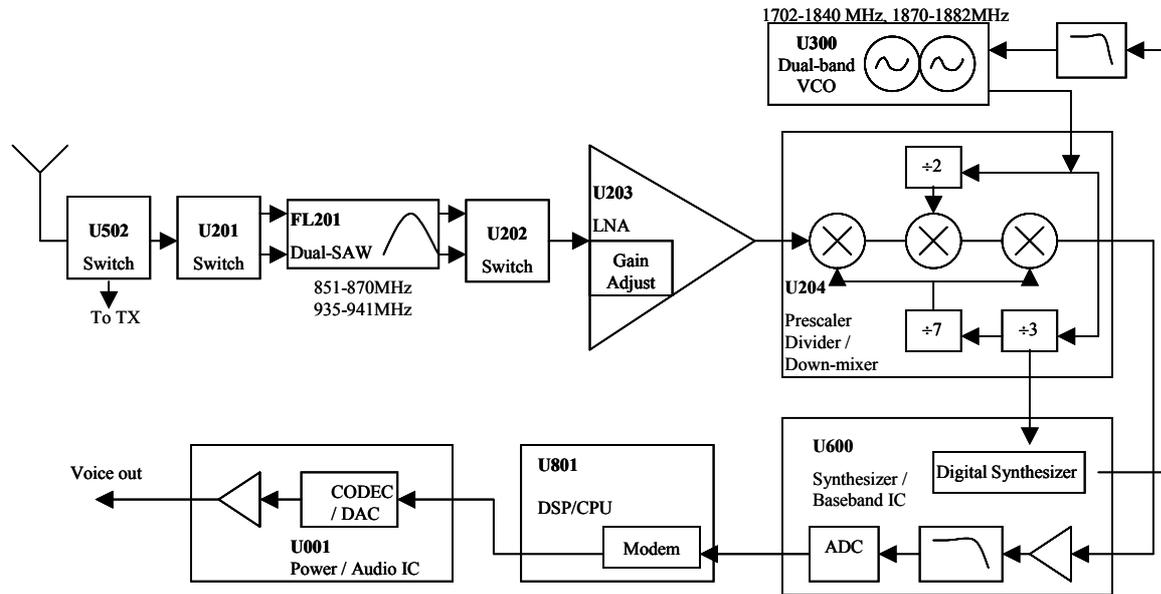


EXHIBIT 14. Receiver Block Diagram



14.1 Receiver Description

The receiver is of a super-heterodyne architecture and it operates in the frequency range of 851-870 MHz and 935-940 MHz. Upon application of power the receiver seeks to find one of its factory pre-programmed control channels. Upon acquisition, it down-converts the RF signal to a vector baseband signal in U204. The baseband analog signal is amplified, filtered, and digitized in U600, from where it is sent to U801 for demodulation and then to U001 for audio decoding and amplification.

The receiver path includes the following active components:

1. U502, is an antenna switch which during receive mode disconnects the transmitter path and connects receiver path to the antenna.
2. U201 and U202 are RF switches used to select the desired pre-selector filter, depending on the band of operation.
3. FL201 is a module within which the two pre-selector filters are packaged.
4. U203 is a variable gain stage which performs the functions of RF fixed step attenuation, RF continuous attenuation, and low noise amplification.
5. U204 provides the mixing stages which convert RF input to a vector baseband output.
6. U300 is a dual band VCO which provides the LO drive, to the mixer stages (after appropriate frequency division within the IC).
7. U600 amplifiers, filters and outputs the digitally sampled version signal of the vector signal.
8. U801 performs the demodulation on the sampled signal.
9. U001 decodes the audio signal, reconstructs the analog messages, and amplifies the voice signal before it is provided to the speaker.