

Parent Unit Circuit Description

The Parent Unit consists of 7 functional parts as shown on the block diagram and the functional description as follows :

1. Low Noise Amplifier

The Low Noise Amplifier response to amplifies the signal output from the receiving antenna. It's main components including coil L2, L3, capacitor C21 and transistor Q1

2. FM Demodulation System

The FM Demodulation System (integrated circuit 3361), reference number of U1, response to perform all the functions of mixer, local oscillator, intermediate frequency amplifier and demodulator

3. Channel Selection Switch

The Channel Selection Switch, SW1, is used to select one of the two frequencies 49.845MHz or 49.890MHz

4. Sound Light

The Sound Light circuit response to control the LED array display in accordance to the audio signal output strength from the FM Demodulation System. The stronger the audio signal causes more LED to be turned on. It give the user a visual indication in additional to the speaker output. The Sound Light circuit includes diodes D1 and D2, transistor Q4 to Q12, LED 2 to LED 8

5. Audio Amplifier

The Audio Amplifier, U2, function as audio power amplification of the weak output signal from the FM Demodulation System and send the output signal to the speaker directly

6. Low Battery Detector

The Low Battery Detector detects the pre-determined low voltage point of the battery. When the battery voltage reached the low voltage point then the LED light color will change from green to orange to indicate the low battery status. The Low Battery Detector includes the main components of resistors R3, R3A, R10, R8, R6, R11, R4, R9, Transistors Q2 and Q3

7. Low Battery LED Indicator

The Low Battery LED Indicator, LED1, is a bicolor LED which light the green color for normal battery state and change to orange while at low battery state

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