

local CU memory in step 151. A determination of whether a refinement SCM threshold is satisfied takes place in step 152. If the refinement SCM threshold is not satisfied, steps 147–152 are repeated. If the refinement SCM threshold is satisfied, the CU transfers (step 153) authorized SCM parameters in the form of a database to a local CU memory location which is then stored (step 154) in the local CU memory, after which the CU prompts (step 155) the user to cease speaking. The connection between the CU and the CF terminates in step 156 to end (157) the connection training method.

FIG. 7 illustrates a flow chart of a connection training method in accordance with yet another alternative embodiment of the invention. The connection training process in accordance with yet another alternative embodiment starts (170) with a subscriber turning his or her CU on in step 171. The subscriber then requests (step 172) a CF connection to verify a SID to establish (step 173) a CF authorization connection. When the CF authorization connection is established, the CU prompts (step 174) the subscriber to enter the subscriber's SID, and the CF conducts a query to verify (step 175) the SID.

If the CF cannot verify the SID, steps 174 and 175 are repeated. If the CF cannot verify the SID a second time, or other predetermined number of times, the call is disconnected. However, if the CF can verify the SID, the CF commands (step 176) the CU to initiate an connection training sequence in which the CU prompts (step 177) the subscriber to speak. As the subscriber speaks, the CU collects (step 178) the user-specific voice sound, otherwise called a frame of speech, and then samples (step 179) the speech to determine speech characteristic model (SCM) parameters which are stored in local CU memory in step 180 and refined and re-stored in local CU memory in step 181.

A determination of whether a refinement SCM threshold is satisfied takes place in step 182. If the refinement SCM threshold is not satisfied, steps 177–182 are repeated. If the refinement SCM threshold is satisfied, the CU transfers (step 183) authorized SCM parameters in the form of a database to a CF memory location which is then stored (step 184) in the CF memory location in the form of an authorized user database, after which the CU prompts (step 185) the subscriber to cease speaking. The connection between the CU and the CF terminates in step 186 to end (187) the connection training method.

FIG. 8 illustrates a flow chart of a method of establishing a communication link in accordance with a preferred embodiment of the invention. The process for establishing a communication link is operative as an authorization training sequence that starts (200) with a user turning his or her CU on in step 201 after which the CU prompts (step 202) for a call destination entry.

The user then enters (step 203) a call destination, and a query (step 204) is made to ascertain whether the call destination is an emergency number such as a 911 call destination. If the call destination is not an emergency number, the CU prompts (step 205) the user to speak.

As the subscriber speaks, the CU collects (step 206) a sample of the user-specific voice sound or speech characteristics, otherwise called a frame of speech, and then samples (step 207) the speech to determine speech characteristic model (SCM) parameters which are stored in local CU memory in step 208 and refined and re-stored in local CU memory in step 209. A determination of whether a refinement SCM threshold is satisfied takes place in step 210. If the refinement SCM threshold is not satisfied, steps 205–209 are repeated. If the refinement SCM threshold is satisfied, the CU stores (step 211) the SCM parameters in local CU memory and compares (step 212) the SCM param-

eters in local CU memory with the authorized user SCM parameters stored in the UIC.

The CU then conducts a query (step 213) to ascertain whether the SCM parameters are comparable with the authorized user SCM parameters stored in the UIC. If the SCM parameters are incomparable with the authorized user SCM parameters, steps 205–213 are repeated either automatically or by the subscriber. If the SCM parameters are still incomparable with the authorized user SCM parameters stored in the UIC, the CU turns off to end the call.

However, if through step 213 a determination is made by the CU that the SCM parameters are comparable with the authorized user parameters, the CU transfers (step 214) call destination information to a CF to establish (step 215) communication link with CF and another communication unit to end (step 216) the authorization process.

If in step 204 a determination is made that the call destination is an emergency number such as 911, steps 214–216 are immediately carried out, bypassing steps 205–213.

FIG. 9 illustrates a flow chart of a method of establishing a communication link in accordance with an alternative embodiment of the invention. The process for establishing a communication link is operative as an authorization training sequence that starts (step 230) with a subscriber turning his or her CU on in step 231, after which the CU prompts (step 232) for a call destination entry. The subscriber then enters (step 233) a call destination, and a query (step 234) is made to ascertain whether the call destination is an emergency number such as a 911 call destination. If the call destination is not an emergency number, the CU prompts (step 235) the subscriber to speak.

As the subscriber speaks, the CU collects (step 236) the user-specific voice sound, otherwise called a frame of speech, and then samples (step 237) the speech to determine speech characteristic model (SCM) parameters which are stored in local CU memory in step 238 and refined and restored in local CU memory in step 238.

A determination of whether a refinement SCM threshold is satisfied takes place in step 240. If the refinement SCM threshold is not satisfied, steps 235–240 are repeated. If the refinement SCM threshold is satisfied, the CU stores (step 241) the SCM parameters in local CU memory and compares (step 242) the SCM parameters in local CU memory with the authorized user SCM parameters stored in the local CU memory.

The CU then conducts a query (step 243) to ascertain whether the SCM parameters are comparable with the authorized user SCM parameters stored in the local CU memory. If the SCM parameters are incomparable with the user authorized SCM parameters, steps 235–243 are repeated either automatically or by the subscriber. If the SCM parameters are still incomparable with the authorized user SCM parameters stored in the UIC after N retries (step 247), the CU turns off (step 248) to end the call (step 249). However, if in step 243 a determination is made by the CU that the SCM parameters are comparable with the authorized user parameters, the CU transfers (step 244) call destination information to a CF to establish (step 245) a communication link with the CF and another communication unit to end (step 246) the authorization process.

If in step 234 a determination is made that the call destination is an emergency number such as 911, steps 244–246 are immediately carried out, bypassing steps 235–243.

FIG. 10 illustrates a flow chart of a method of establishing a communication link in accordance with yet another alternative embodiment of the invention. The process for establishing a communication link is operative as an authorization