Handset Unit

Receiving Path

The receiving path is established as below sections

Antenna, Mixer, Demodulator

RF signal is pick up by a solid wire antenna, the signal pass the 1.9GHZ matching network which also act as filter before going to external LNA input and further filtered by 1.9GHZ on board BPF. The signal is then fed to RX input of U2 (DE19RF16) RF IC.

FSK data demodulate

The demodulated FSK data is filtered, sliced and output from DE19RF16 pin 15 and fed to Baseband chip.data for further processing to recover the audio.

Transmitting Path

The transmitting path is established as below sections

Mic amplifier and encoder

Audio signal pick up by handset microphone goes through digital processing by the baseband chip.

Modulator and RF Power amplifier

The FSK data is output from the baseband chip then input to RF IC U2 (DE19RF16).The FSK data is then modulated directly onto the UHF VCO by means of varactor modulation. The resulting modulated RF signal is then amplified and input to PA chip DE19PA16. The signal is filtered by a 1.9GHZ BPF, goes through a switching diode and finally propagates through a solid wire antenna.