

1 **TITLE OF INVENTION**

2 Wireless Communication Headset System

3 **CROSS REFERENCES TO RELATED APPLICATIONS**

4 This PCT application claims priority to US non-provisional
5 application number 16/813,980 that was filed by the applicant,
6 Ronald Snagg, on March 10, 2020.

7 **STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH**

8 Not Applicable

9 **REFERENCE TO APPENDIX**

10 Not Applicable

11 **BACKGROUND OF THE INVENTION**

12 **FIELD OF THE INVENTION**

13 The present invention relates to the field of electricity
14 and electric communication technique including wireless
15 communication networks, more specifically, a direct mode
16 connection management device. (H04W76/14)

17 **SUMMARY OF INVENTION**

18 The wireless communication headset system is a private
19 communication system. The wireless communication headset system
20 comprises a wireless routing device, a plurality of
21 communication stations, and a plurality of wireless
22 communication links. The wireless communication headset system
23 supports audio and text-based communication between the
24 plurality of communication stations. The wireless communication

1 headset system supports a broadcast model of communication. By
2 broadcast is meant that: a) any first individual communication
3 station selected from the plurality of communication stations
4 receives any audio and text-based message transmitted by any
5 second individual communication station selected from the
6 plurality of communication stations; and, b) any audio and text-
7 based message transmitted by any first individual communication
8 station selected from the plurality of communication stations is
9 received by all the unselected individual communication stations
10 remaining in the plurality of communication stations. The
11 wireless routing device establishes a wireless communication
12 link selected from the plurality of wireless communication link
13 with each individual communication station contained in the
14 plurality of communication stations. The wireless routing
15 device is a repeater that receives an audio or text-based
16 message from any first individual communication station selected
17 from the plurality of communication stations and retransmits the
18 received message to each individual communication station
19 remaining in the plurality of communication stations.

20 These together with additional objects, features and
21 advantages of the wireless communication headset system will be
22 readily apparent to those of ordinary skill in the art upon
23 reading the following detailed description of the presently

1 preferred, but nonetheless illustrative, embodiments when taken
2 in conjunction with the accompanying drawings.

3 In this respect, before explaining the current embodiments
4 of the wireless communication headset system in detail, it is to
5 be understood that the wireless communication headset system is
6 not limited in its applications to the details of construction
7 and arrangements of the components set forth in the following
8 description or illustration. Those skilled in the art will
9 appreciate that the concept of this disclosure may be readily
10 utilized as a basis for the design of other structures, methods,
11 and systems for carrying out the several purposes of the
12 wireless communication headset system.

13 It is therefore important that the claims be regarded as
14 including such equivalent construction insofar as they do not
15 depart from the spirit and scope of the wireless communication
16 headset system. It is also to be understood that the phraseology
17 and terminology employed herein are for purposes of description
18 and should not be regarded as limiting.

19 **BRIEF DESCRIPTION OF DRAWINGS**

20 The accompanying drawings, which are included to provide a
21 further understanding of the invention are incorporated in and
22 constitute a part of this specification, illustrate an
23 embodiment of the invention and together with the description
24 serve to explain the principles of the invention. They are

1 meant to be exemplary illustrations provided to enable persons
2 skilled in the art to practice the disclosure and are not
3 intended to limit the scope of the appended claims.

4 Figure 1 is a perspective view of an embodiment of the
5 disclosure.

6 Figure 2 is a perspective view of an embodiment of the
7 disclosure.

8 Figure 3 is a perspective view of an embodiment of the
9 disclosure.

10 Figure 4 is a schematic diagram of an embodiment of the
11 disclosure.

12 Figure 5 is a view of an embodiment of the disclosure.

13 **DETAILED DESCRIPTION OF THE EMBODIMENT**

14 The following detailed description is merely exemplary in
15 nature and is not intended to limit the described embodiments of
16 the application and uses of the described embodiments. As used
17 herein, the word "exemplary" or "illustrative" means "serving as
18 an example, instance, or illustration." Any implementation
19 described herein as "exemplary" or "illustrative" is not
20 necessarily to be construed as preferred or advantageous over
21 other implementations. All of the implementations described
22 below are exemplary implementations provided to enable persons
23 skilled in the art to practice the disclosure and are not
24 intended to limit the scope of the appended claims. Furthermore,

1 there is no intention to be bound by any expressed or implied
2 theory presented in the preceding technical field, background,
3 brief summary or the following detailed description.

4 Detailed reference will now be made to one or more
5 potential embodiments of the disclosure, which are illustrated
6 in Figures 1 through 5.

7 The wireless communication headset system 100 (hereinafter
8 invention) is a private communication system. The invention 100
9 comprises a wireless routing device 101, a plurality of
10 communication stations 102, and a plurality of wireless
11 communication links 103. The plurality of wireless
12 communication links 103 establishes communication links between
13 the wireless routing device 101 and each of the plurality of
14 communication stations 102.

15 The invention 100 supports audio and text-based
16 communication between the plurality of communication stations
17 102. The invention 100 supports a broadcast model of
18 communication. By broadcast is meant that: a) any first
19 individual communication station selected from the plurality of
20 communication stations 102 receives any audio or text-based
21 message transmitted by any second individual communication
22 station selected from the plurality of communication stations
23 102; and, b) any audio or text-based message transmitted by any
24 first individual communication station selected from the

1 plurality of communication stations is received by all the
2 unselected individual communication station remaining in the
3 plurality of communication stations 102.

4 The invention 100 further supports private communication
5 facility between a subset of communication stations selected
6 from the plurality of communication stations 102. By private
7 communication facility is meant that communications between the
8 communication stations contained in the subset of communication
9 stations selected from the plurality of communication stations
10 102 are broadcast on a separate communication channel such that
11 communications between the subset of communication stations not
12 accessible from any communication station not contained within
13 the subset of communication stations.

14 The wireless routing device 101 establishes a wireless
15 communication link selected from the plurality of wireless
16 communication links 103 with each individual communication
17 station contained in the plurality of communication stations
18 102. The wireless routing device 101 is a repeater that
19 receives an audio or text-based message from any first
20 individual communication station selected from the plurality of
21 communication stations 102 and retransmits the audio or text-
22 based message to each unselected individual communication
23 station remaining in the plurality of communication stations
24 102.

1 Each of the plurality of wireless communication links 103
2 is a structured data exchange mechanism that is established
3 between the wireless routing device 101 and an individual
4 headset 121 selected from the plurality of headsets 104. Each
5 of the plurality of wireless communication links 103 uses a
6 wireless IEEE 802.11x communication protocol such that a
7 physical electric connection between any individual headset 121
8 selected from the plurality of communication stations 102 and
9 the wireless routing device 101 is not required.

10 The wireless routing device 101 is an electrical device.
11 The wireless routing device 101 acts as a repeater. The
12 wireless routing device 101 establishes a wireless communication
13 link selected from the plurality of wireless communication links
14 103 with each individual communication station selected from the
15 plurality of communication stations 102. The wireless routing
16 device 101 receives an audio message from any first individual
17 communication station selected from the plurality of
18 communication stations 102 and retransmits the audio message to
19 each unselected individual communication station remaining in
20 the plurality of communication stations 102. The wireless
21 routing device 101 terminates the plurality of wireless
22 communication links 103. Each wireless communication link
23 established by the wireless routing device 101 uses an IEEE
24 802.11x communication protocol. The wireless routing device 101

1 is a commercially available electric device commonly sold as a
2 "WiFi™ router". The design and use of the wireless routing
3 device 101 described above are well-known and documented in the
4 electrical arts.

5 The wireless routing device 101 comprises a plurality of
6 routing transceivers 111, a logical device 112, and a reset
7 switch 113. The plurality of routing transceivers 111, the
8 logical device 112, and the reset switch 113 are electrically
9 interconnected.

10 Each of the plurality of routing transceivers 111 is an
11 electrical device. The transceiver is defined elsewhere in this
12 disclosure. Each of the plurality of routing transceivers 111
13 creates and maintains the plurality of wireless communication
14 links 103 between the wireless routing device 101 and the
15 plurality of communication stations 102. Each of the plurality
16 of routing transceivers 111 is a multichannel device. By
17 multichannel device is meant that each of the plurality of
18 routing transceivers 111 simultaneously manages and maintains
19 each of the multiple wireless communication links selected from
20 the plurality of wireless communication links 103 formed between
21 the plurality of communication stations 102 and the wireless
22 routing device 101.

23 The plurality of routing transceivers 111 comprises a
24 headset routing transceiver 114 and a text station routing

1 transceiver 115. The plurality of routing transceivers 111 may
2 operate in a fully wireless or wired capability.

3 The headset routing transceiver 114 is an electrical
4 device. The transceiver is defined elsewhere in this
5 disclosure. The headset routing transceiver 114 creates and
6 maintains the plurality of wireless communication links 103
7 between the wireless routing device 101 and the plurality of
8 headsets 104. The headset routing transceiver 114 is a
9 multichannel device. By multichannel device is meant that the
10 headset routing transceiver 114 simultaneously manages and
11 maintains each of the multiple wireless communication links
12 selected from the plurality of wireless communication links 103
13 formed between the plurality of communication stations 102 and
14 the wireless routing device 101.

15 The text station routing transceiver 115 is an electrical
16 device. The transceiver is defined elsewhere in this
17 disclosure. The text station routing transceiver 115 creates
18 and maintains the plurality of wireless communication links 103
19 between the wireless routing device 101 and the plurality of
20 text stations 105. The text station routing transceiver 115 is
21 a multichannel device. By multichannel device is meant that the
22 text station routing transceiver 115 simultaneously manages and
23 maintains each of the multiple wireless communication links
24 selected from the plurality of wireless communication links 103

1 formed between the plurality of communication stations 102 and
2 the wireless routing device 101.

3 The logical device 112 is an electric circuit. The logical
4 device 112 manages, regulates, and operates the wireless routing
5 device 101. The logical device 112 controls the operation of
6 the plurality of routing transceivers 111. The logical device
7 112 monitors the reset switch 113. The logic module 112
8 operates: a) a speech to text technology 701; and, b) a text to
9 speech technology 702. The speech to text technology 701 and
10 the text to speech technology 702 are known technologies used in
11 speech recognition systems. The logic module 112 processes
12 audio messages received from the plurality of headset 104
13 through the speech to text technology 701 such that the logic
14 module 112 transmits a text translation of the received audio
15 message to the plurality of text stations 105 through the text
16 station routing transceiver 115. The logic module 112 processes
17 text-based messages received from the plurality of text stations
18 105 through the text to speech technology 102 such that the
19 logic module 112 transmits an audio transcription of the
20 received text-based message to the plurality of headsets 104
21 through the headset routing transceiver 114.

22 The reset switch 113 is a momentary switch. The actuation
23 of the reset switch 113 indicates to the logical device 112 that
24 the plurality of routing transceivers 111 should terminate each

1 individual wireless communication link selected from the
2 plurality of wireless communication links 103 such that the
3 communication network formed by the invention 100 is shut down.
4 The communication network is then reestablished by
5 reestablishing each individual wireless communication link
6 selected from the plurality of wireless communication links 103.

7 The plurality of communication stations 102 comprises a
8 plurality of headsets 104 and a plurality of text stations 105.

9 Each of the plurality of headsets 104 is a hands-free
10 communication device selected from the group consisting of
11 earbuds and headphones. The term earbuds are defined elsewhere
12 in this disclosure. The term headphones are defined elsewhere
13 in this disclosure. Each of the plurality of headsets 104 forms
14 a wireless communication link selected from the plurality of
15 wireless communication links 103 with the wireless routing
16 device 101. Each wireless communication link uses an IEEE
17 802.11x communication protocol. The plurality of headsets 104
18 comprises a collection of individual headsets 121.

19 Each of the plurality of headsets 104 is a hands-free
20 communication device selected from the group consisting of
21 earbuds and headphones. The term earbuds are defined elsewhere
22 in this disclosure. The term headphones are defined elsewhere
23 in this disclosure. Each of the plurality of headsets 104 forms
24 a wireless communication link selected from the plurality of

1 wireless communication links 103 with the wireless routing
2 device 101. Each wireless communication link uses an IEEE
3 802.11x communication protocol. Each of the plurality of
4 headsets 104 generates the audio message transmitted over the
5 wireless communication link. Each of the plurality of headsets
6 104 announces any audio messages received over the wireless
7 communication link.

8 Any first individual headset 121 selected from the
9 plurality of headsets 104 transmits an audio message over the
10 wireless communication link to the wireless routing device 101.
11 Any first individual headset 121 selected from the plurality of
12 headsets 104 receives any audio messages transmitted over the
13 wireless communication link by the wireless routing device 101
14 that were transmitted by any second individual headset 121
15 selected from the plurality of headsets 104.

16 The plurality of headsets 104 comprises a collection of
17 individual headsets 121.

18 The individual headset 121 is a wireless communication
19 device. The individual headset 121 is selected from the group
20 consisting of headphones and earbuds. The individual headset
21 121 establishes a wireless communication link selected from the
22 plurality of wireless communication links 103 with the wireless
23 routing device 101. The individual headset 121 generates and
24 transmits an audio message to the wireless routing device 101

1 over the wireless communication link. The individual headset
2 121 receives an audio message that is transmitted from the
3 wireless routing device 101 over the wireless communication
4 link. Each individual headset 121 further comprises an
5 individual headset 121 transceiver 122, an individual headset
6 121 speaker 123, an individual headset 121 microphone 124, an
7 individual headset 121 linking switch 125, and an individual
8 headset 121 near field communication circuit 126. The
9 individual headset 121 transceiver 122, the individual headset
10 121 speaker 123, the individual headset 121 microphone 124, the
11 individual headset 121 linking switch 125, and the individual
12 headset 121 near field communication circuit 126 are
13 electrically interconnected.

14 The individual headset 121 transceiver 122 is an electrical
15 device. The transceiver is defined elsewhere in this
16 disclosure. The individual headset 121 transceiver 122 creates
17 and maintains the wireless communication link selected from the
18 plurality of wireless communication links 103 between the
19 wireless routing device 101 and the individual headset 121
20 transceiver 122.

21 The individual headset 121 speaker 123 is a transducer.
22 The individual headset 121 speaker 123 receives electrical
23 signals from the individual headset 121 transceiver 122. The
24 individual headset 121 speaker 123 converts the received

1 electrical signals into acoustic energy that is used to announce
2 the received audio message.

3 The individual headset 121 microphone 124 is a transducer.
4 The individual headset 121 microphone 124 detects acoustic
5 energy in the vicinity of the individual headset 121 and
6 converts the detected acoustic energy into an electric signal.
7 The individual headset 121 microphone 124 transmits the
8 generated electric signal to the individual headset 121
9 transceiver 122. The individual headset 121 transceiver 122
10 transmits the received electric signals to the wireless routing
11 device 101 over the wireless communication link as an audio
12 message.

13 The individual headset 121 transceiver 122 monitors the
14 individual headset 121 linking switch 125. The individual
15 headset 121 linking switch 125 is a momentary switch. The
16 actuation of the individual headset 121 linking switch 125
17 indicates to the individual headset 121 transceiver 122 that the
18 individual headset 121 should establish a wireless communication
19 link selected from the plurality of wireless communication links
20 103 with the wireless routing device 101 such that the
21 individual headset 121 joins the communication network formed by
22 the invention 100.

23 The individual headset 121 near field communication circuit
24 126 is an implementation of an RFID (Radio Frequency

1 Identification) technology known as Near Field Communication.
2 The terms RFID and Near Field Communication are defined
3 elsewhere in this disclosure. The individual headset 121 near
4 field communication circuit 126 establishes the initial subset
5 of communication stations selected from the plurality of
6 communication stations 102 used to operate the private
7 communication facility.

8 The actuation of the individual headset 121 linking switch
9 125 initiates the transmission of an RFID interrogation signal
10 by the individual headset 121 near field communication circuit
11 126 of the transmitting individual headset 121. If a receiving
12 individual head set 121 is within the effective range of the
13 transmitting head set 121 (typically 10 cm), then the receiving
14 individual head set 121: a) identifies and available
15 communication channel that is separate from the current
16 broadcast channel; b) changes operation to the identified
17 separate communication channel; and, c) transmits to the
18 transmitting individual headset 121 the identified separate
19 communication channel. Upon receipt of the RFID response,
20 transmitting individual headset 121 changes operation to the
21 identified separate communication channel thereby establishing
22 the initial subset of communication stations selected from the
23 plurality of communication stations 102 using the private
24 communication facility.

1 To add additional communication stations selected from the
2 plurality of communication stations 102, the communication
3 station to be added actuation of the individual headset 121
4 linking switch 125 thereby initiating the transmission of an
5 RFID interrogation signal by the individual headset 121 near
6 field communication circuit 126 to become the transmitting
7 individual headset 121. If the receiving individual head set
8 121 is already a member of an existing subset of communication
9 stations selected from the plurality of communication stations
10 102 using the private communication facility, then the
11 individual headset 121 near field communication circuit 126 of
12 the receiving individual headset 121 transmits to the individual
13 headset 121 near field communication circuit 126 of the
14 transmitting individual headset 121 the communication channel
15 information of the existing subset of communication stations
16 associated with the private communication facility.

17 The procedure described in the previous three paragraphs
18 work for all communication stations selected from the plurality
19 of communication stations 102 independent of whether the
20 communication station is selected from the plurality of headsets
21 104 or the plurality of text stations 105.

22 In the first potential embodiment of the disclosure, the
23 plurality of headsets 104 comprises a first headset 131 and a
24 second headset 141.

1 The first headset 131 further comprises a first headset 131
2 transceiver 132, a first headset 131 speaker 133, a first
3 headset 131 microphone 134, and a first headset 131 linking
4 switch 135, and a first headset 131 near field communication
5 circuit 136. The first headset 131 transceiver 132, the first
6 headset 131 speaker 133, the first headset 131 microphone 134,
7 the first headset 131 linking switch 135, and the first headset
8 131 near field communication circuit 136 are electrically
9 interconnected.

10 The first headset 131 is a headset used to join the
11 communication network formed by the invention 100. The first
12 headset 131 transceiver 132 is the individual headset 121
13 transceiver 122 associated with the first headset 131. The
14 first headset 131 speaker 133 is the individual headset 121
15 speaker 123 associated with the first headset 131. The first
16 headset 131 microphone 134 is the individual headset 121
17 microphone 124 associated with the first headset 131. The first
18 headset 131 linking switch 135 is the individual headset 121
19 linking switch 125 associated with the first headset 131. The
20 first headset 131 near field communication circuit 136 is the
21 individual headset 121 near field communication circuit 126
22 associated with the first headset 131.

23 The second headset 141 further comprises a second headset
24 141 transceiver 142, a second headset 141 speaker 143, a second

1 headset 141 microphone 144, and a second headset 141 linking
2 switch 145, and a second headset 141 near field communication
3 circuit 146. The second headset 141 transceiver 142, the second
4 headset 141 speaker 143, the second headset 141 microphone 144,
5 the second headset 141 linking switch 145, and the second
6 headset 141 near field communication circuit 146 are
7 electrically interconnected.

8 The second headset 141 is a headset used to join the
9 communication network formed by the invention 100. The second
10 headset 141 transceiver 142 is the individual headset 121
11 transceiver 122 associated with the second headset 141. The
12 second headset 141 speaker 143 is the individual headset 121
13 speaker 123 associated with the second headset 141. The second
14 headset 141 microphone 144 is the individual headset 121
15 microphone 124 associated with the second headset 141. The
16 second headset 141 linking switch 145 is the individual headset
17 121 linking switch 125 associated with the second headset 141.
18 The second headset 141 near field communication circuit 146 is
19 the individual headset 121 near field communication circuit 126
20 associated with the second headset 141.

21 Each of the plurality of text stations 105 is a text-based
22 communication device selected from the group consisting of
23 earbuds and headphones. The term earbuds are defined elsewhere
24 in this disclosure. The term headphones are defined elsewhere

1 in this disclosure. Each of the plurality of text stations 105
2 forms a wireless communication link selected from the plurality
3 of wireless communication links 103 with the wireless routing
4 device 101. Each wireless communication link uses an IEEE
5 802.11x communication protocol. The plurality of text stations
6 105 comprises a collection of individual text stations 521.

7 The individual text station 521 is a wireless communication
8 device. The individual text station 521 establishes a wireless
9 communication link selected from the plurality of wireless
10 communication links 103 with the wireless routing device 101.
11 The individual text station 521 generates and transmits a text-
12 based message to the wireless routing device 101 over the
13 wireless communication link. The individual text station 521
14 receives the text-based message that is transmitted from the
15 wireless routing device 101 over the wireless communication
16 link. The individual text station 521 transceiver 522 creates
17 and maintains the wireless communication link selected from the
18 plurality of wireless communication links 103 between the text
19 station routing transceiver 115 and each individual text station
20 521 transceiver 522.

21 Any first individual text station 521 selected from the
22 plurality of text stations 105 transmits a text-based message
23 over the wireless communication link to the wireless routing
24 device 101. Any first individual text station 521 selected from

1 the plurality of text stations 105 receives any text-based
2 messages transmitted over the wireless communication link by the
3 wireless routing device 101 that were transmitted by any second
4 individual text station 521. Each of the plurality of text
5 stations 105 generates the text-based message transmitted over
6 the wireless communication link. Each of the plurality of text
7 stations 105 displays the text-based messages received over the
8 wireless communication link. Each individual text station 521
9 further comprises an individual text station 521 transceiver
10 522, an individual text station 521 logic module 523, an
11 individual text station 521 display 524, and an individual text
12 station 521 interface 525, and an individual text station 521
13 near field communication circuit 526.

14 The individual text station 521 transceiver 522, the
15 individual text station 521 logic module 523, the individual
16 text station 521 display 524 the individual text station 521
17 interface 525, and the individual text station 521 near field
18 communication circuit 526 are electrically interconnected.

19 The individual text station 521 transceiver 522 is an
20 electrical device. The transceiver is defined elsewhere in this
21 disclosure. The individual text station 521 transceiver 522
22 creates and maintains the wireless communications link selected
23 from the plurality of wireless communication links 103 between

1 the plurality of text stations 105 and each individual text
2 station 521 transceiver 522.

3 The individual text station 521 logic module 523 is a
4 programmable electrical device. The individual text station 521
5 logic module 523 receives a text-based message from the
6 individual text station 521 transceiver 522. The individual
7 text station 521 logic module 523 converts the received
8 electrical signals into a text-based message that is displayed
9 on the individual text station 521 display 524.

10 The individual text station 521 display 524 is an
11 electrical device used to display the text-based message
12 transmitted from the individual text station 521 logic module
13 523. The individual text station 521 interface 525 receives a
14 text-based message from the user of the individual text station
15 521 and transmits the text-based message to the individual text
16 station 521 logic module 523 for transmission to the plurality
17 of text stations 105 by the individual text station 521
18 transceiver 522.

19 The individual text station 521 near field communication
20 circuit 526 is an implementation of an RFID (Radio Frequency
21 Identification) technology known as Near Field Communication.
22 The terms RFID and Near Field Communication are defined
23 elsewhere in this disclosure. The individual text station 521
24 near field communication circuit 526 establishes the initial

1 subset of communication stations selected from the plurality of
2 communication stations 102 used to operate the private
3 communication facility.

4 The individual text station 521 interface 525 initiates the
5 transmission of an RFID interrogation signal by the individual
6 text station 521 near field communication circuit 526 of the
7 transmitting individual text station 521. If a receiving
8 individual text station 521 is within the effective range of the
9 transmitting text station 521 (typically 10 cm), then the
10 receiving individual text station 521: a) identifies and
11 available communication channel that is separate from the
12 current broadcast channel; b) changes operation to the
13 identified separate communication channel; and, c) transmits to
14 the transmitting individual text station 521 the identified
15 separate communication channel. Upon receipt of the RFID
16 response, transmitting individual text station 521 changes
17 operation to the identified separate communication channel
18 thereby establishing the initial subset of communication
19 stations selected from the plurality of communication stations
20 102 using the private communication facility.

21 To add additional communication stations selected from the
22 plurality of communication stations 102, individual text station
23 521 linking switch 125 of the individual text station 521 to be
24 added thereby initiates the transmission of an RFID

1 interrogation signal by the individual text station 521 near
2 field communication circuit 526 to become the transmitting
3 individual text station 521. If the receiving individual head
4 set 121 is already a member of an existing subset of
5 communication stations selected from the plurality of
6 communication stations 102 using the private communication
7 facility, then the individual text station 521 near field
8 communication circuit 526 of the receiving individual text
9 station 521 transmits to the individual text station 521 near
10 field communication circuit 526 of the transmitting individual
11 text station 521 the communication channel information of the
12 existing subset of communication stations associated with the
13 private communication facility.

14 The procedure described in the previous three paragraphs
15 work for all communication stations selected from the plurality
16 of communication stations 102 independent of whether the
17 communication station is selected from the plurality of headsets
18 104 or the plurality of text stations 105.

19 In the first potential embodiment of the disclosure, the
20 plurality of text stations 105 further comprises a first text
21 station 531 and a second text station 541.

22 The first text station 531 further comprises a first text
23 station 531 transceiver 532, a first text station 531 logic
24 module 533, a first text station 531 display 534, first text

1 station 531 interface 535, and a first text station 531 near
2 field communication circuit 536. The first text station 531
3 transceiver 532, the first text station 531 logic module 533,
4 the first text station 531 display 534 the first text station
5 531 interface 535, and the first text station 531 near field
6 communication circuit 536 are electrically interconnected.

7 The first text station 531 is a headset used to join the
8 communication network formed by the invention 100. The first
9 text station 531 transceiver 532 is the individual text station
10 521 transceiver 522 associated with the first text station 531.
11 The first text station 531 logic module 533 is the individual
12 text station 521 logic module 523 associated with the first text
13 station 531. The first text station 531 display 534 is the
14 individual text station 521 display 524 associated with the
15 first text station 531. The first text station 531 interface
16 535 is the individual text station 521 interface 525 associated
17 with the first text station 531. The first text station 531
18 near field communication circuit 536 is the individual text
19 station 521 near field communication circuit 526 associated with
20 the first text station 531.

21 The second text station 541 further comprises a second text
22 station 541 transceiver 542, a second text station 541 logic
23 module 543, a second text station 541 display 544, a second text
24 station 541 interface 545, and a second text station 541 near

1 field communication circuit 546. The second text station 541
2 transceiver 542, the second text station 541 logic module 543,
3 the second text station 541 display 544 and the second text
4 station 541 interface 545, and the second text station 541 near
5 field communication circuit 546 are electrically interconnected.

6 The second text station 541 is a headset used to join the
7 communication network formed by the invention 100. The second
8 text station 541 transceiver 542 is the individual text station
9 521 transceiver 522 associated with the second text station 541.
10 The second text station 541 logic module 543 is the individual
11 text station 521 logic module 523 associated with the second
12 text station 541. The second text station 541 display 544 is
13 the individual text station 521 display 524 associated with the
14 second text station 541. The second text station 541 interface
15 545 is the individual text station 521 interface 525 associated
16 with the second text station 541. The second text station 541
17 near field communication circuit 546 is the individual text
18 station 521 near field communication circuit 526 associated with
19 the second text station 541.

20 The following definitions were used in this disclosure:

21 Announce: As used in this disclosure, to announce means to
22 generate audible sounds over a transducer.

1 Audio: As used in this disclosure, audio refers to the
2 reproduction of a sound that simulates the sound that was
3 originally created.

4 Audio Device: As used in this disclosure, an audio device
5 is a device that generates audible sound waves.

6 Audio Source: As used in this disclosure, an audio source
7 is a device that generates electrical signals that can be
8 converted into audible sounds by an audio device such as a
9 speaker.

10 Broadcast: As used in this disclosure, a broadcast refers
11 to a radio frequency transmission intended to be received by a
12 plurality of receivers.

13 Communication Link: As used in this disclosure, a
14 communication link refers to the structured exchange of data
15 between two objects.

16 Display: As used in this disclosure, a display is a
17 surface upon which is presented an image, potentially including,
18 but not limited to, graphic images and text, that is
19 interpretable by an individual viewing the projected image in a
20 meaningful manner. A display device refers to an electrical
21 device used to present these images.

22 Earphone: As used in this disclosure, an earphone refers
23 to a device that converts electrical signals into audible sounds
24 that are worn or listened to in contact with the ear.

1 IEEE: As used in this disclosure, the IEEE (pronounced "I
2 triple E") is an acronym for the Institute of Electrical and
3 Electronic Engineers.

4 Hands-Free: As used in this disclosure, hands-free refers
5 to a design characteristic of a device that allows the device to
6 be used or operated without the use of the hands.

7 Headphone: As used in this disclosure, a headphone is a
8 device that comprises one or two earphones that are held to the
9 ear, typically through the use of a band placed on top of the
10 head. The headphone comprises one or more speakers and an
11 optional microphone to allow for: 1) private access to an audio
12 communication system; and, 2) hands free access to an audio
13 communication system. Headset is a synonym for headphone.

14 Interface: As used in this disclosure, an interface is a
15 physical or virtual boundary that separates two different
16 systems across which information is exchanged.

17 Logic Module: As used in this disclosure, a logic module
18 is a readily and commercially available electrical device that
19 accepts digital and analog inputs, processes the digital and
20 analog inputs according to previously specified logical
21 processes and provides the results of these previously specified
22 logical processes as digital or analog outputs. The disclosure
23 allows, but does not assume, that the logic module is
24 programmable.

1 Logical Device: As used in this disclosure, a logical
2 device is an electrical device that processes externally
3 provided inputs to generate outputs that are determined from a
4 previously determined logical functions. A logical device may
5 or may not be programmable.

6 Microphone: As used in this disclosure, a microphone is a
7 transducer that converts the energy from vibration into
8 electrical energy. The sources of vibrations include, but are
9 not limited to, acoustic energy.

10 Momentary Switch: As used in this disclosure, a momentary
11 switch is a biased switch in the sense that the momentary switch
12 has a baseline position that only changes when the momentary
13 switch is actuated (for example, when a pushbutton switch is
14 pushed or a relay coil is energized). The momentary switch then
15 returns to the baseline position once the actuation is
16 completed. This baseline position is called the "normal"
17 position. For example, a "normally open" momentary switch
18 interrupts (open) the electric circuit in the baseline position
19 and completes (closes) the circuit when the momentary switch is
20 activated. Similarly, a "normally closed" momentary switch
21 will complete (close) an electric circuit in the baseline
22 position and interrupt (open) the circuit when the momentary
23 switch is activated.

1 Near Field Communication: As used in this disclosure, near
2 field communication, commonly referred to as NFC, is an RFID
3 technology and communication protocol that is commonly
4 implemented on personal data devices. The operating range of
5 near field technology is generally less than 20 centimeters.

6 Network: As used in this disclosure, a network refers to a
7 data communication or data exchange structure where data is
8 electronically transferred between nodes, also known as
9 terminals, which are electrically attached to the network. In
10 common usage, the operator of the network is often used as an
11 adjective to describe the network. For example, a
12 telecommunication network would refer to a network run by a
13 telecommunication organization while a banking network will
14 refer to a network operated by an organization involved in
15 banking.

16 Repeater: As used in this disclosure, a repeater is an
17 electrical device that receives a first signal from a first
18 communication channel and transmits a duplicate second signal
19 over a second communication channel. When a radio frequency
20 wireless communication channel is used as both the first
21 communication channel and the second communication channel the
22 frequencies of operation of the first communication channel and
23 the second communication channels may or may not be identical.

1 RFID: As used in this disclosure, RFID refers to Radio
2 Frequency Identification technology. RFID is a wireless
3 technology that uses electromagnetic field to identify and
4 retrieve data from tracking tags that are placed on or near an
5 object.

6 RFID Interrogator: As used in this disclosure, an RFID
7 interrogator is a device that transmits a radio signal at
8 frequency designed to activate RFID tracking tags that are tuned
9 to operate at that frequency.

10 RFID Tracking Tag: As used in this disclosure, an RFID
11 tracking tag is a reflective antenna that receives a radio
12 signal from an RFID Interrogator and uses the energy received
13 from the RFID interrogator signal to reflect a modified signal
14 back to the RFID interrogator. The modified signal generally
15 contains identification information about the RFID tag. The
16 RFID interrogator receives and records these reflected signals.
17 RFID tags are generally tuned to respond to a specific
18 frequency. The RFID tracking tag as described to this point is
19 a passive, or unpowered RFID tracking tag. There are also
20 available within RFID technology active, or powered, RFID
21 tracking tags. An active RFID tracking tag acts as a beacon
22 that actively transmits identification information in a manner
23 that can be received and recorded by an RFID interrogator.

1 Within this disclosure, both passive and active RFID tracking
2 tags are used.

3 Speaker: As used in this disclosure, a speaker is an
4 electrical transducer that converts an electrical signal into an
5 audible sound.

6 Speech Recognition: As used in this disclosure, an speech
7 recognition refers to a collection of commercially available
8 algorithms that capture process a digital representation of an
9 audible sound in a manner that allows an electronically operated
10 device, such as a computer, to extract data from the digital
11 representation of an audible sound and take a subsequent action
12 based on the data extracted from the audible sound.

13 Switch: As used in this disclosure, a switch is an
14 electrical device that starts and stops the flow of electricity
15 through an electric circuit by completing or interrupting an
16 electric circuit. The act of completing or breaking the
17 electrical circuit is called actuation. Completing or
18 interrupting an electric circuit with a switch is often referred
19 to as closing or opening a switch respectively. Completing or
20 interrupting an electric circuit is also often referred to as
21 making or breaking the circuit respectively.

22 Transceiver: As used in this disclosure, a transceiver is
23 a device that is used to generate, transmit, and receive
24 electromagnetic radiation such as radio signals.

1 Transducer: As used in this disclosure, a transducer is a
2 device that converts a physical quantity, such as pressure or
3 brightness into an electrical signal or a device that converts
4 an electrical signal into a physical quantity.

5 WiFi™: As used in this disclosure, WiFi™ refers to the
6 physical implementation of a collection of wireless electronic
7 communication standards commonly referred to as IEEE 802.11x.

8 Wireless: As used in this disclosure, wireless is an
9 adjective that is used to describe a communication channel
10 between two devices that does not require the use of physical
11 cabling.

12 With respect to the above description, it is to be realized
13 that the optimum dimensional relationship for the various
14 components of the invention described above and in Figures 1
15 through 5 include variations in size, materials, shape, form,
16 function, and manner of operation, assembly and use, are deemed
17 readily apparent and obvious to one skilled in the art, and all
18 equivalent relationships to those illustrated in the drawings
19 and described in the specification are intended to be
20 encompassed by the invention.

21 It shall be noted that those skilled in the art will
22 readily recognize numerous adaptations and modifications which
23 can be made to the various embodiments of the present invention
24 which will result in an improved invention, yet all of which

1 will fall within the spirit and scope of the present invention
2 as defined in the following claims. Accordingly, the invention
3 is to be limited only by the scope of the following claims and
4 their equivalents.
5