

Theory of Operation

The DataSeal has two RF channels, high frequency (HF) and low frequency (LF). The HF is 916.5MHz carrier with FSK modulated data by 40KHz deviation. The LF is 125KHz carrier with OOK modulated data.

The DataSeal opens its HF receiver once every 3 seconds to look for an interrogator. If an interrogator is not found, the DataSeal goes to sleep for another 3 s. If an interrogator is found, the DataSeal receives the command and transmits a message, 50 msec., according to the command received. During the DataSeal wake up, it performs seal wire test and integrity test of its stored data. The LF receiver is always opened for data. The LF channel is used to interrogate the DataSeal by short range link for set-up or manual verification.