

Portable Rotary Phone

Users Manual

6/1/2005

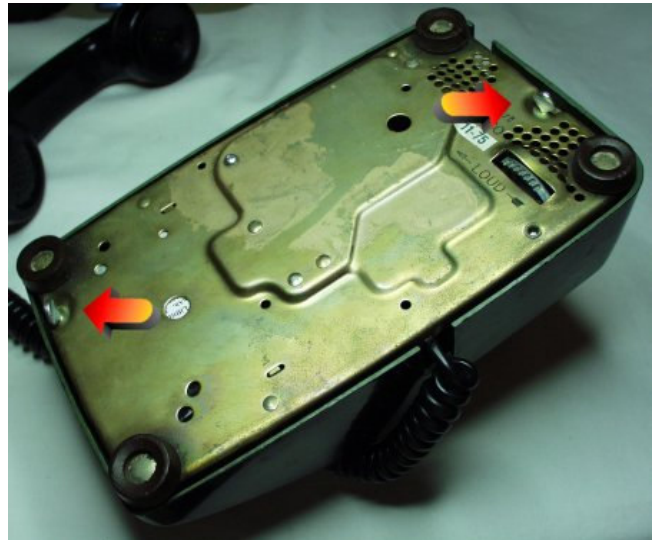
1 Overview

Congratulations on your purchase of the first Portable Rotary Phone ever built! We are sure you will enjoy the dependability, the laughs, and the looks you'll receive from co-workers and friends. This short user's manual will walk you through the basics of using your new cellular phone.

2 Basic Operation

2.1 Opening the Hood

Each phone ships with easy to remove screws on the bottom of the phone:

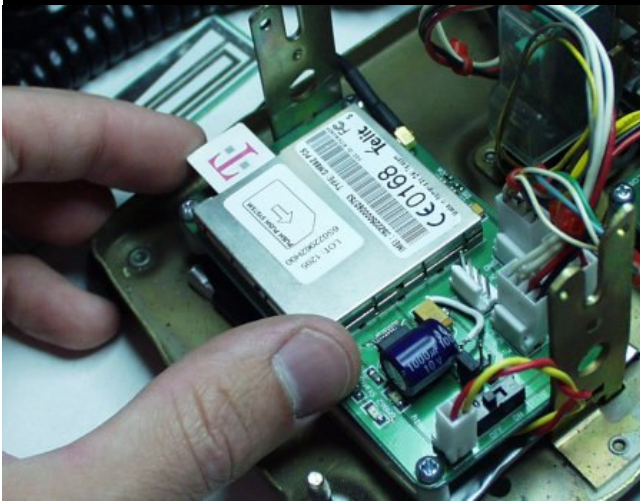


Removing these two screws will allow access to the SIM card insertion and removal, the internal battery for charging, and the power switch.

2.2 Inserting the SIM Card

The Portable Rotary Phone uses industry standard SIM cards. The customer must provide their own SIM card for use. Currently T-Mobile and Cingular (including AT&T) use this type of small chip to store the user's account information. Once you've installed your SIM card and powered up the phone, anyone who calls your number will be calling your new rotary phone!

The installation of the SIM card is straight forward. First remove the cover of the phone and verify that the power switch is in the 'Off' position. Locate the SIM slot on the side of the cellular module. Sliding the card in, you will hear a slight 'click' as the SIM is locked into place. Don't worry, removal is as simple as pushing in the card again and the module will release your SIM card.

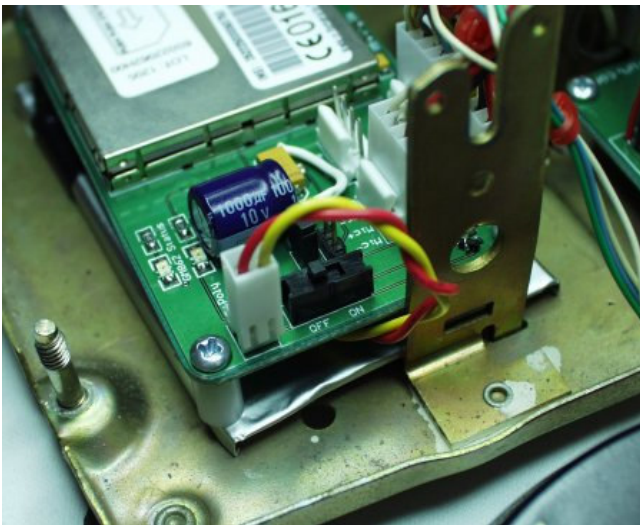


Installing a T-Mobile SIM card

Remember: Your account minutes will be used as normal for all calls placed or received through the Portable Rotary Phone.

2.3 Power Switch

What good would a cellular phone be if you couldn't turn it on? The Portable Rotary Phone has a simple slide On/Off switch.



After the SIM card is installed, slide the switch to the **On** position. The phone may ring once or twice during the boot-up sequence. This is normal and *does not* indicate an incoming call. There are two small lights (LEDs) that will indicate the current status of the cellular connection. Initially, after the

unit is powered, the **GM862 Status LED** will blink on and off once per second. This indicates that the module is logging onto the network. Just wait... After approximately 60 seconds, the GM862 Status LED will flash quickly and then go dark every three seconds. This indicates that the phone is registered on the network and ready to place and receive calls. You can now carefully replace all internal parts, close the cover, and tighten the two thumb screws on the base of the phone.

2.4 Receiving Calls

Give it a try! Once the unit has been powered and closed up, call your cellular number from another phone. The Portable Rotary Phone will ring the vintage bell ringer quite loudly. Picking up the handset at any time will connect the call as normal. If the handset is not picked up after 4-5 rings, the caller will be directed automatically to your voicemail. The ring volume can be adjusted by the dial on the bottom of the phone.

Note: If you need to 'mute' the ringer, simply take the handset off the hook. No minutes will be used as the phone will be expecting you to dial a number and the ringer will not actuate while the handset is off the hook.

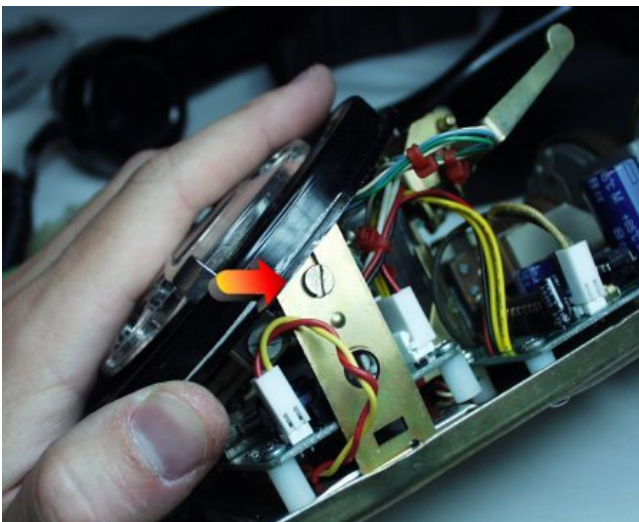
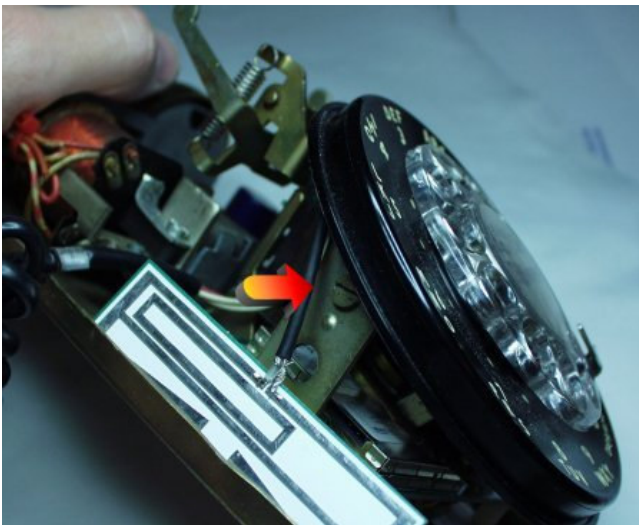
2.5 Placing Calls

You can pickup the handset at any time. You *will not* hear a dial tone. The Portable Rotary Phone expects 10-digit dialing. This means that you dial just like you would on your cellular phone with area code first (no '1') and the following 7 digit number. For instance, if you needed to call us here at Spark Fun : (303)-284-0979, you would pick up the handset and dial **3 0 3 2 8 4 0 9 7 9**. No preceding 1, no dialing 9 for at outside line (hah!). If you mess up at any time (it can be a little tricky at first) simply press down on the handset for a second and release; any previously dialed number will be lost and you can start again.

3 Hardware Description

3.1 Removing the Rotary Dial

The pictures for this manual were taken with the dial removed for simplicity. With a little practice, you should be able to insert the SIM card, operate the power switch, and disconnect/reconnect the battery without having to remove the dial. If need be, the dial can be easily removed with a flat-head screw driver. There are two screws located on each side of the dial that must be loosened (not removed).



With these two screws loosened, the dial will remain in place. The two uprights have small indexing holes that keep the dial oriented at the correct angle. Applying slight, outward pressure to the uprights and lifting gently on the dial face will release the rotary dial. Again, a little practice goes a long way.

Don't worry! Because these phones are so heavily built, it is unlikely you can do any harm to the phone itself. However, please be cautious when handling the internal electronics.

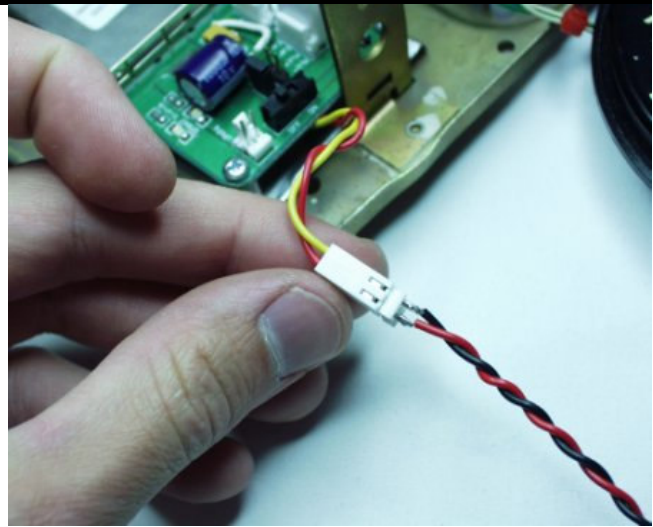
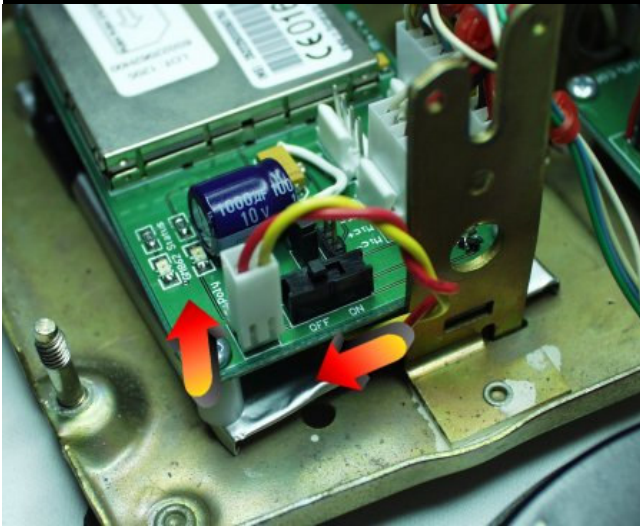
3.2 Charging the Battery

The Portable Rotary Phone uses an advanced battery chemistry called Lithium Polymer Ion. These new batteries pack quite a bit of energy into a very small space. The 2000mAh LiPoly battery will run the Portable Rotary phone for **4-5 days** on a full charge in stand-by and **10 hours** of talk time. If your phone is not ringing when there is an incoming call or if you have tried unsuccessfully multiple times to place an outgoing call, you may need to charge the battery.

Lithium Polymers are quite finicky when it comes to charging:

- *Never ever* use a charger other than the one provided to you by Spark Fun Electronics
- Never use this battery for use in anything but the Portable Rotary Phone
- Do not dispose of Lithium Batteries in normal trash

These cells are quite hardy and can be recharged and used reliably for over three years. To charge the Lithium Polymer in your phone, first follow the directions for removing the cover.



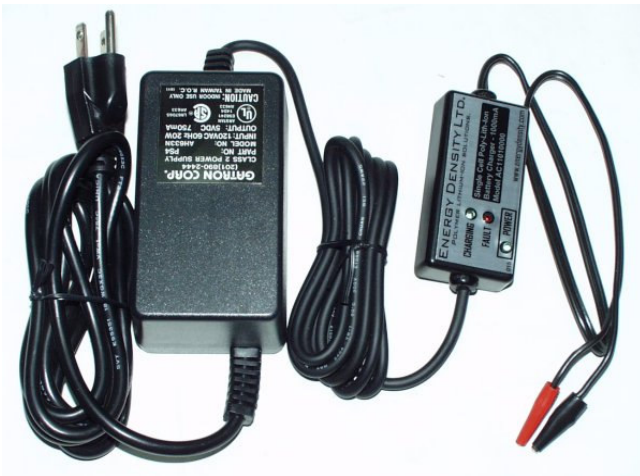
Power down the phone by sliding the On/Off switch to the 'Off' position. Wait 5-10 seconds while the unit powers down. Carefully lift up on the battery connector housing. All the connectors in the Portable Rotary Phone are polarized friction fit connectors. This means they can only be inserted in one orientation (the correct way) and they will stay connected (friction fit).

First attach the battery pack to the charger and then plug the charger into the wall. Be sure that the red wires always connect together.

The charger has a *Power* light, a *Charge* light, and a *Fault* light. Plugging the charger into the wall, the Power and Charge lights should come on. The Charge light will go out when charging is complete. Reconnect the battery to the phone, repeat the power up steps and reseal the phone.

Caution:

- If at any time, the Fault light comes on, disconnect the charger from the wall and do not use the phone. Please call us (from a different phone) at 303-284-0979.
- If at any time the battery begins to expand in size during charging, disconnect the charger from the wall and do not use the phone. Please call us (from a different phone) at 303-284-0979.



The Lithium Polymer battery charger plugs into any 110V three-prong outlet. The other end has a mating connector that attaches to the battery. The charging process is actually quite simple once you have achieved access to the battery connector.

That's it! Please feel free to email support@sparkfun.com if you have any questions about how to use your phone.

The looks from family, friends, and even bartenders as the Portable Rotary Phone rings for the first time have given us endless amounts of entertainment. We know you will enjoy using your new phone!