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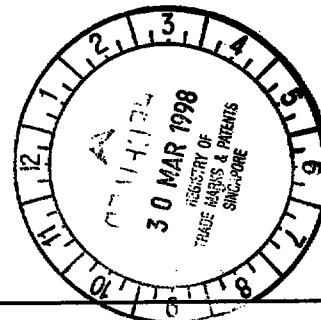
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(54) Title: **TRANSMISSION OF DATA ON MULTIRATE NETWORKS**

(57) Abstract

Mobile radio units (11, 21) communicate with their respective base stations at a lower bit-rate than the conventional switching rate of a fixed network. When communication is made between a mobile user (11) and a conventional subscriber to the 64 kbit/s PSTN system, or between such a conventional subscriber and a receiver (21). Such calls are identified by mobile to mobile recognisers (17 and 27) which identify characteristic bit streams and handle calls appropriately. The first mobile to mobile recogniser (17) is located at the fixed side of the air interface (14) and, for a normal call routes the call to the digital to A-law transcoder (15). The mobile to mobile recogniser (27) identifies calls coming from the 64 kbit/s switch (10), and for a normal call routes the call to the high bit-rate digital to A-law transcoder (26) as described above with reference to Figure 2. If a call is established between two mobile users (11, 21) the mobile to mobile recogniser (17) identifies such a call, for example by number recognition in the call set up phase and diverts the signal received over the air interface (14) to a bit stuffer (18). The bit stuffer (18) creates (64) kilobit frames from (16) kilobit frames by providing three null bits for every bit received over the air interface. The null bits may be random numbers, but preferably include a recognisable pattern which can be detected by a second mobile to mobile recogniser (27). By "bit stuffing" in this way a 64 kbit/s signal can be generated from a 16 kbit/s signal with minimal signal processing and without the need to transcode to A-law and back. The mobile to mobile recogniser (27), may be controlled, either by recognition of the identity of the calling number, or by recognition of the characteristic pattern of null bits in a bit-stuffed signal generated by bit stuffer (18), and routes the signal to bit stripper (28) instead of to the high bit digital-to-A-law transcoder (26). The bit stripper removes the null bits and transmits only the signals making up the original 16 kbit/s signal. These are then transmitted over the air interface (24) to the low-bit-rate to A-law decoder (23), and thus to the A to D converter (22) and the listener (21).

