				
<b>Utility Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Post-Allowance-and-Post-Issuance:				
<b>Extension-of-Time:</b>				
Extension - 1 month with \$0 paid	1251	1	120	120

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
Request for continued examination	1801	1	790	790
<b>Total in USD (\$)</b>				<b>910</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	1522295
<b>Application Number:</b>	10932899
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3787
<b>Title of Invention:</b>	Home network name displaying methods and apparatus for multiple home networks
<b>First Named Inventor/Applicant Name:</b>	Ronald Scotte Zinn
<b>Customer Number:</b>	33787
<b>Filer:</b>	John Jeffrey Oskorep
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	0108-0221/US
<b>Receipt Date:</b>	16-FEB-2007
<b>Filing Date:</b>	02-SEP-2004
<b>Time Stamp:</b>	13:43:03
<b>Application Type:</b>	Utility

### Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$910
RAM confirmation Number	1778
Deposit Account	503972
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17	

### File Listing:

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Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	11094-US-PAT_RCE.pdf	209573	no	1
<b>Warnings:</b>					
This is not a USPTO supplied RCE SB30 form.					
<b>Information:</b>					
2	Fee Worksheet (PTO-06)	fee-info.pdf	8337	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			217910		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	34	(MCC and MNC and display home and network and SIM and memory).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/25 18:30
L2	1	(MCC and MNC and display and home and network and SIM and memory).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/25 18:31
L3	5	(MCC and MNC and display and network and SIM and memory).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/25 18:34
L4	2114	455/566.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/25 18:34
L5	2	(MCC and MNC and display and network and SIM and memory)and l4	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/25 18:34
L6	1	("6195532").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/25 18:38
L7	0	455/435.2.ccls	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L8	0	455/435.2o.ccls	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L9	0	455/435.20.ccls	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L10	0	455/435.20.ccls.	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L11	405	455/435.2.ccls.	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L12	1060	455/432.1.ccls.	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L13	182	455/432.2.ccls.	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L14	436	MCC and MNC	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L15	52	MCC NEAR10 MNC NEAR10 STOR\$4	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L16	4	test near10 (version) near10 SIM	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L17	195	test\$3 near10 (version adj number)	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38

## EAST Search History

L18	1	L17 and L14	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L19	1	L17 and L11	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L20	0	L17 and L12	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L21	0	L17 and L13	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L22	1	L17 and L14	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L23	2	L17 and SIM	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L24	21810	(SIM or (Subscriber adj identity adj module) or (identity adj module) or (subscriber module)) near10 test	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L25	421	L24 and version adj number	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L26	421	L24 and (version adj number)	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L27	2	L26 and L14	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L28	1	L26 and L11	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L29	0	L26 and L12	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L30	0	L26 and L13	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
L31	6	L26 and (home adj network)	US-PGPUB; USPAT	OR	ON	2007/04/25 18:38
S1	1	("6195532").PN.	US-PGPUB; USPAT	OR	OFF	2006/04/14 15:21
S2	0	455/435.2.ccls	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S3	0	455/435.2o.ccls	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S4	0	455/435.20.ccls	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S5	0	455/435.20.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S6	270	455/435.2.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22
S7	812	455/432.1.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/14 15:22

## EAST Search History

S8	131	455/432.2.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/14 15:29
S9	307	MCC and MNC	US-PGPUB; USPAT	OR	ON	2006/04/14 15:30
S10	37	MCC NEAR10 MNC NEAR10 STOR\$4	US-PGPUB; USPAT	OR	ON	2006/04/14 15:30
S11	3	test near10 (version) near10 SIM	US-PGPUB; USPAT	OR	ON	2006/04/14 16:14
S12	134	test\$3 near10 (version adj number)	US-PGPUB; USPAT	OR	ON	2006/04/14 16:15
S13	1	S12 and S9	US-PGPUB; USPAT	OR	ON	2006/04/14 16:19
S14	1	S12 and S6	US-PGPUB; USPAT	OR	ON	2006/04/14 16:16
S15	0	S12 and S7	US-PGPUB; USPAT	OR	ON	2006/04/14 16:16
S16	0	S12 and S8	US-PGPUB; USPAT	OR	ON	2006/04/14 16:16
S17	1	S12 and S9	US-PGPUB; USPAT	OR	ON	2006/04/14 16:16
S18	2	S12 and SIM	US-PGPUB; USPAT	OR	ON	2006/04/14 16:17
S19	18547	(SIM or (Subscriber adj identity adj module) or (identity adj module) or (subscriber module)) near10 test	US-PGPUB; USPAT	OR	ON	2006/04/14 16:18
S20	348	S19 and version adj number	US-PGPUB; USPAT	OR	ON	2006/04/14 16:18
S21	348	S19 and (version adj number)	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S22	2	S21 and S9	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S23	1	S21 and S6	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S24	0	S21 and S7	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S25	0	S21 and S8	US-PGPUB; USPAT	OR	ON	2006/04/14 16:25
S26	6	S21 and (home adj network)	US-PGPUB; USPAT	OR	ON	2006/04/14 16:26



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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NOTICE OF ALLOWANCE AND FEE(S) DUE

33787 7590 05/08/2007

JOHN J. OSKOREP, ESQ.
ONE MAGNIFICENT MILE CENTER
980 N. MICHIGAN AVE.
SUITE 1400
CHICAGO, IL 60611

EXAMINER: SHEDRICK, CHARLES TERRELL
ART UNIT: 2617 PAPER NUMBER:
DATE MAILED: 05/08/2007

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
Values: 10/932,899, 09/02/2004, Ronald Scotte Zinn, 0108-0221/US, 3787

TITLE OF INVENTION: HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS

Table with 7 columns: APPLN. TYPE, SMALL ENTITY, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE
Values: nonprovisional, NO, \$1400, \$300, \$0, \$1700, 08/08/2007

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

**PART B - FEE(S) TRANSMITTAL**

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
**or Fax (571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

33787                      7590                      05/08/2007

**JOHN J. OSKOREP, ESQ.**  
**ONE MAGNIFICENT MILE CENTER**  
**980 N. MICHIGAN AVE.**  
**SUITE 1400**  
**CHICAGO, IL 60611**

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/932,899	09/02/2004	Ronald Scotte Zinn	0108-0221/US	3787

TITLE OF INVENTION: HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$0	\$1700	08/08/2007

EXAMINER	ART UNIT	CLASS-SUBCLASS
SHEDRICK, CHARLES TERRELL	2617	455-435200

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).  
 Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
 "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list  
 (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,  
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_

**3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)**

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE \_\_\_\_\_ (B) RESIDENCE: (CITY and STATE OR COUNTRY) \_\_\_\_\_

Please check the appropriate assignee category or categories (will not be printed on the patent) :  Individual  Corporation or other private group entity  Government

**4a. The following fee(s) are submitted:**

- Issue Fee
- Publication Fee (No small entity discount permitted)
- Advance Order - # of Copies \_\_\_\_\_

**4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)**

- A check is enclosed.
- Payment by credit card. Form PTO-2038 is attached.
- The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

**5. Change in Entity Status (from status indicated above)**

- a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
- b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
Includes applicant information for JOHN J. OSKOREP, ESQ. and examiner information for SHEDRICK, CHARLES TERRELL.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 163 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 163 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/932,899	ZINN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Charles Shedrick	2617	

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 2/16/07.
2.  The allowed claim(s) is/are 1-19 (renumbered) 1,-3,7-10,12,14-17,19-22,24,26, and 28 (original).
3.  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 the:
    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)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

## DETAILED ACTION

### *Allowable Subject Matter*

Claims 1-19 (renumbered) 1,-3,7-10,12,14-17,19-22,24,26, and 28 (original) are allowed.

1. The following is an examiner's statement of reasons for allowance:

The Prior art of Record teaches a network name displaying method in a mobile station scanning to receive a plurality identification pairs corresponding to a plurality of wireless communication networks within a coverage area; selecting and registering with a wireless communication network associated with one of the received identifications, giving preference to a list over networks of another list; comparing the identification of the selected network with a plurality of home network identifications corresponding to the home networks of the preferred or optimal lists etc.; for the step of comparing: using a plurality of home network identifications from the list stored on a mobile in the comparing step based on identifying that the plurality of home network identifications are stored in the mobile ;and causing a home network display name which is the same for all of the home network identifications to be visually displayed in a visual display of the mobile station based on identifying a match between the identification of the selected network and one of the home network identifications and otherwise causing an alternate display name to be visually displayed in the visual display based on identifying no match between the identification of the selected network and one of the home network identification. However, the prior art in combination does not specifically teach the comparing step based on identifying that the plurality of home network identifiers are home network MNC and MCC pairs used as identifiers and stored on the SIM and otherwise using a home network MNC and MCC pairs stored in memory of the mobile station. The prior art furthermore does not teach causing a

home network display name which is the same for all of the home network MCC and MNC pairs to be visually displayed in a visual display of the mobile station based on identifying match between the MCC and the MNC pair of the selected network and one of the home network MCC and MNC pairs and otherwise causing an alternate display name. The Examiner respectfully notes Applicant's argument's on 1/29/07.

Therefore, claims 1-19 (renumbered) 1,-3,7-10,12,14-17,19-22,24,26, and 28 (original) are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Shedrick whose telephone number is (571)-272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid Lester can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 10/932,899  
Art Unit: 2617

Page 4

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR 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). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles Shedrick  
AU 2617  
April 25, 2007

  
LESTER G. KINCAID  
SUPERVISORY PRIMARY EXAMINER

<b>Notice of References Cited</b>	Application/Control No. 10/932,899	Applicant(s)/Patent Under Reexamination ZINN ET AL.	
	Examiner Charles Shedrick	Art Unit 2617	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2001/0001875	05-2001	Hirsch, Andrew J.	713/1
*	B US-2002/0111180	08-2002	Hogan et al.	455/518
*	C US-6,195,532	02-2001	Bamburak et al.	340/7.42
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			

**FOREIGN PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

**NON-PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
	U				
	V				
	W				
	X				

\*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.

<b>Issue Classification</b> 	<b>Application/Control No.</b> 10/932,899	<b>Applicant(s)/Patent under Reexamination</b> ZINN ET AL.	
	<b>Examiner</b> Charles Shedrick	<b>Art Unit</b> 2617	

ORIGINAL				CROSS REFERENCE(S)									
CLASS	SUBCLASS			CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)								
455	435.2			455	<del>435.2</del>	566	432.1						
INTERNATIONAL CLASSIFICATION													
H	0	4	Q	7/00									
				/									
				/									
				/									

 <b>Charles Shedrick</b> 4/25/07 (Assistant Examiner) (Date)	<b>LESTER G. KINCAID</b> <b>SUPERVISORY PRIMARY EXAMINER</b>  4/30/07 (Primary Examiner) (Date)	<b>Total Claims Allowed: 19</b>  <table style="width: 100%;"> <tr> <td>O.G. Print Claim(s)</td> <td>O.G. Print Fig.</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">5</td> </tr> </table>	O.G. Print Claim(s)	O.G. Print Fig.	1	5
O.G. Print Claim(s)	O.G. Print Fig.					
1	5					
(Legal Instruments Examiner) (Date)						

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47							
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original		
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	4		34		64		94		124		154		184
4	5		35		65		95		125		155		185
	6		36		66		96		126		156		186
5	7		37		67		97		127		157		187
6	8		38		68		98		128		158		188
7	9		39		69		99		129		159		189
8	10		40		70		100		130		160		190
	11		41		71		101		131		161		191
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	20		50		80		110		140		170		200
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	25		55		85		115		145		175		205
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	27		57		87		117		147		177		207
19	28		58		88		118		148		178		208
	29		59		89		119		149		179		209
	30		60		90		120		150		180		210



<b>Index of Claims</b> 	<b>Application/Control No.</b> 10932899	<b>Applicant(s)/Patent Under Reexamination</b> ZINN ET AL.
	<b>Examiner</b> Shedrick, Charles	<b>Art Unit</b> 2617

✓	<b>Rejected</b>	-	<b>Cancelled</b>	N	<b>Non-Elected</b>	A	<b>Appeal</b>
=	<b>Allowed</b>	÷	<b>Restricted</b>	I	<b>Interference</b>	O	<b>Objected</b>

Claims renumbered in the same order as presented by applicant
  CPA
  T.D.
  R.1.47

CLAIM		DATE							
Final	Original								
1	1	=							
2	2	=							
3	3	=							
	4								
4	5	=							
	6								
5	7	=							
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16	22	=							
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17	24	=							
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18	26	=							
	27								
19	28	=							



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**\*BIBDATASHEET\***

**CONFIRMATION NO. 3787**

Bib Data Sheet

<b>SERIAL NUMBER</b> 10/932,899	<b>FILING OR 371(c) DATE</b> 09/02/2004 <b>RULE</b>	<b>CLASS</b> 455	<b>GROUP ART UNIT</b> 2617	<b>ATTORNEY DOCKET NO.</b> 0108-0221/US
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**APPLICANTS**  
 Ronald Scotte Zinn, Waterloo, CANADA;  
 Catherine M. Phillips, Waterloo, CANADA;  
 Noushad Naqvi, Waterloo, CANADA;  
 Ingo W. Weigele, Waterloo, CANADA;

**\*\* CONTINUING DATA \*\*\*\*\***

**\*\* FOREIGN APPLICATIONS \*\*\*\*\***  
 EUROPEAN PATENT OFFICE (EPO) 03255483.4 09/03/2003

**IF REQUIRED, FOREIGN FILING LICENSE GRANTED**  
**\*\* 11/01/2004**

mg  
05-21-07

Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no	<b>STATE OR COUNTRY</b> CANADA	<b>SHEETS DRAWING</b> 5	<b>TOTAL CLAIMS</b> 27	<b>INDEPENDENT CLAIMS</b> 3
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance				
Verified and Acknowledged	Examiner's Signature	Initials		

**ADDRESS**  
33787

**TITLE**  
HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS

<b>FILING FEE RECEIVED</b> 1226	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees ( Filing )
		<input type="checkbox"/> 1.17 Fees ( Processing Ext. of time )
		<input type="checkbox"/> 1.18 Fees ( Issue )
		<input type="checkbox"/> Other _____
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APPL NO.	FILING OR 371(c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLMS	IND CLMS
10/932,899	09/02/2004	2617	1226	0108-0221/US	27	3

CONFIRMATION NO. 3787

## REPLACEMENT FILING RECEIPT



\*OC000000025201130\*

33787  
 JOHN J. OSKOREP, ESQ.  
 ONE MAGNIFICENT MILE CENTER  
 980 N. MICHIGAN AVE.  
 SUITE 1400  
 CHICAGO, IL 60611

Date Mailed: 08/06/2007

Receipt is acknowledged of this nonprovisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

**Applicant(s)**

Ronald Scotte Zinn, Waterloo, CANADA;  
 Catherine M. Phillips, Waterloo, CANADA;  
 Noushad Naqvi, Waterloo, CANADA;  
 Ingo W. Weigele, Waterloo, CANADA;

Power of Attorney: None

**Domestic Priority data as claimed by applicant****Foreign Applications**

EUROPEAN PATENT OFFICE (EPO) 03255483.4 09/03/2003

If Required, Foreign Filing License Granted: 11/01/2004

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US10/932,899**

Projected Publication Date: Not Applicable

Non-Publication Request: No

**Early Publication Request:** No

**Title**

HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS

**Preliminary Class**

455

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Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

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Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

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For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY,DOCKET.NO, TOT CLAIMS, IND CLAIMS. Row 1: 10/932,899, 09/02/2004, 2617, 1226, 0108-0221/US, 27, 3

CONFIRMATION NO. 3787

33787
JOHN J. OSKOREP, ESQ.
ONE MAGNIFICENT MILE CENTER
980 N. MICHIGAN AVE.
SUITE 1400
CHICAGO, IL60611

REPLACEMENT FILING RECEIPT

Date Mailed: 08/06/2007

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Applicant(s)
Ronald Scotte Zinn, Waterloo, CANADA;
Catherine M. Phillips, Waterloo, CANADA;
Noushad Naqvi, Waterloo, CANADA;
Ingo W. Weigele, Waterloo, CANADA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

Foreign Applications

EUROPEAN PATENT OFFICE (EPO) 03255483.4 09/03/2003

If Required, Foreign Filing License Granted: 11/01/2004

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US10/932,899

Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No

Title

HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS

**Preliminary Class**

455

**PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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**Title 37, Code of Federal Regulations, 5.11 & 5.15**

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No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	2062220
<b>Application Number:</b>	10932899
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3787
<b>Title of Invention:</b>	HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS
<b>First Named Inventor/Applicant Name:</b>	Ronald Scotte Zinn
<b>Customer Number:</b>	33787
<b>Filer:</b>	John Jeffrey Oskorep
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	0108-0221/US
<b>Receipt Date:</b>	08-AUG-2007
<b>Filing Date:</b>	02-SEP-2004
<b>Time Stamp:</b>	16:17:41
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment after Notice of Allowance (Rule 312)	11094-US-PAT_Amendment_After_NOA.pdf	345900 <small>362649470be07ab0738bc0ff6587044d9d568434</small>	no	4

### Warnings:

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**Information:**

**Total Files Size (in bytes):**

345900

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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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**Alexandria, VA 22313-1450**

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Please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

Customer Number: 33787

OR

Request for Customer Number (PTO/SB/125) attached hereto in the following listed application(s) for which the Issue Fee has been paid for patent(s).

PATENT NUMBER (if known)	APPLICATION NUMBER
	10/932,899

Completed by (check one):

Applicant/Inventor \_\_\_\_\_  
 \_\_\_\_\_  
 Signature

Attorney or Agent of record 41,234 \_\_\_\_\_  
 (Reg. No.) **JOHN J. OSKOREP, ESQ.**  
 Typed or printed name

Assignee of record of the entire interest. See 37 CFR 3.71.  
 Statement under 37 CFR 3.73(b) is enclosed. \_\_\_\_\_  
 (Form PTO/SB/96) **312-222-1860**  
 Requester's telephone number

Assignee recorded at Reel \_\_\_\_\_ Frame \_\_\_\_\_ **08 AUGUST 2007**  
 Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

\* Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 37 CFR 1.363. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop M Correspondence, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	10932899			
<b>Filing Date:</b>	02-Sep-2004			
<b>Title of Invention:</b>	HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS			
First Named Inventor/Applicant Name:	Ronald Scotte Zinn			
<b>Filer:</b>	John Jeffrey Oskorep			
<b>Attorney Docket Number:</b>	0108-0221/US			
Filed as Large Entity				
<b>Utility Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	1501	1	1400	1400
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
Printed copy of patent - no color	8001	5	3	15
<b>Total in USD (\$)</b>				<b>1715</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	2062462
<b>Application Number:</b>	10932899
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3787
<b>Title of Invention:</b>	HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS
<b>First Named Inventor/Applicant Name:</b>	Ronald Scotte Zinn
<b>Customer Number:</b>	33787
<b>Filer:</b>	John Jeffrey Oskorep
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	0108-0221/US
<b>Receipt Date:</b>	08-AUG-2007
<b>Filing Date:</b>	02-SEP-2004
<b>Time Stamp:</b>	16:38:32
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$ 1715
RAM confirmation Number	8151
Deposit Account	503972
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17	

### File Listing:

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Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	11094-US-PAT_Issue_Fee.pdf	343561 e4f23a9186c8c68bdd4c0730a0c7d5f56110f9f1	no	1
<b>Warnings:</b>					
<b>Information:</b>					
2	Miscellaneous Incoming Letter	11094-US-PAT-Fee_Addresses_Form.pdf	167937 7bcb375331076945fae8a4e47b11e242765bf4	no	1
<b>Warnings:</b>					
<b>Information:</b>					
3	Fee Worksheet (PTO-06)	fee-info.pdf	8480 77f324e076bcf771b42e87d67beb1123b37e195d	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			519978		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Zinn et al.	)	Art Unit: 2617
	)	
Serial No.: 10/932,899	)	Examiner: Shedrick
	)	
Filing Date: 2 September 2004	)	Docket No.: 0108-0221/US
	)	

For: "HOME NETWORK NAME DISPLAYING METHODS  
AND APPARATUS FOR MULTIPLE HOME NETWORKS"

MAIL STOP PATENT APPLICATION  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

AMENDMENT UNDER 37 CFR § 1.312

The Applicants respectfully submit this Amendment Under 37 CFR §  
1.312 for the above-identified patent application.

IN THE CROSS-REFERENCE TO RELATED APPLICATION

*Please replace the paragraph in the Cross-Reference to Related Application section with the corrected replacement paragraph provided below:*

CROSS-REFERENCE TO RELATED APPLICATION

This application claims priority to European Patent Application No. 03255483.4 entitled "Home Network Name Displaying Methods And Apparatus For Multiple Home Networks" having a filing date of 3 September ~~2004~~ 2003, which is hereby incorporated by reference herein.

REMARKS

The Applicants respectfully submit this Amendment Under 37 CFR § 1.312 for the present application, after receipt of the Notice Of Allowance and on or before the payment of the Issue Fee.

The Applicants respectfully acknowledge that entry of an amendment after receipt of a Notice of Allowance cannot be demanded as a matter of right. As will be appreciated, however, such amendment is needed for proper disclosure and requires no substantial amount of additional work on the part of the Office. Also, this amendment is properly submitted on or before the payment of the Issue Fee for the present application. The amendment does not affect the disclosure of the practiced invention or the scope of any claim.

In the present amendment, the Applicants seek to merely correct the obvious error in the year of the filing date of the priority application (European Patent Application No. 03255483.4) as set forth in the Cross Reference To Related Application section of the specification. The correct year of the filing date of the priority application is year 2003 and not year 2004. Note that the USPTO records as indicated in Patent Application Information Retrieval (PAIR) even confirms that the correct year of the filing date of the priority application is the year 2003.

Therefore, the Applicants respectfully request correction and amendment to the specification.

Based on the above, the Applicants respectfully request entry of this amendment for correction of the obvious error in the description.

Thank you. The Examiner is invited to contact the undersigned if necessary to further expedite this matter.

Respectfully Submitted,

/John J. Oskorep/

Date: 08 August 2007

JOHN J. OSKOREP  
Reg. No. 41,234

JOHN J. OSKOREP, ESQ. LLC  
ONE MAGNIFICENT MILE CENTER  
980 NORTH MICHIGAN AVENUE, SUITE 1400  
CHICAGO, ILLINOIS 60611 USA  
Telephone: (312) 222-1860  
Fax: (312) 475-1850



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/932,899	09/02/2004	Ronald Scotte Zinn	0108-0221/US	3787
33787	7590	08/10/2007	EXAMINER	
JOHN J. OSKOREP, ESQ. ONE MAGNIFICENT MILE CENTER 980 N. MICHIGAN AVE. SUITE 1400 CHICAGO, IL 60611			SHEDRICK, CHARLES TERRELL	
			ART UNIT	PAPER NUMBER
			2617	
			MAIL DATE	DELIVERY MODE
			08/10/2007	PAPER

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

The time period for reply, if any, is set in the attached communication.

<b>Response to Rule 312 Communication</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/932,899	ZINN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	baileys crossroads	2900	

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

1.  The amendment filed on 08 August 2007 under 37 CFR 1.312 has been considered, and has been:
- a)  entered.
  - b)  entered as directed to matters of form not affecting the scope of the invention.
  - c)  disapproved because the amendment was filed after the payment of the issue fee.  
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.
  - d)  disapproved. See explanation below.
  - e)  entered in part. See explanation below.

  
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Please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

Customer Number: 33787

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Request for Customer Number (PTO/SB/125) attached hereto  
 in the following listed application(s) for which the Issue Fee has been paid for patent(s).

PATENT NUMBER (if known)	APPLICATION NUMBER
	10/932,899

Completed by (check one):

Applicant/Inventor \_\_\_\_\_  
 Signature

Attorney or Agent of record 41,234 \_\_\_\_\_  
 (Reg. No.) JOHN J. OSKOREP, ESQ.  
 Typed or printed name

Assignee of record of the entire interest. See 37 CFR 3.71.  
 Statement under 37 CFR 3.73(b) is enclosed.  
 (Form PTO/SB/96) 312-222-1860  
 Requester's telephone number

Assignee recorded at Reel \_\_\_\_\_ Frame \_\_\_\_\_  
08 AUGUST 2007  
 Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

\* Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 37 CFR 1.363. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop M Correspondence, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/932,899	09/25/2007	7274933	0108-0221/US	3787

33787          7590          09/05/2007  
JOHN J. OSKOREP, ESQ.  
ONE MAGNIFICENT MILE CENTER  
980 N. MICHIGAN AVE.  
SUITE 1400  
CHICAGO, IL 60611

**ISSUE NOTIFICATION**

The projected patent number and issue date are specified above.

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 160 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Ronald Scotte Zinn, Waterloo, CANADA;  
Catherine M. Phillips, Waterloo, CANADA;  
Noushad Naqvi, Waterloo, CANADA;  
Ingo W. Weigele, Waterloo, CANADA;

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**Fax to:**  
**571-273-6500**

- OR -

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For the following listed application(s), please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

Customer Number: 33787

OR

The attached Request for Customer Number (PTO/SB/125) form.

PATENT NUMBER (if known)	APPLICATION NUMBER
7,274,933	10/932,899

Completed by (check one):

Applicant/Inventor \_\_\_\_\_  
/John J. Oskorep/  
Signature

Attorney or Agent of record 41,234 \_\_\_\_\_  
John J. Oskorep, Esq.  
Typed or printed name  
(Reg. No.)

Assignee of record of the entire interest. See 37 CFR 3.71. \_\_\_\_\_  
312 222 1860  
Requester's telephone number  
Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

Assignee recorded at Reel \_\_\_\_\_ Frame \_\_\_\_\_ \_\_\_\_\_  
26 November 2008  
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

\* Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 37 CFR 1.363. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop M Correspondence, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	4364097
<b>Application Number:</b>	10932899
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3787
<b>Title of Invention:</b>	HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS
<b>First Named Inventor/Applicant Name:</b>	Ronald Scotte Zinn
<b>Customer Number:</b>	33787
<b>Filer:</b>	John Jeffrey Oskorep
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	0108-0221/US
<b>Receipt Date:</b>	26-NOV-2008
<b>Filing Date:</b>	02-SEP-2004
<b>Time Stamp:</b>	16:36:30
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	11094-US-PAT_Fee_address_form.pdf	171520 8b7e4c2e0a58d6148b0f64265cc3cb97bc0ad08d	no	1

### Warnings:

### Information:

Total Files Size (in bytes):

171520

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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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.

<b>CHANGE OF CORRESPONDENCE ADDRESS Patent</b>	Patent Number	7,274,933
	Issue Date	25 September 2007
	Application Number	10/932,899
	Filing Date	02 September 2004
	First Named Inventor	Ronald Scotte Zinn
	Attorney Docket Number	0108-0221/US
Address to: Mail Stop Post Issue Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450		

Please change the Correspondence Address for the above-identified patent to:

The address associated with Customer Number:

**OR**

**Firm or Individual Name** John J. Oskorep, Esq. LLC

960 North Michigan Avenue  
one Magnificent mile Center

**Address**

**City** Chicago **State** <sup>IL</sup> **ZIP** 60611

**Country** United States of America

**Telephone** 312 222 1860 **Email** joskorep@securepatents.com

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

This form will not affect any "fee address" provided for the above-identified patent. To change a "fee address" use the "Fee Address Indication Form" (PTO/SB/47).

I am the:

Patentee.

Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

Attorney or agent of record. Registration Number 41,234.

**Signature** /John J. Oskorep/

**Typed or Printed Name** John J. Oskorep, Esq.

**Date** 18 December 2009 **Telephone** 312 222 1860

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

\*Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop Post Issue, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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**POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO**

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

Practitioners associated with the Customer Number: 90196

OR

Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

The address associated with Customer Number: 90196

OR

<input type="checkbox"/> Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

Assignee Name and Address:

Research In Motion Limited  
 295 Phillip Street  
 Waterloo, Ontario, CANADA N2L 3W8

**A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.**

**SIGNATURE of Assignee of Record**  
 The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	Aug 17 109
Name	Brian Bidulka	Telephone	(519) 888-7465
Title	Chief Accounting Officer		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

**Legal OK**

DJA MA

RIM OK

**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant/Patent Owner: Research In Motion Limited

Application No./Patent No.: 7,274,933 Filed/Issue Date: 25 September 2007

Titled: HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS

Research In Motion Limited, a Corporation  
 (Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is: RIM Identification No.: 11094-US-PAT  
 U.S. Attorney Docket No.: 0108-0221/US  
 USPTO Application No.: 7,274,933

1.  the assignee of the entire right, title, and interest in;
  2.  an assignee of less than the entire right, title, and interest in  
 (The extent (by percentage) of its ownership interest is \_\_\_\_\_ %); or
  3.  the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)
- the patent application/patent identified above, by virtue of either:

A.  An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 016207, Frame 0066, or for which a copy therefore is attached.

**OR**

B.  A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
 The document was recorded in the United States Patent and Trademark Office at  
 Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
 The document was recorded in the United States Patent and Trademark Office at  
 Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
 The document was recorded in the United States Patent and Trademark Office at  
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Additional documents in the chain of title are listed on a supplemental sheet(s).

As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

<p style="text-align: center;"><u>/John J. Oskorep/</u></p> <p style="text-align: center;">Signature</p>	<p style="text-align: center;"><u>18 December 2009</u></p> <p style="text-align: center;">Date</p>
<p style="text-align: center;"><u>John J. Oskorep, Esq.</u></p> <p style="text-align: center;">Printed or Typed Name</p>	<p style="text-align: center;"><u>Patent Attorney</u></p> <p style="text-align: center;">Title</p>

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	6671224
<b>Application Number:</b>	10932899
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3787
<b>Title of Invention:</b>	HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS
<b>First Named Inventor/Applicant Name:</b>	Ronald Scotte Zinn
<b>Customer Number:</b>	33787
<b>Filer:</b>	John Jeffrey Oskorep
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	0108-0221/US
<b>Receipt Date:</b>	18-DEC-2009
<b>Filing Date:</b>	02-SEP-2004
<b>Time Stamp:</b>	16:30:23
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Change of Address	11094-US-PAT_Change_of_corr_address_patent.pdf	95102 <small>61aec5e6100399d1b3f2c621ea7c1c7e8620a640</small>	no	1

### Warnings:

### Information:

2	Power of Attorney	11094-US- PAT_Power_of_Attorney.pdf	85050  99c5f1357512c4d3c4e1fcd14132ad638c9c50f1	no	1
<b>Warnings:</b>					
<b>Information:</b>					
3	Assignee showing of ownership per 37 CFR 3.73(b).	11094-US- PAT_Statement_Under_3_73b.pdf	233132  c3a84dbf884ed4dc72ee260c77c798e9cc9ad1f	no	1
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>				413284	
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/932,899	09/02/2004	Ronald Scotte Zinn	0108-0221/US

**CONFIRMATION NO. 3787**

**POA ACCEPTANCE LETTER**

90196  
John J. Oskorep, Esq. LLC  
980 North Michigan Avenue, Suite 1400  
One Magnificent Mile Center  
Chicago, IL 60611



Date Mailed: 01/04/2010

**NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 12/18/2009.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/mtekle michael/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : 7,274,933

APPLICATION NO.: 10/932,899

ISSUE DATE : 25 September 2007

INVENTOR(S) : Zinn et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 18, line 48, change "visually display" to --visually displayed--.

**MAILING ADDRESS OF SENDER (Please do not use customer number below):**

John J. Oskorep, Esq. LLC  
One Magnificent mile center  
980 N. Michigan Ave., Suite 1400  
Chicago, IL 60611

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	14173810
<b>Application Number:</b>	10932899
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3787
<b>Title of Invention:</b>	HOME NETWORK NAME DISPLAYING METHODS AND APPARATUS FOR MULTIPLE HOME NETWORKS
<b>First Named Inventor/Applicant Name:</b>	Ronald Scotte Zinn
<b>Customer Number:</b>	90196
<b>Filer:</b>	John Jeffrey Oskorep
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	0108-0221/US
<b>Receipt Date:</b>	07-NOV-2012
<b>Filing Date:</b>	02-SEP-2004
<b>Time Stamp:</b>	16:49:28
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Certificate of Correction	11094-US-PAT_Cert-of-Correction.pdf	98602 <small>8573dea96a7f16cedef8083216ba361e8f85&amp;#x</small>	no	1

### Warnings:

### Information:

Total Files Size (in bytes):

98602

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**New International Application Filed with the USPTO as a Receiving Office**

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UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

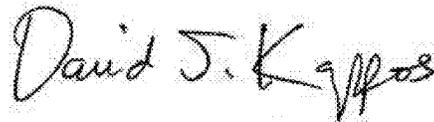
PATENT NO. : 7,274,933 B2  
APPLICATION NO. : 10/932899  
DATED : September 25, 2007  
INVENTOR(S) : Zinn et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 18, line 48, change “visually display” to --visually displayed--.

Signed and Sealed this  
Eighteenth Day of December, 2012



David J. Kappos  
*Director of the United States Patent and Trademark Office*