



Tel·A·Patient ...the words that work.

Distortion of Music while On-Hold using Cellular Phones

A few of our clients have been asking us why their background music sounds distorted when calling using a cellular phone.

Telecommunication equipment manufacturers say that, good quality speech can be attained at extremely low bit rates. However, music encoded with the same scheme will not decode properly.

CDMA, or code division multiple access, is the technology that permits users to hear one another over a mobile phone device. The codecs, or digital data signals, in CDMA are optimized for speech, at the cost of any non-speech, like tones or music.

A typical mp3 on a cell phone music player plays at a rate of 128kbps or more. The “Full-Rate of speech coding” on all cellular devices transmit & receive audio at an extremely low bit rate of 13kbps. This allows it to transmit quick & efficiently over radio waves. This technology is specifically intended to properly reproduce voice only. Music does not reproduce properly at 13kbps. As a result, background music will sound distorted, or warbling, with possible squeaks and pops.

Bottom-line: This is not a problem or error with Tel-A-Patient’s Message On-Hold Units. This is an issue with any music played over a cell phone connection, regardless of the playback system used.