A packet radio network comprises at least one network operator station and a number of user stations. The user stations transmit message data to one another, either directly or via intermediate stations. When stations are first activated, they transmit key request messages to the network operator station. Other, authenticated stations in the network will not communicate with the new station, but will pass the key request message to the network operator station. The network operator station transmits the necessary keys back to the new station via the other stations to permit the new station to operate. Each user station transmits key probe signals from time to time which advise other stations of its public key.

16 Claims, 6 Drawing Sheets