<u>Telemetry Receiver</u>
<u>Biotracker</u>

<u>Rejection of Cellular Telephony Signals</u>

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The Biotracker receiver has extensive safeguards to prevent the unauthorized reception of cellular telephone voice and data signals. The same measures prevent an unauthorized and illegal attempt to modify the device for such a purpose:

◊ The two high Q band-pass filters on the front end of the RF receiver are tuned to the VHF band (e.g.150 MHz) band and offer 50 dB rejection of out-of-band signals, including the cellular frequencies. The cellular band is far from the Biotracker reception band and so the cellular signals will be greatly attenuated by as much as 70 dB.

◊ The crystal IF filter (10.7 MHz) offers additional selectivity and permits only 2 kHz bandwidth signals through. Since cellular signals have a 30 kHz bandwidth, even if they pass through the narrower IF filter they would be weakened & distorted.

◊ The Local Oscillator circuit in the Biotracker receiver will not extend to frequencies as high as those used for cellular applications.

◊ The Biotracker demodulator is designed to receive SSB modulation. Since cellular phones use FM modulation they will not be demodulated by the Biotracker receiver.

◊ Due to the embedded firmware, cellular frequencies, or any other parameter which would be relevant to a cellular RF signal cannot be entered from the keypad, nether can they be entered through any other method. Only valid frequencies belonging to the frequency range (VHF band) of the receiver can be entered.

◊ Access to the internal resident firmware is practically impossible. Removing the memory chips or other elements of the circuitry would practically compromise the whole functionality of the unit. Furthermore, the firmware is totally customized for this type of receiver, which significantly adds to its security.