

schools may still maintain their local radio equipment, but have the capability to directly communicate with emergency responders on an as needed basis. Accordingly, organizations like schools maintain a public radio system capability, but without the great cost associated with such systems. The advanced digital interpreters also have other capabilities that not only enable or disable the capability of local radios to communicate with public safety radios, but also to control the specific manner in which the various local radios may communicate, such as by providing patch capability only to selected radios in the local radio set.

School personnel may carry hand-held UHF radios for normal communications within the school building. These portable radios are typically capable of being programmed to add additional UHF frequencies to minimize interference and to expand their capability to be used with public safety radios. During initial setup for each location to be a communication endpoint, each of the local radios are evaluated and programmed so they are capable of being bridged with the public safety radios. At the district level, VHF hand-held radios are preferred. In the event the local area network for the school district is down at a time when radio bridging is required, then the manual switch 46 on the local control panel may be used.

The ADI may utilize digital audio links between any band radio systems in either one channel or two channel modes. The bridge activation and deactivation is via web-based, graphical user interface screens, secured with log-on and network security measures. The system software can be configured as standard web-based applications. The server may utilize, for example, a Fedora Linux operating system. The three basic views in the user screens as discussed include a district activation view, a school activation view, and a notification view. The district view allows a district-wide list and status of bridging activations and alerts. The notification view only allows the user to view the status of designated bridging and alerts. The system administrator can manage the installed sites, licenses, users, and notification lists. The ADI has the intelligence to complete the radio links, report status, and process audio. The antennae systems for the radio units at the specific school locations are included to complete the radio signal link between the dissimilar radio networks. Backup power is provided at each location by an uninterrupted power supply for periods when primary AC power fails. Preferably, the radios, power supply, ADI/processor are housed in a module (not shown) that is installed in a secured location where power, LAN and antenna cabling can be accessed. The module itself may have status LEDs and a local control switch if the local area network should fail.

As disclosed, the ADI/processor can be a stand-alone unit integrated at each location to facilitate the bridge between the local radio users at that location and the public safety first responders. A command sent by the activating party in the form of IP packets over one or more communication networks is received by the ADI/processor, the command is recognized by the ADI as an instruction to either make the bridge or to knock down the bridge at that designated communication endpoint, and then the ADI facilitates the commanded bridging function. The radiating antennas at the user locations provide wireless links to the radio users at the location and the first responders. The public safety radio system often uses a radio tower or a collection of towers to provide links to their users, such as first responders which exchange dispatch voice messages with the 911 Call Center. The school district may have its own local area network with suitable network equipment, such as routers or switches. This local area network is connected to other local area networks via the Internet/World-wide Web. The 911 Call Center and emergency responders

may operate on their own local area network and which also communicate with the local area network school districts through a network transport or Internet connection. When the software associated with the invention is configured on terminals at each communication endpoint, users at those locations can operate the system in accordance with the privileges associated with the site software installation. As also discussed, the software installations at the various communication endpoints provides the proper indications and activation options enabling users to operate the system or to monitor the system. The software and the status and activation commands are configured and monitored by the network server. The number of communication endpoints, radios, and public safety communication endpoints is virtually unlimited in the present invention since radio bridging is web based. So long as each of the communication endpoints have their own IP addresses, the appropriate software can be installed at those locations to enable the communication bridges to be established between selected communicants, as established by an administrator of the system. As also mentioned, the server has the ability to manage e-mail or text messages to other networks in which activation has been achieved for selected communication endpoints. It is also contemplated that the server can be programmed to provide other services such as VOIP communications. Periodic testing can be conducted at the local control panels in order to ensure that the system is operating correctly at that location. Additional activation buttons/controls may be provided on the panels in order to accomplish these tests. These tests could also be processed at any operator terminal, to include testing of the integrity of the software to ensure the system as set up by the administrator is properly functioning.

While a system and method of the present invention have been set forth above with respect to a particular preferred embodiment, it shall be understood that various other modifications and changes may be made to the invention in accordance with the scope of the claims appended hereto.

What is claimed is:

1. A communication system especially adapted for facilitating emergency communications between communicants having respective radio systems, said system comprising:
  - first and second computer processors located at respective communication endpoints;
  - a communication server for managing communications between the communication endpoints;
  - a communications network for interconnecting said communications server and said computer processors, said server and each of said computer processors having respective IP addresses;
  - at least one public safety radio associated with one of said communication endpoints;
  - at least one local radio associated with the other of said communication endpoints;
  - a radio bridge for facilitating direct radio communications between said at least one public safety radio and said local radio, said radio bridge including hardware to enable connection between the radios, said bridge further including a processor that communicates with said server to receive activation and deactivation instructions sent from an authorized user, said instructions being sent as IP packets over the communications network;
  - computer coded instructions associated with said server and said computer processors to selectively control and monitor the system to include (i) activation and deactivation of said radio bridge as controlled by said first computer and to prevent activation and deactivation control at said communication endpoint associated with the