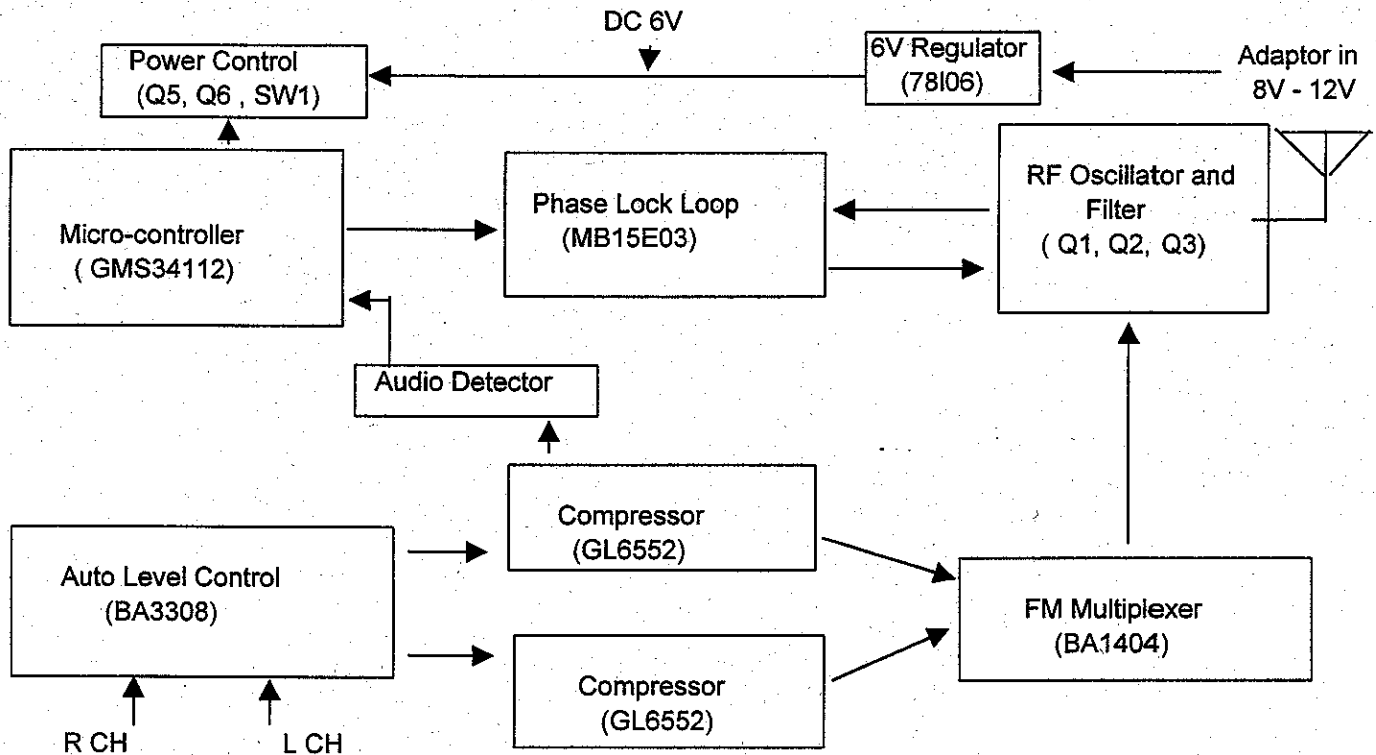


BLOCK DIAGRAM

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Circuit Description

This transmitter is powered by 6V DC (Batt. Or AC/DC adapter). In case Ext AC/DC adapter is used, the input voltage will go through REG1, which is a 6V regulator to limit the actual voltage running the circuitry.

The transmitter has three channels, the frequency of which are 91.4MHz, 91.3MHz and 91.2MHz; these carrier frequencies are generated by Q1, Q2 & Q3, and controlled by the PLL IC MB15E03. Different channel settings will cause the CPU GM34112 to output different data to MB15E03, in order to lock into different frequencies.

The Modulator is a standard FM Stereo Multiplex signal, which is generated by the FM Multiplex IC-BA1404.

Since the transmitter may connect to different audio sources, which may have different input levels and impedances; therefore, an ALC circuit (BA3308) is added. The output of the ALC circuit remains constant even when the input level varies from 200mV RMS to 10V RMS.

In order to further improve the signal-to-noise ratio, a compandor circuit is included in the system. On the transmitter side, the audio signal will be compressed by IC2 and IC3 before being fed into the FM Multiplexer (IC4 BA1404).

The circuit consists of an 'Auto-off' function; the 'audio signal detector' Q8, Q9 will output a signal to uP GMS34112 in case silence on input is found. The uP will turn the LED into 'blinking' mode for indication, and keep counting the length of the silent period. If the 'silent' is found for more than a certain time, the uP will turn off the whole transmitter via Q5 and Q6 automatically. It is required to put the SW1 back to off position and then switch on again to wake up the circuitry.