CS500 XD Security

900MHz TECHNOLOGY

SECURITY AND UNIQUE IDENTITY

The CS500 XD series operates in the 902 – 928 MHz radio band. The voice transition method used is digitization, with 32 kb ADPCM vocoding, and encryption of the vocoded data, which is then formatted into TDMA and PS key modulation. The transmitter operates at a low-duty cycle in non-constant envelope mode. The frequency band complies with North American regulatory requirements.

VOICE PRIVACY

Because the audio is digitally coded and encrypted, the CS500 series provides excellent security against eavesdropping. A casual eavesdropper listening to the radio channel will hear only a buzzing sound. The CS500 XD will select the best available radio channel and will automatically change channels if the channel in use experiences interference from another user. This ensures that two users will not be using the same channel at the same time. In the event of operation in a high-density system with limited availability of channels and time slots, two users near each other and sharing the same channel and time slot will experience occasional mutes of the received or transmitted audio and occasional audio distortion artifacts, rather than intercepted audio.

AUTHENTICATION AND ENCRYPTION

User authentication and 64-bit true digital encryption provide protection against deliberate eavesdropping. Voice data is encrypted in accordance with the standard algorithm EN 300 175-7. A description of the public portion of this encryption algorithm is available through the website of the European Telecommunications Standards Institute (ETSI) at www.etsi.org. Individuals and organizations needing encryption scheme details should contact Plantronics Engineering through the technical assistance center. Because it uses 64-bit digital encryption for speech and an internationally recognized and standardized encryption algorithm, the CS500 XD series is considered secure enough for commercial applications that require voice privacy.

ADAPTIVE FREQUENCY HOPPING

The CS500 XD series uses fixed-rate adaptive frequency-hopping during idle locked state, (when the base and the remote are in range but audio is not enabled.) This ensures that the base and remote are compensating for changes in the radio signal spectrum caused by other users and for the presence of interference. This not only improves the reliability of the link but has the effect of adding a layer of security. The hop sequence is random, on the basis of the physical environment. For the same reason, the CS500 XD series uses aperiodic adaptive frequency hopping when an audio link is enabled. Rather than changing channels at a fixed interval of time, the system hops channels whenever there is another user sharing the same channel and producing interference. In an environment with many users, this adds a layer of security because users change channels from time to time, rather than staying in a fixed channel. The adaptive approach offers improved security relative to systems that use single, common, and fixed-hop-sequence frequency hopping.

Plantronics CS500 XD devices are Sarbanes-Oxley (2002) sec. 404 compliant. This statement is based on the compliance of the encryption measures incorporated in the product with the requirements of USA regulation 45 CFR 164.312(a)(2)(iv).