

ABSTRACT

The phone handset placement detector device is function to do an error detection on placing the phone handset this device is very needed because if not using the detection alarm, the phone handset placement error can be losses in communication because unable to receive call from outside.

The objective from this final project is to design an electronic device that can do a detection on phone handset placement error then give a warning to the phone owner to immediately do the right placing in 15 second if in 15 second time phone handset didn't place correctly then the phone will be switched to the ringer position.

The research limitation on this final project writing is that the research was only limited to the function of the circuit blocks. The second is that the phone handset placement error detection alarm can only be used on a non cellular phone line.

The writing systematics on this final project is divided on chapter 1 introducing, detection alarm theory, chapter IV design simulation analysis and chapter V closing that was the last part on this final project.

When the communication is finished and the phone owner didn't place the phone handset correctly, then the phone central will produce a 1 KHz tone. The 1 KHz tone will be detected by the tone detector circuit.

If there was a phone handset error placement, then the signal from the phone line will be detected by the tone detector circuit LM 567 IC through terminal 3 via capacitor C3. LM 567 IC is a tone detector circuit that works on the 1 KHz frequency, where this 1 KHz frequency is determined from the VR2 and C4 value setting if there was a match in input.

Contact transistor circuit that function to switch connection from the phone line to the telephone will be switched from the line so that it will be connected to ringer and give a trigger signal for 7400 input as oscillator 1 circuit.

Oscillator circuit produces an output logically high to control reset input on the 555 IC and in the time it got high logic, then the 555 IC can be activated as an astable multivibrator by the frequency that is determined by the R10, R9 and C9 value. So that on pin 3 555 IC can produce a 1 KHz tone generator to activate speaker circuit as a warning to the phone owner that there was an error on the phone handset placement. Then the phone will be come normal again and can do a phone connection if the alarm reset button is pressed.