# **Operational Circuit Description**

## **Main Unit**

The main unit consist of:

#### 1. Radio circuitry

TEA5757 and LM4811. The TEA5757 is a integrated radio receiver IC. The radio analog signal is output to LM4811 which is the headphone amplifier.

## 2. Heart rate receiver

A discrete transistor amplifier (T12 and T34) amplify the signal pickup from the 75KHZ pickup coil. The heart rate signal if input to the MCU unit for data computation.

## 3. Pedometer.

The pedometer consist of a magnetic reed switch and a magnet mount on a pendulum. For every step the user walk. The pendulum will move up and down once. The movement of the magnet cause the reed switch to closed. A pulse generated is input to MCU for pedometer data computation.

#### 4. MCU unit

The inputs of MCU (U1) unit accept the following incoming signal

- a. heart rate
- b. pedometer,
- c. key press

The output of MCU unit provide the followings function

- a. control of radio receiver e.g. FM tuning and volume control.
- b. LCD for information display
- c. Audible beeping.
- d. LED lighting
- e. power control

## **Chest Belt Unit**

The signal input of chest belt consist of two elastic conductive pad. The heart rate input signal from chest belt is amplified and shaped through a group of discrete transistor circuit. The pulse signal will then output to a 75KHZ transmitter (T5, T6, T7) which generate a 75KHZ AM heart rate signal.