

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.