

APPENDIX C CDMA SYSTEM LAYERING

Figure C-1 shows a simplified logical view of the CDMA system structure. This structure is divided into three layers.

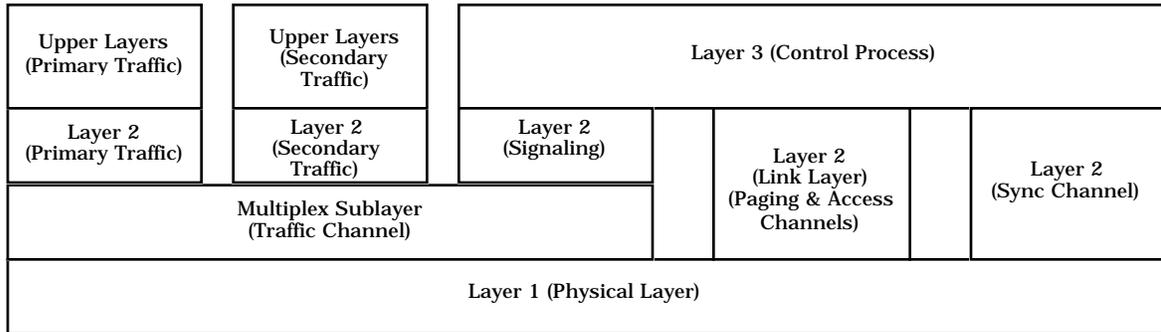


Figure C-1. Mobile Station and Base Station Layers

Layer 1, the multiplex sublayer, signaling layer 2 on the Paging, Access, Sync, and Traffic Channels, and layer 3 serve as the foundation for the CDMA system. These layers provide the basic mobile station services of layer 1 and layer 2 management, mobility management, call control, and the transport of user application packets.

Layer 1, the physical layer, provides for the transmission and reception of frames (see 6.1.3.3.10 and 7.1.3.5.10). The physical layer is similar for all channels in the CDMA system. The multiplex sublayer is used on the Traffic Channel and provides for multiplexing and demultiplexing of signaling and user application traffic. The multiplex sublayer also provides for frame categorization (see 6.2.2.2). Layer 2, the link layer, provides for the transmission and reception of signaling messages. The layer 2 protocols are slightly different on the Sync Channel, the Paging and Access Channel pair, and the Traffic Channel. Layer 3, the control process layer, is responsible for messaging and control of the mobile station (see 6.6 and 7.6).

An end user application, identified by a service option (see Appendix A), can be viewed as plugging into sockets provided by the multiplex sublayer. A service option specifies a particular layer 2 and all or some layers above layer 2. For example, Service Option 1, vocoded voice, has a simple layer 2 since voice packets with errors are not retransmitted. The upper layer is the basic vocoding algorithm. A service option for a different user application, such as data, may have an entirely different set of layers.

The multiplex sublayer is specified by the multiplex option. Multiplex Option 1, the default multiplex option, specifies the information bit formats given in 6.1.3.3.11 and 7.1.3.5.11. This multiplex option allows both primary and secondary traffic as is shown in Figure C-1. Thus two service options can be simultaneously active and plugged into the multiplex sublayer. Different multiplex options can be defined that are optimized for different service options. A particular multiplex option may allow only a certain set of service options to be plugged into it.

1

2

3 No text.