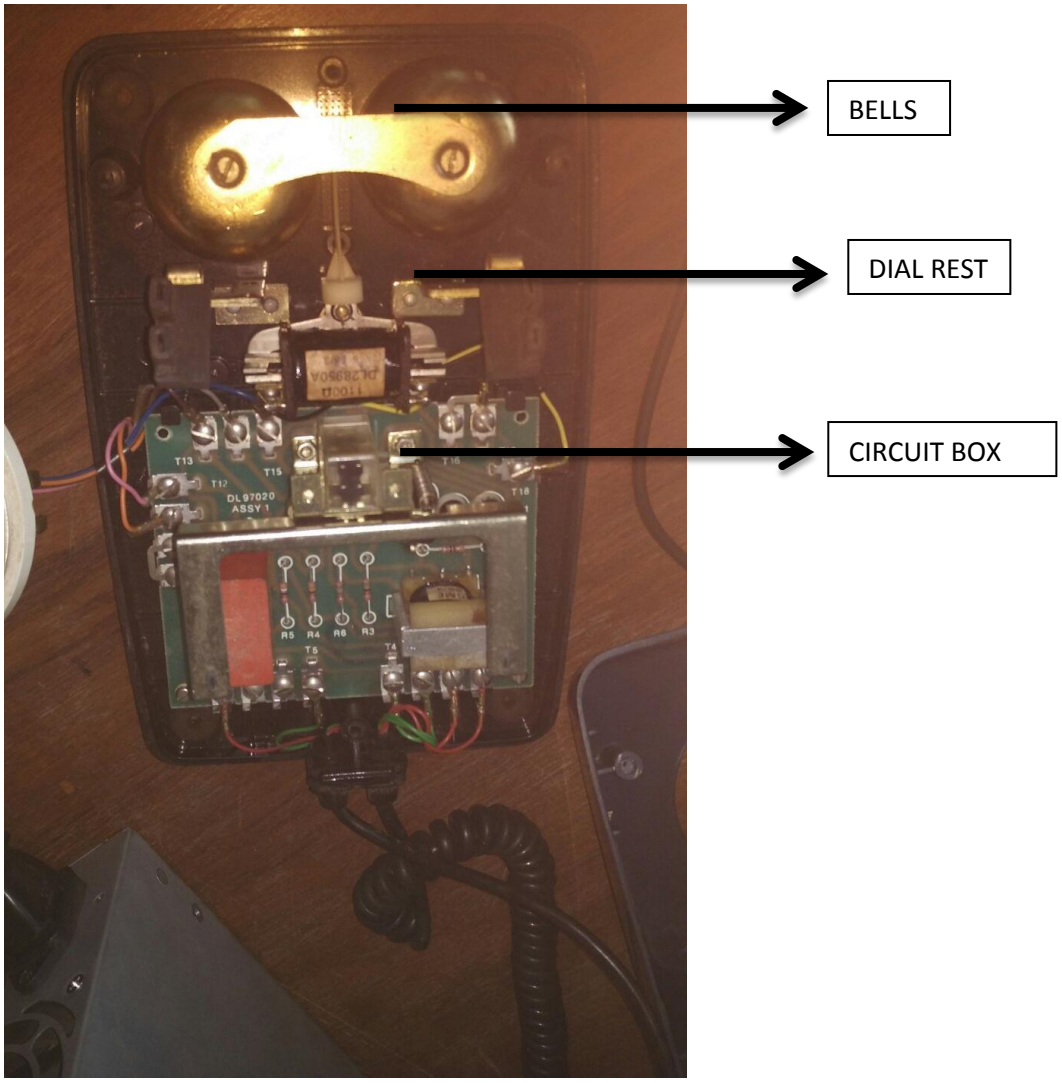
RED ROTARY PHONE (IOTBLR)

Prototype Building documentation

STEP 1

Open up the red rotary phone, and keep all the parts and assemblies separately. The inside systems and assemblies will resemble the images below:-



The above image is the breakdown of the rotary phone that we have prototyped. The one you own may or may not different. So the details of parts that comprise a red rotary phone are listed on the next page along with the name of the parts. In subsequent steps, the part names will be guiding you through the entire prototype building process.

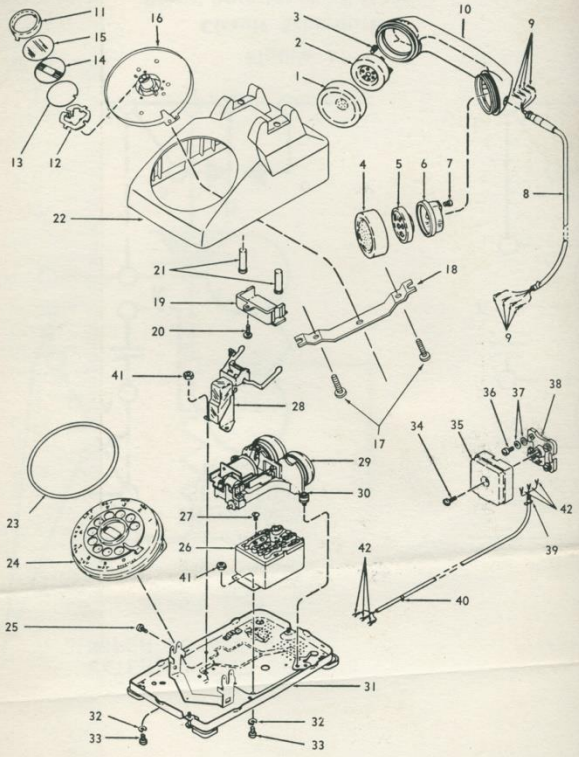


Figure 2

K-500 Desk Type Telephone—Exploded View

3. All telephone codes which *do not* include asterisks "**" are available in "Black" *only* and shall be specified as shown below:

For example:

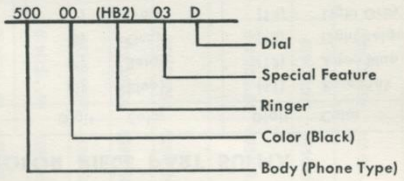


TABLE I—LIST OF REPLACEMENT PARTS

INDEX NO.	NAME OF PART	PART NO.	QTY.
1 thru 10	Handset	See Handset Section of Handbook	1
11 thru 15	Number Card Assy.	75418 for Black Telephone only. (See Dial Section of Handbook)	1
16	Dummy Plug	79455 (*)	1
17	R.H. Self Tapping Screw	75407 (4)	2
18	Clamping Plate	79443	1
19	Plunger Retainer Plunger Retainer	75405 (Black) 75405 (*) (Colored)	1
20	R.H. Self Tapping Screw	75407 (2)	1
21	Plungers	75406-2	2
22	Housing Assembly Housing Assembly	75402 (Black) 75402 (*) (Colored)	1
23	Vinyl Gasket	75474 for Black Telephone only 75474 (2) for Colored Telephone only	1

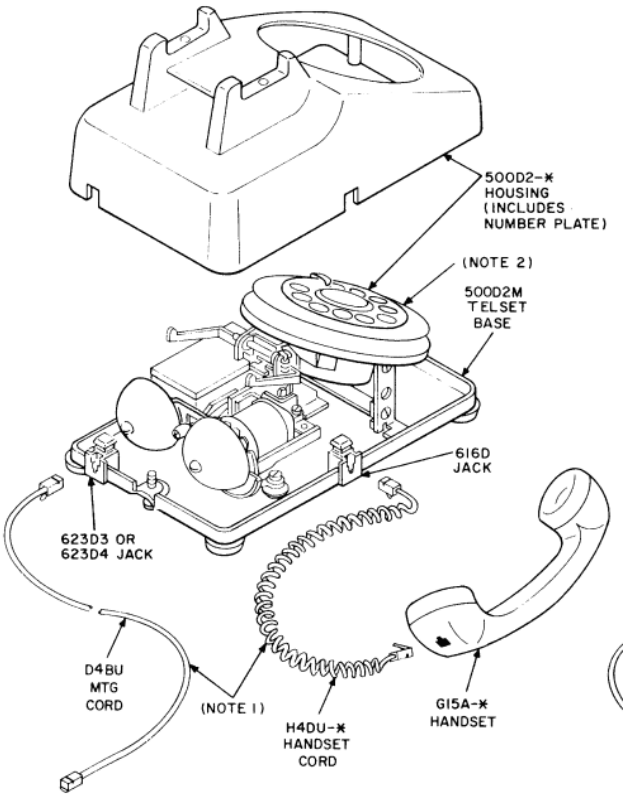
LIST OF REPLACEMENT PARTS

INDEX NO.	NAME OF PART	PART NO.	QTY.
24	Dial	See Dial Section of Handbook	1
25	Mounting Screw	75487 (2)	3
26	Network	75335	1
27	Terminal Screws	75392 (2)	15
28	Cradle Switch Assembly	75300	1
29 & 30	Ringer	See Ringer Section of Handbook	1
31	Base Plate	75327	1
32	Spring Washer	75436 (5)	5
33	Bind HD Machine Screw	69116 (3)	5
34	Cabinet Lock Screw	75545	1
35	Cover	75542	1
36	Bind HD Machine Screw	75487 (2)	4
37	Washer	75544	8
38	Base Assembly	75540	1
39	Cord Strain Relief Band	75410	1
40	Cord Clamp Hook	75351	1
41	Hex Nut	67093	5
42	Terminal	75325	6

*Stands for color digit designation.

COLOR PIECE PART SUFFIX

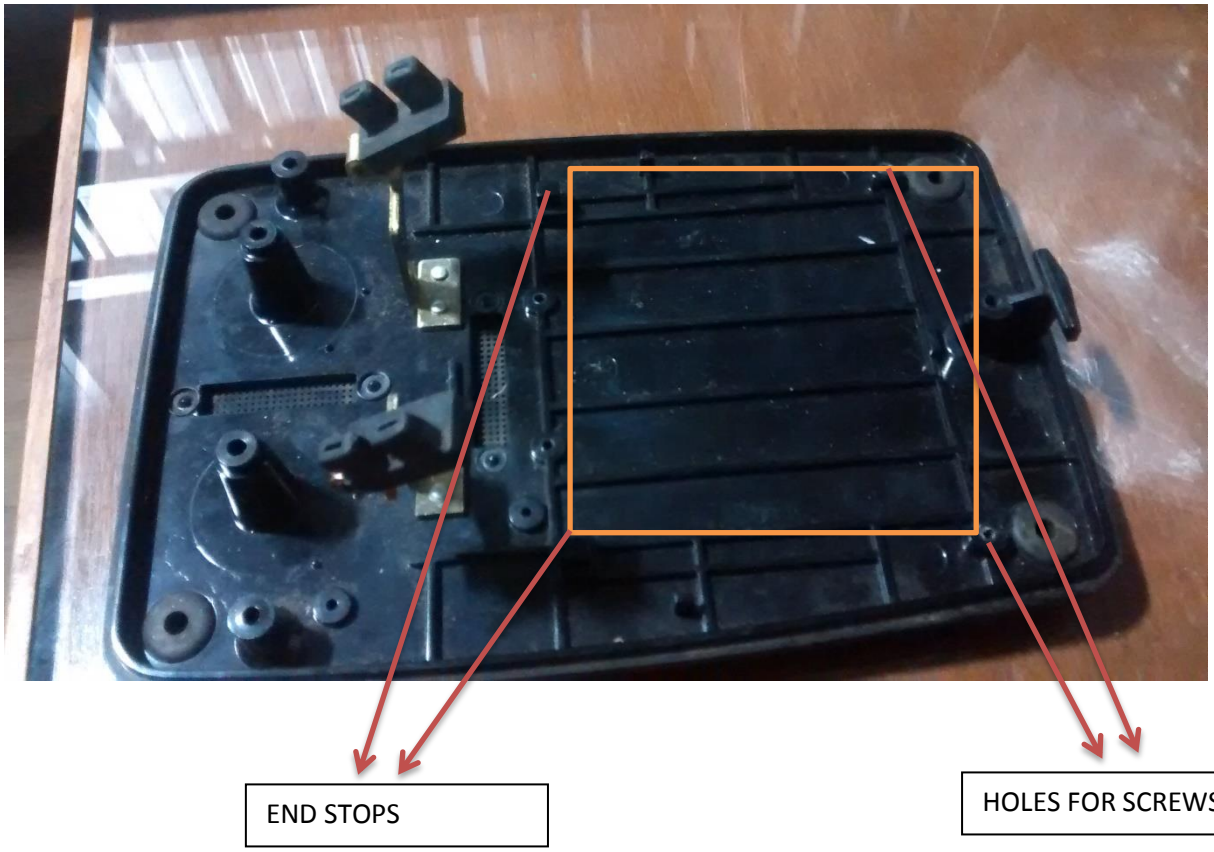
Digit	Color	Digit	Color	Digit	Color
(1)	Black	(6)	Blue	(11)	Rose Pink
(2)	Red	(7)	Beige	(12)	Aqua Blue
(3)	Brown	(8)	Gray	(13)	Light Beige
(4)	Yellow	(9)	Ivory	(14)	Light Gray
(5)	Green	(10)	Turquoise	(15)	White



500DM-* TELEPHONE SET

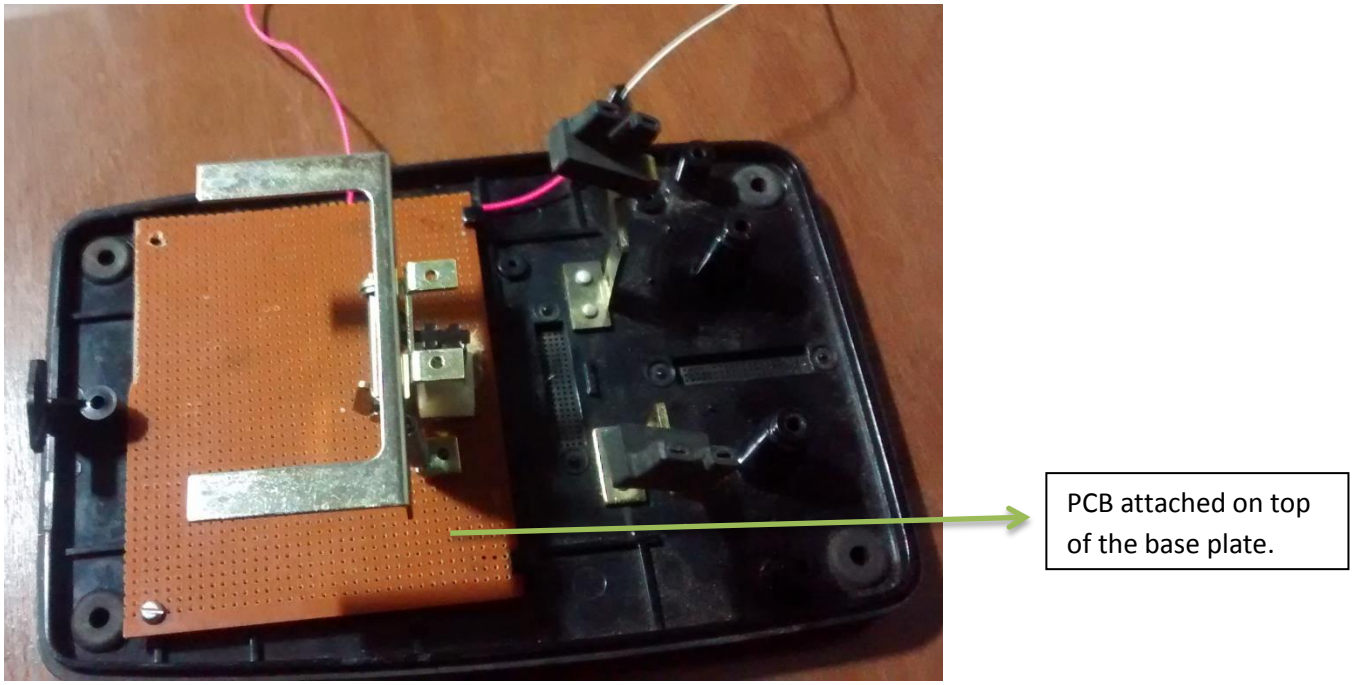
STEP 2

After opening up, the base plate will look something like:



Cut a PCB to replace the circuit box and place it on the top of the base plate to fit between the end stops and the holes (*orange box*).

Measure the holes distance and drill the same on the PCB and tightly screw the PCB on the base plate. (*Refer the image below*)

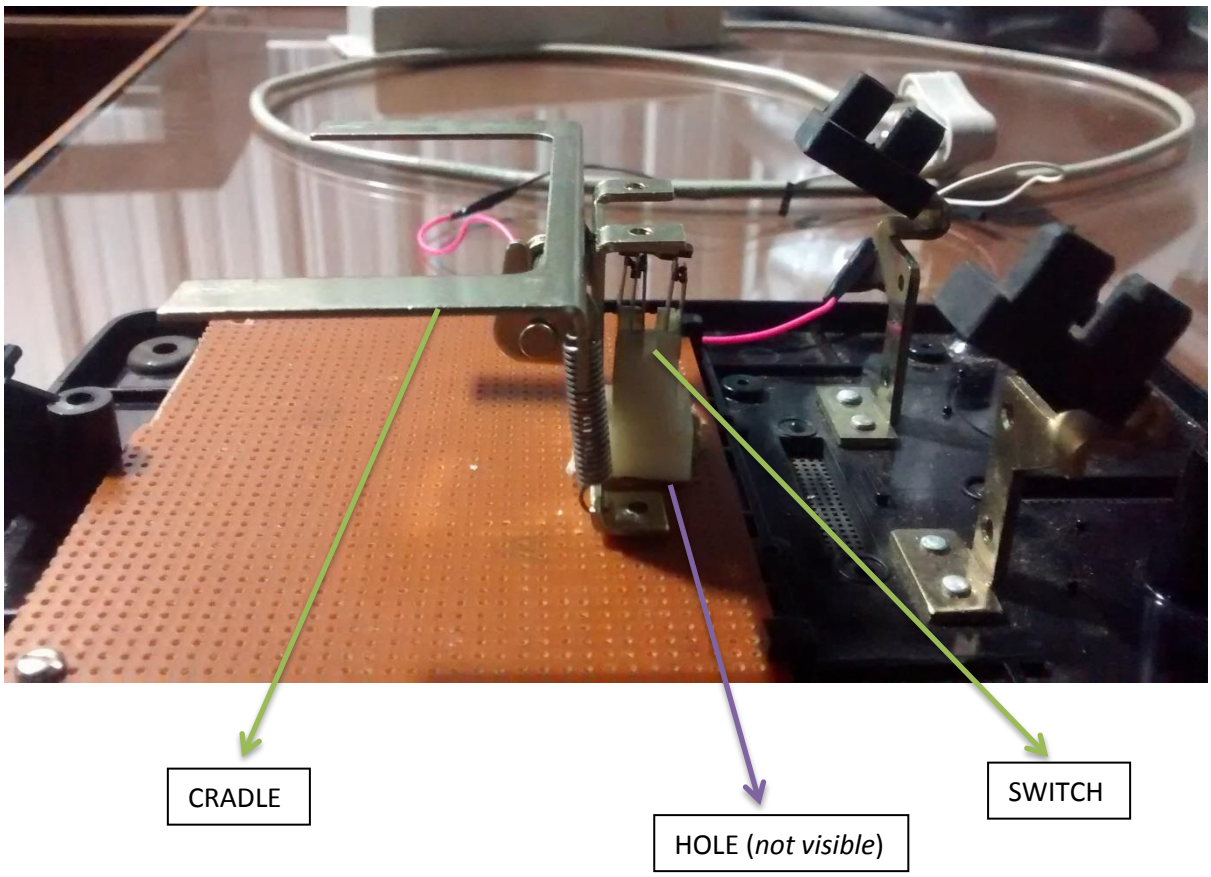


STEP 3

Take the original circuit board and calibrate the location of the ***cradle assembly***, so that the ***plunger*** drops on top of it.

Watch the following video to understand the mechanism of the cradle assembly.

Drill Holes at those locations to attach the ***cradle*** back again on the PCB. Also make a hole for the metal sections of the ***switch*** to protrude outside the PCB.

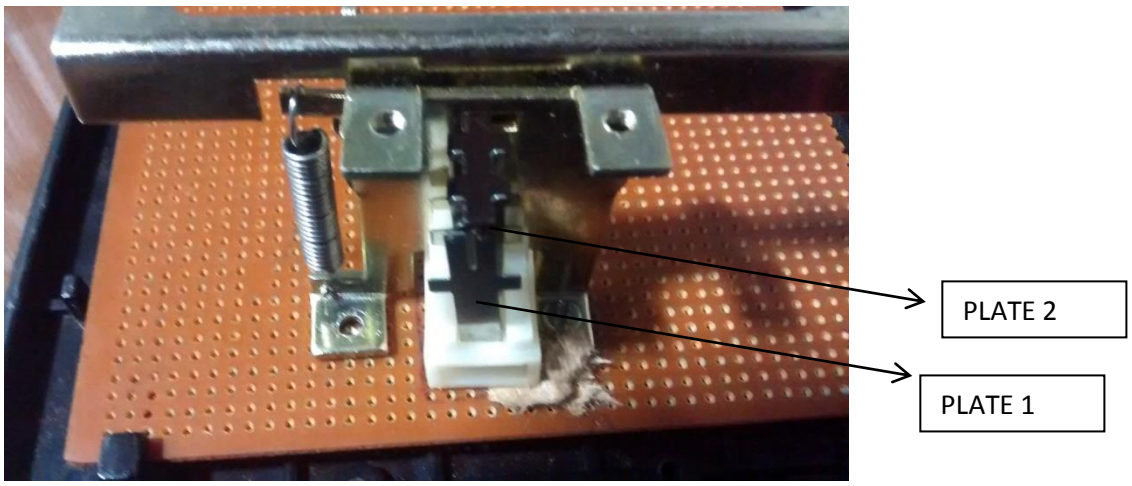


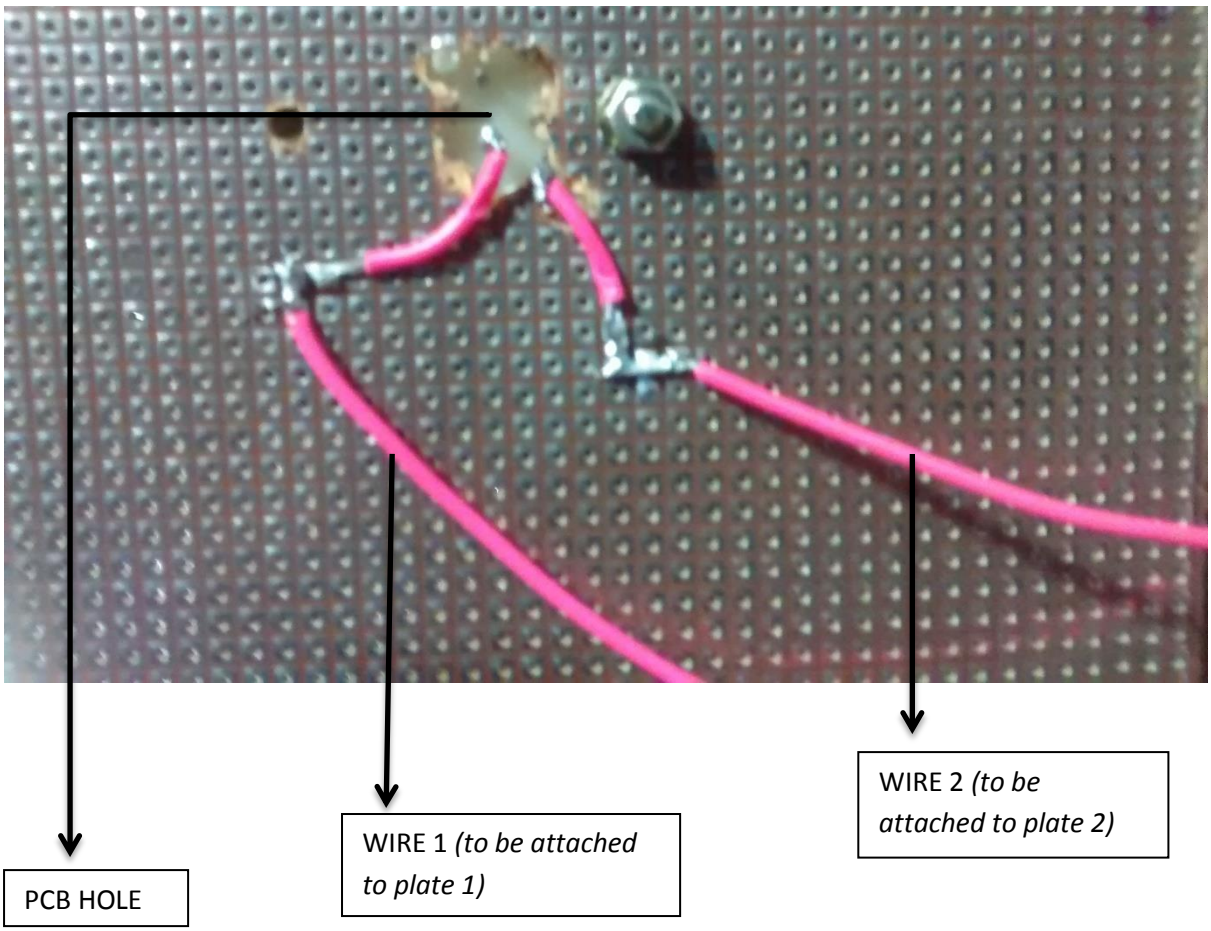
After placing the cradle assembly back on the location, check for the following two working conditions:-

1. The switch is in working condition when the cradle is pushed down and left.
2. The plunger drops on the cradle so that the phone receiver can push down the cradle.

STEP 4

Solder two wires to the metal plates attached on the ***switch*** as shown in the image below.

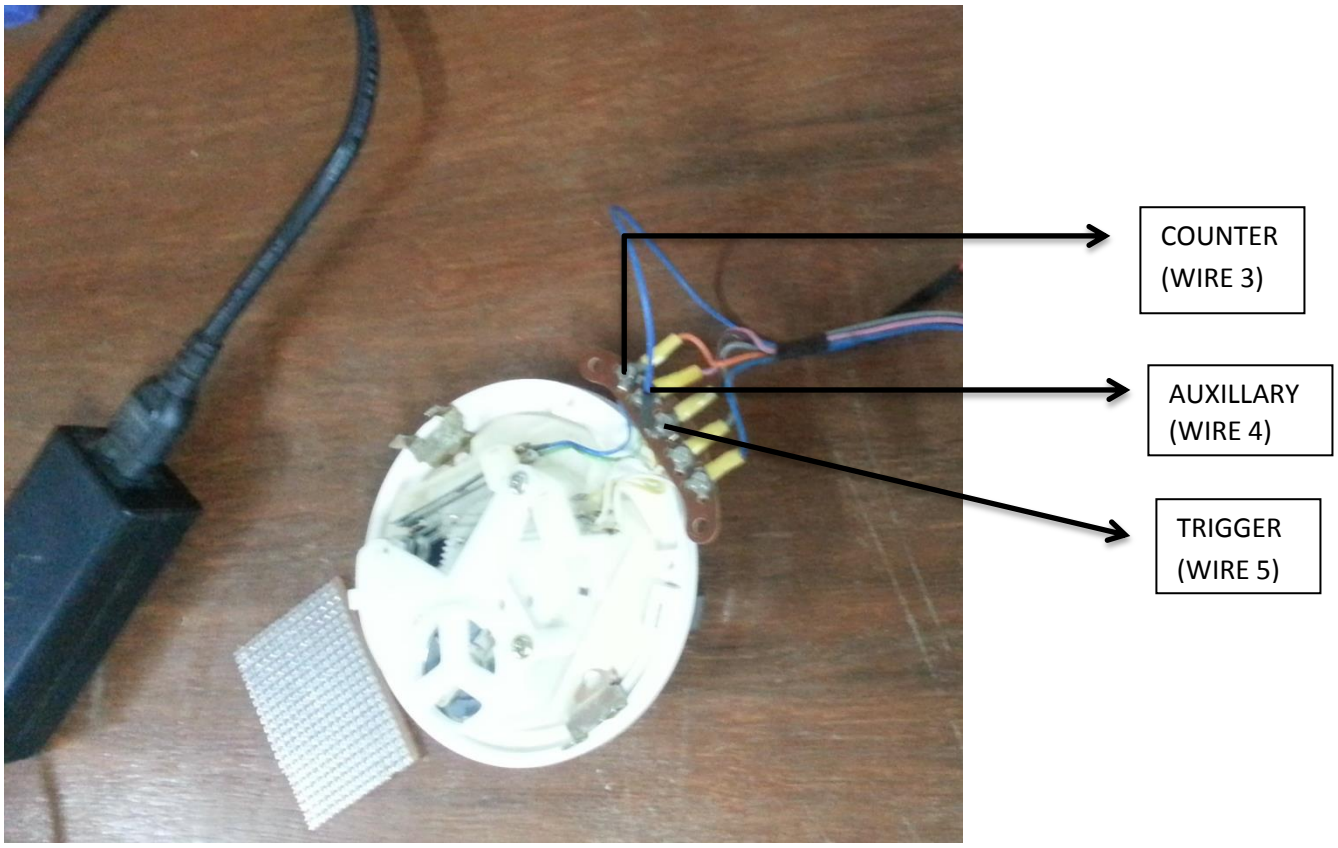




Once the soldering is done check the working of the cradle assembly using raspberry pi.

STEP 5

PREPARING THE DIAL PAD



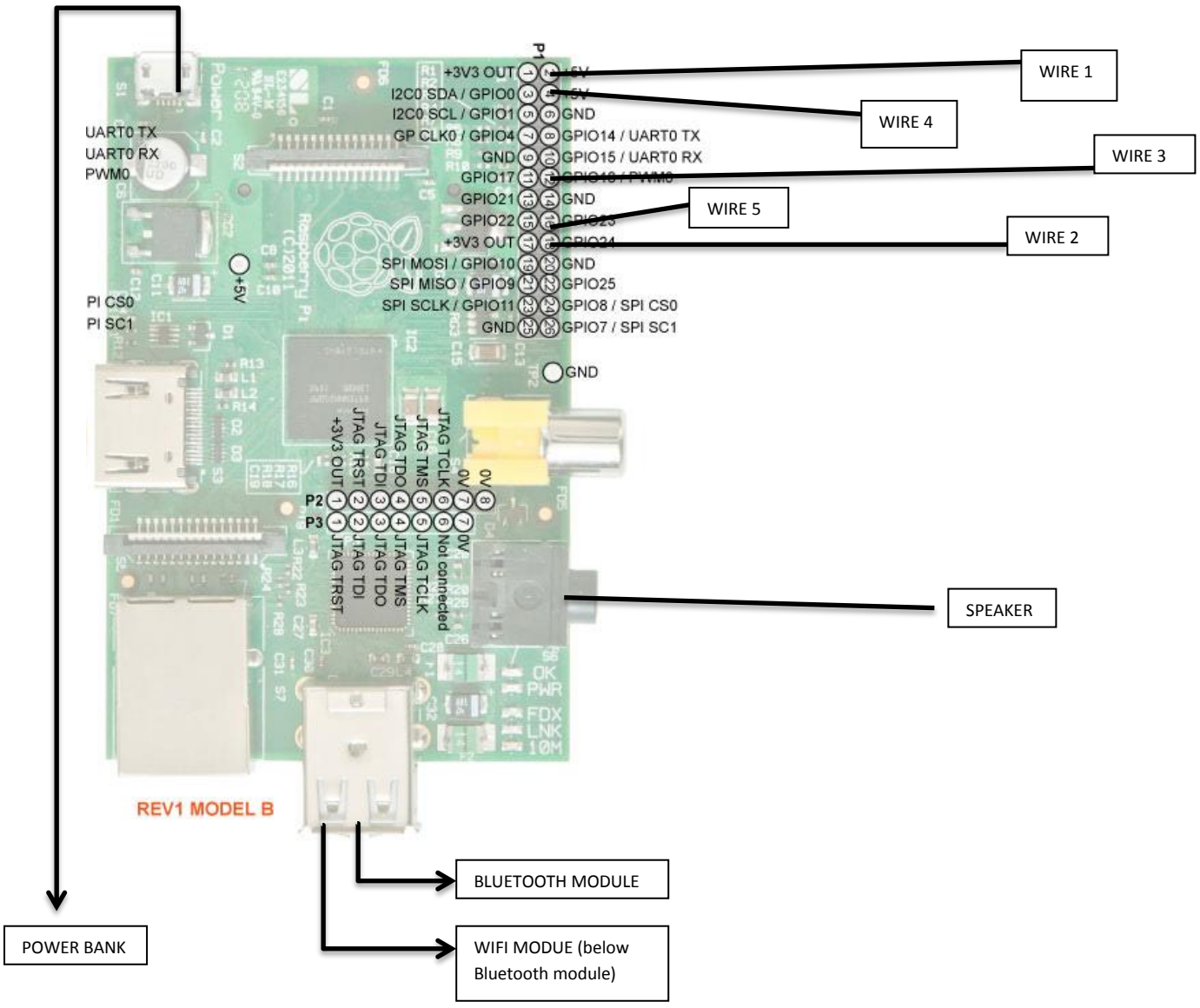
The schematic above is for the working of the dial pad and the connections on it to be modelled with the raspberry pi.
Remove the respective wires and solder them with the jumper wire to be inserted in the raspberry pi.

This should setup your dial pad and using the code for raspberry pi generates the same number on the console as dialled on the rotary pad.

STEP 6

RASPBERRY PI CONNECTION SCHEMATIC

Check for pin-outs in the following and image and connect the spare parts and wires to the respective connections:-



STEP 7

Now complete the entire prototype by using following instructions:-

1. After assembling the PCB and the cradle assembly, put the dial pad assembly back on the original location.
2. Place the entire raspberry pi carefully back on the PCB plate without disturbing the connections (*note that you will need to solder the wire connections*).
3. **TEST** it once using the code provided. *(Refer the other documentation for **cloudant** and **installing the code**).*
4. When the desired output is received, place the housing back on the top of the prototype.
5. *Note: Depending on the size of the speaker and the power bank, they may have to be placed outside.*