

Circuit Description :

The model 49270 is 49MHz baby monitor which is operated in 49MHz.

Just like the regular 49Mhz transceiver, the 49270 circuit consists of traditional local oscillation, mixer, RF and audio amplifiers.

In order to save cost, the 49270 uses only one crystal, for all operations. The circuit is operated with a 16.625Mhz crystal in Parent unit (16.610Mhz in Child unit), and the oscillation frequencies of the crystal will shift to 16.630Mhz (16.615Mhz) by changing the oscillation environment in channel B.

In transmitter mode, the oscillation frequencies will be trippled and the circuit will output either 49.875 or 49.890 in Parent unit (49.830Mhz or 49.845Mhz in Child unit) subject to the channel setting.

In Receiver mode, because of a simple is used, the immediate frequency will only be 45Khz. A PLL demodulator (IC4046) is used to demodulated the signal with better signal to noise ratio.

Under normal operation, the Child unit is always transmit, and the Parent unit is always in receive model. In two way operation, the parent unit has a 'push to talk' button which will turn the parent into a transmitter whenever the button is pressed.

However, it would be a bit more complicated on the Child unit. There is a push button on the transmitter, which will force the Child unit to be set into 'two way mode'. Under two-way mode, the transmitter will switch between transmit and receive mode automatically from time to time. The timings are as following:

- a) The Child unit will be in transmit mode for 1.9 Sec
- b) The unit will switch to receive mode for 0.1 Sec
 - I) If pilot tone is detected, the circuit will be locked nto receive model until the pilot is disappeared.
 - II) If no pilot tone is detected, the circuit will go ack to above a) and then cycle again.

For the detail operation, please refer to the User Manual for further information.