

Technical Description

Model: T-248'

Date: Jun. 10, 05

The T-248 AM/FM , Weather ,Alarm Clock radio is contents into 3 parts which are Weather Band Receiver, AM/FM Receiver, Real Time Clock Controller..

1. Weather Band Receiver:

Power on press SW3 will cutoff AM/FM radio.

Weather band signal passed from antenna into the RF amplifier Q1 to amplify it.

Local oscillation frequency is derived from a dingle 162.020MHz crystal by means of coil/capacitor. So the location oscillation can be changed from 161.945MHz to 162.095MHz which depend on the weather band channel selector (SW1) setting.

Both weather band signal and local oscillation frequency will feed to the Mixer (Q7) to generate 455 KHz IF signal.

The 455 KHz IF signal will be amplifier and feed to narrow band FM demodulated by demodulator circuit formed by Q3, Q4, Q5 then pass to audio amplifier (U2) then output to Speaker.

2. AM/FM Radio

U1 single chip for AM/FM RF/IF ,AM/FM MIXER,AM/FM DEMODULATOR.

3. Real Time Clock Controller

The CPU (U3) has 32.768KHz crystal oscillator (X3) to generate real time clock. It also including LCD driver to show real time clock, alarm time and others on the LCD panel. At the unit is powered AC including battery low detection circuit which Q16 and Q17 for UM-3 back up battery.

U3 also control back light LEDs by Q10, Q11 and Q12 for 3 steps dimming. AM/FM receiver will be turning on or off by electronics switch formed by Q19, Q23 and Q22, and sleep with sleep volume Q8,Q9,Q20 and Q21 when press ON/SLEEP (S17) .switch. or alarm wakeup . .