



Phone Battery Doubling Technique

Double the battery of (almost) any phone.

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INTRODUCTION

Smartphones are very power hungry. Stock battery will last at most one day or less under normal usage. This guide will show how to double the battery, double time, double fun.

Notice:

Playing with Lithium-ion battery has some risk. If you don't have the basic skill and knowledge, **STOP!**

Modifying Lithium batteries might violate laws in your country or region. It's all your own responsibility!

FAQs (possibly)

Q: Can I mix batteries, one new and the other old?

A: Short answer: YES! Long answer: Google it.

Q: Can I do this on non-Samsung phone/battery?

A: Yes. This Samsung Galaxy S Duos / S7562 is just an example. Almost any phone, which you can cut or rebuild the back case, can load more batteries than it's designed to.

Q: The best way to balance voltage between batteries?

A: My opinion: Discharge them to below 3.5V or use them until auto cut off. discharged battery has higher impedance and less energy, both are good for safety.

Q: What should I do when SHTF?

A: (not likely to happen if you follow this guide) Cut the wire if you have time and right tool. Drop the batt into water and step back. Inform people nearby. Do not touch the batt until it cooled off.

TOOLS:

- iFixit Tech Knife (1)
- Soldering Workstation (1)

PARTS:

- 2 batteries (1)
- short copper wire (<AWG30, 2"/5cm at most) (1)
- Electrical Tape or Kapton Tape(1' or 30cm) (1)

Step 1 — Phone Battery Doubling Technique



⚠ **WARNING: Soft-shell lithium-ion batteries fragile. Damaging the batteries may result in spontaneous combustion.**

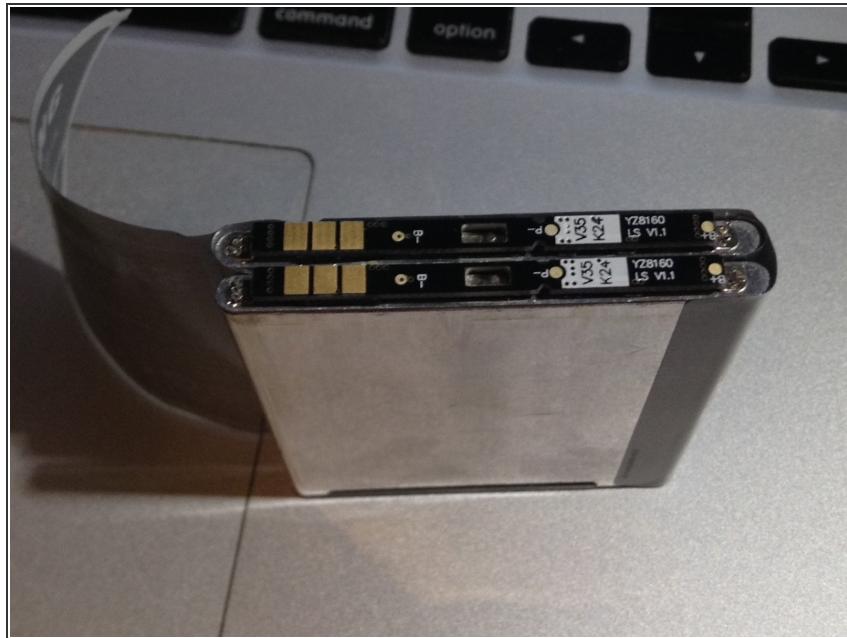
- First thing first. Double batteries to double the capacity. There's no magic!

Step 2



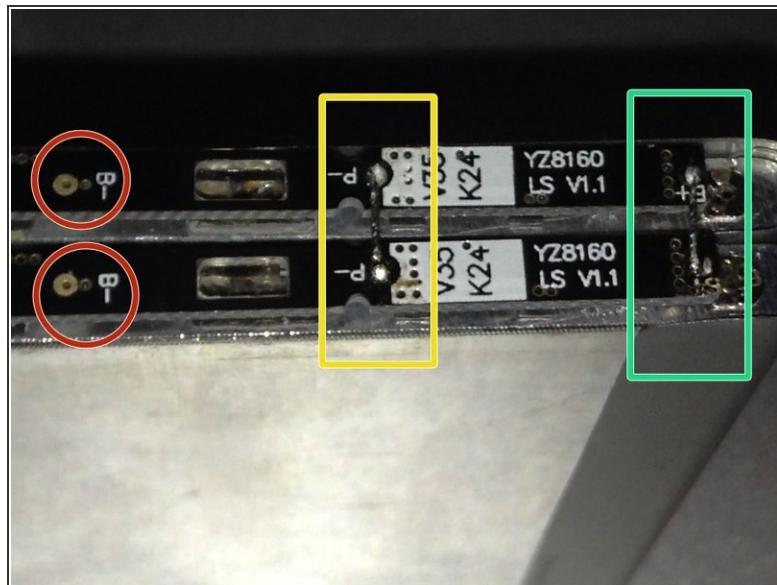
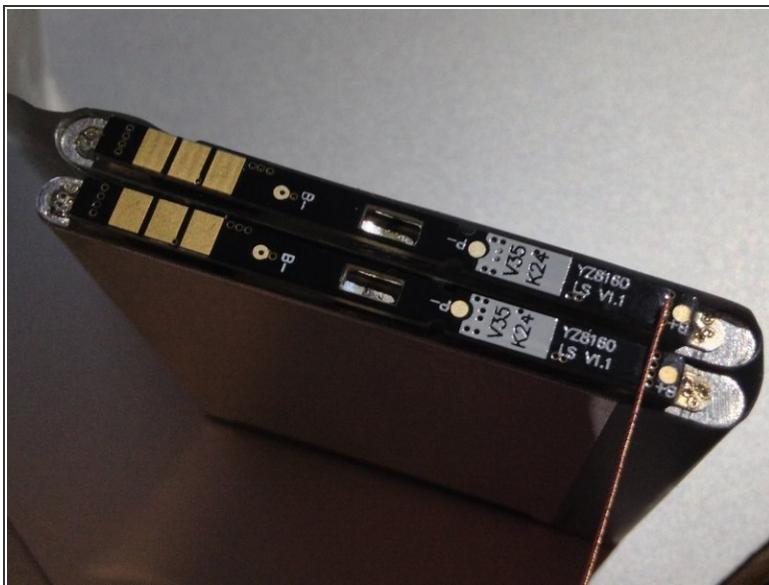
- Peel skin off, but not all the way off, from ONE battery.
- Slice some skin off from the other. both sides. Until the black plastic PCB cover and be easily removed.

Step 3



- Put 2 batteries together and aligned, belly to belly. Bind them with the peeled skin.
- Not too tight!
- Remove both black plastic PCB covers.

Step 4



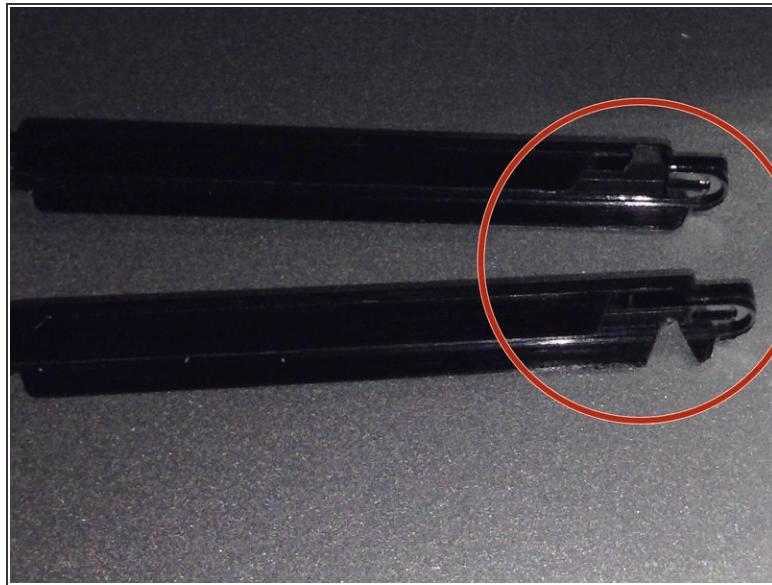
⚠ Before bridge 2 batteries together, ensure voltage difference between them less than 50mV. New batteries will very likely have about 3.9V voltage, and varies very little.

- Bridge one B+ to another B+ first. Use soldering iron and solder.
- Then, P- to P-.
- Leave Both B- open!

⚠ One more WARNING! Be very careful with B- test point. DO NOT MESS WITH THEM. B- are not protected by "Protection Circuits". Do NOT bridge B-, unless you know what you don't know!

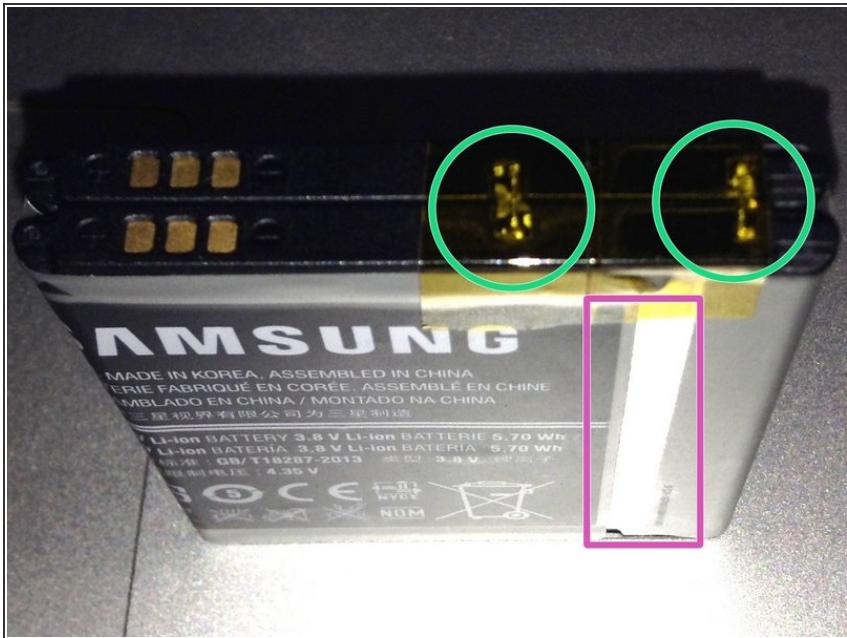
⚠ Of course. NEVER short-circuit any B- to any B+, or P- to B+, or P- to B-!

Step 5



- Cut 2 notches on each plastic PCB covers. At the position of bridging wires, and faces each other. So the wires won't lift the PCB covers.
 - These are not quite finished.
 - These are what I'm talking about.
- Put both PCB covers back. If you bond batteries too tight, may need to loose a little bit, then tighten again later.

Step 6



- Use the skin of the peeled bat to fully bond them.
- Cover the notches and wires with some tape. Shown PI/Kapton tape will be the best choice, anything thin enough and isolate is ok.
- The skin is a little short for 2 cells. The exposed metal should be covered also. They are the positive terminal. You don't wanna short-circuit something, do you? (not yet covered in these photos)

Step 7



- Double battery vs single battery. :-P
- The back case won't fit double battery. Cut them the way you like.
- (Not quite) Finished. Maybe I should 3D print some extra cover and glue it to the back case.
- Actually I did 3D print a frame, and glued a trimmed RFID card as back cover. They work well!

Double power, double juice.

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