



DIY Bluetooth Speaker (PartyBar™)

by **ASCAS** on December 9, 2013

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Hello There! I'm Angelo, I was 10 when I first published my 1st ible, and started my hobby at a young age of 4. Unlike most people my friends and I have a hobby of making awesome project :D Electronics & programming is my line of specialty, that's why I compete in the annual "National Robotics Competition". Last month I manage to earn my first "Championship Title" in the NRC prelims. Not to forget that I love HiFi audio setups, just like my dad. He has his collection of B&W speakers while I design my own from scratch MDF wood. Everytime I finish a speaker, we compare it to his HiFi setup and do a blind test. Astonishingly, after putting up a blindfold my dad was not able to determine whether it was his B&W setup or my DIY Bookshelf Speakers. I love sports, specially wake boarding and basketball :D Anyways, I plan to become an engineer someday, innovating and build projects that would build a brighter future.

Intro: DIY Bluetooth Speaker (PartyBar™)

Meet the PartyBar™! Make a wireless speaker, loud enough to move an entire room of people! With a budget less than \$15, you have your own Bluetooth speakers made from scratch! It's slick, stylish, descent and most of all it's compact and fits into your pocket. This is a great weekend projects for enthusiasts and audiophiles.

It's small but packs quite a punch. With the help of "35mm Neodymium Drivers" the PartyBar™ delivers a solid stereo sound. It's equipped with a 1000mAh Li-ion battery meant to last for 9 straight hours, replacing it with a 2,400 LiPo will result to a staggering 22 hours of continuous playback!

Does it look like a manufacture made speaker?

A lot of people thought that this was a ready made product, well it's not. It's actually made from recycled materials such as broken speakers, radios & old modules. The project box came from my eyeglass's container :D

Techie Description:

The PartyBar™ is equipped with two outstanding Neodymium Speaker drivers. Neodymium itself is a rare-earth metal. Magnets made from neodymium are light and very powerful, making the speakers more compact and gives a higher clarity rate.

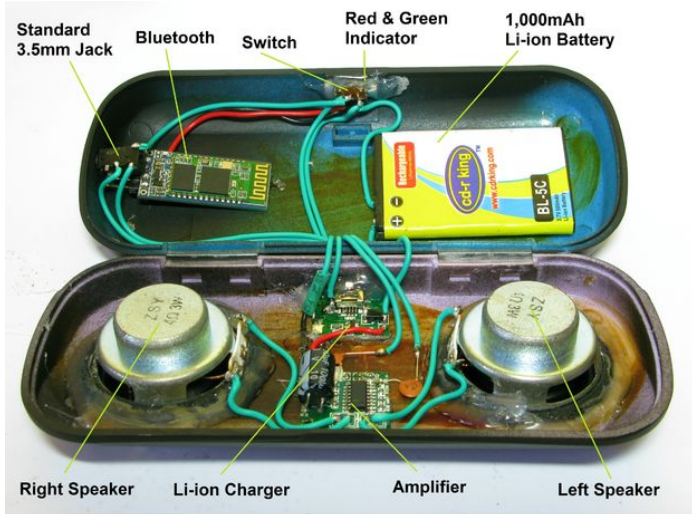
Of course good speakers must be powered by good amplifiers thanks to Nsiway's NS4263 dual 3W SMD chip, the PartyBar™ delivers an excellent audio, good enough to compete in today's market. It has a class AB amplifier with a THD rating of 0.1%. A Class AB amplifier delivers fully symmetrical wave amplification, in short the audio given off by this amplifier is pure and clear.

Specifications:

- 1,000 mAh Rechargeable Li-ion Battery (9hrs Playback)
- Dual 3W (4ohms) 35mm Neodymium Drivers
- High Efficiency 2x3W Amplifier (0.1%THD)
- 15 meter Standard Bluetooth Range
- 3.5mm Auxiliary Ready
- Mini USB Charge Plug

VIDEO COMMING SOON!





Step 1: Parts & Materials

Parts & Materials:

- 2x3W High Efficiency SMD Amplifier
- 2x3W Speakers (4ohms)
- Stereo Bluetooth Module
- Passive Driver (optional)
- USB Li-ion Charging Module
- 1000mAh Li-ion Battery
- Simple Sliding Switch
- 3.5mm Stereo Jack
- Eyewear Container
- Matt Black Spray Paint

Tools & Equipment:

- Cordless Drill (w/ 5mm Bit)
- Rotary Tool (w/ Flute Bit)
- Leatherman Multitool
- 40W Soldering Iron
- Hot Glue Gun
- Super Glue



Step 2: Hacking Time! - How I got my parts for free!

That Is An Awesome Case! Where Did You Get It?

My dad is an eye doctor & surgeon (ophthalmologist). Since I'm a guy who uses corrective lenses, I have a huge pile of unused eye-wear containers. One day I came across this funny, Garfield case (from my grade school days). The first thing that popped-up in my mind was to make a Bluetooth speaker out of it.

Where I Got My Speaker Drivers:

Okay let's get started! To start of, I got these awesome "Speed-Boat Speaker " for a cheap price of P320 (\$6.50). Of course cheap products aren't that reliable, it broke after 6 months. Since I'm a hobbyist, I prefer breaking down defective products and studying the parts instead of surrendering it to the warranty center.

If you want to buy better one PartsExpress.com is a great place to buy one.

Where I Got My Amplifier:

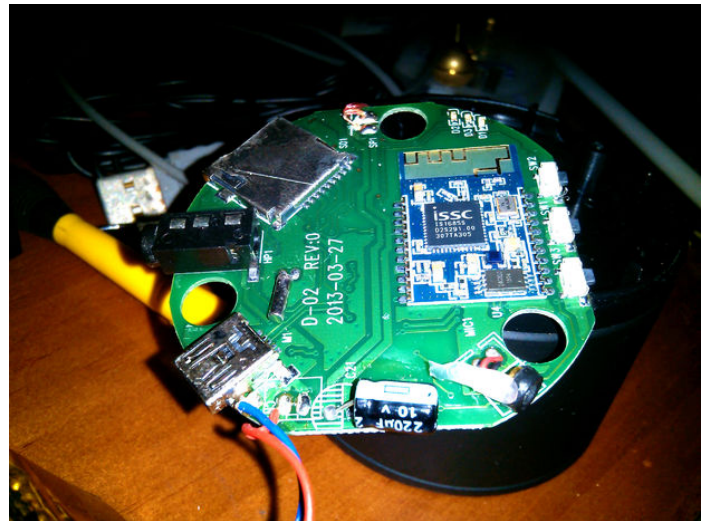
I got my amplifier from DealExtreme (dx.com). Apparently it's a discontinued product. I got it for \$1.70 on a clearance sale.

Where I Got My Bluetooth Module:

I bought my Bluetooth module from DealExtreme (dx.com). Again, my Bluetooth model was discontinued and no longer available. I got it for \$6 on a clearance sale. Right now there's an alternative model but costs more than the previous one (\$12).

Isn't this just a repackaged project?

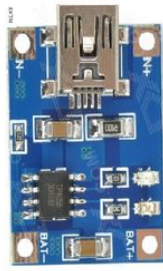
No it's not! The speaker drivers inside the "boat speaker" was indeed good but to be honest, it didn't come with the best built in amplifier. It was made from bare SMD transistors and not a SMD I.C. package, it was not that efficient, and lacked power to drive off these 4 ohm speakers.



Amplifier



Bluetooth



Charger

Step 3: Drilling The Holes For The Parts

- 1st.) Use your pencil to mark the soon to be cut holes.
- 2nd.) Get your rotary tool and flute bit, cut off the plastic on where the speakers will be mounted.
- 3rd.) Attach a 5mm bit to your cordless drill and bore a hole for the auxiliary input.



Step 4: Painting The Case

Before mounting the speakers and components be sure to paint the case first. You don't want to spray paint over your drivers

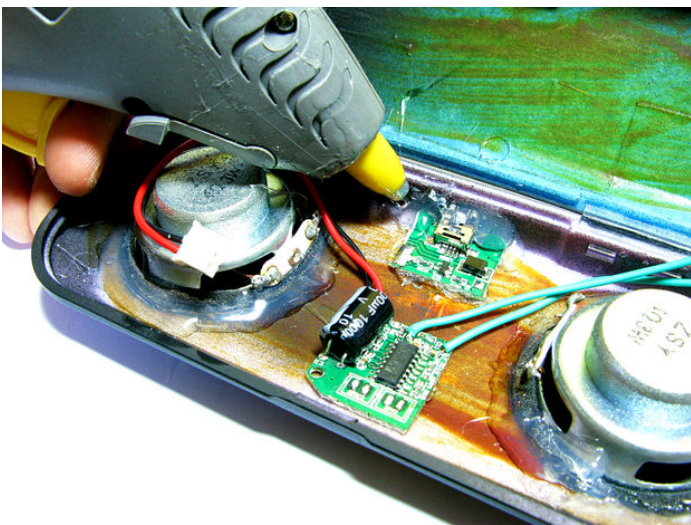
Looking good on a matt black paint job! :D



Step 5: Hot Gluing The Speakers & Components

Carefully hot glue the speaker drivers to your plastic casing. Be sure to cover all the gaps, it must be 100% airtight. If air escapes the case, the "PartyBar" would sound like crap :D

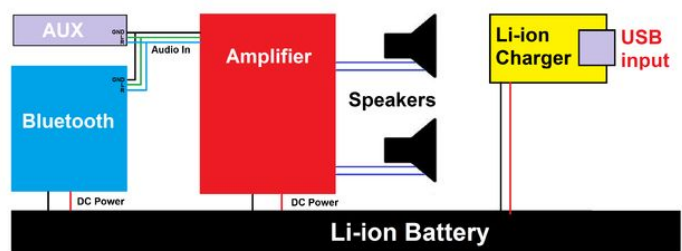
If you are concerned that the hot glue could melt because of the heat given off by the amplifier module. There's nothing to worry about since the "class AB high-efficiency amplifier" doesn't heat up that much.

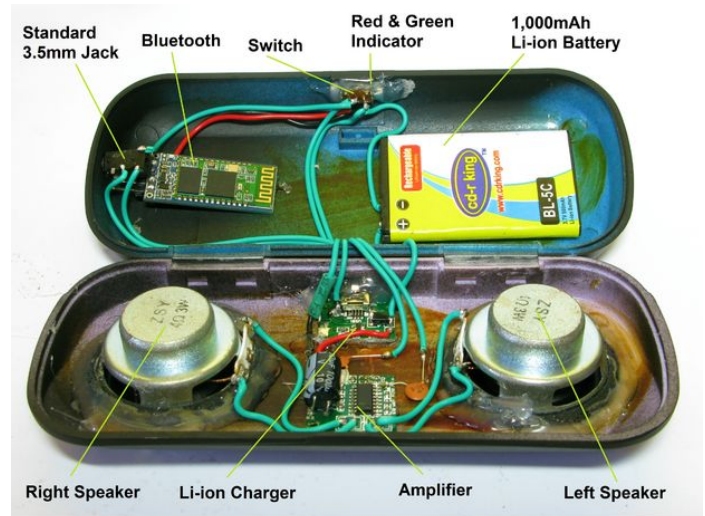
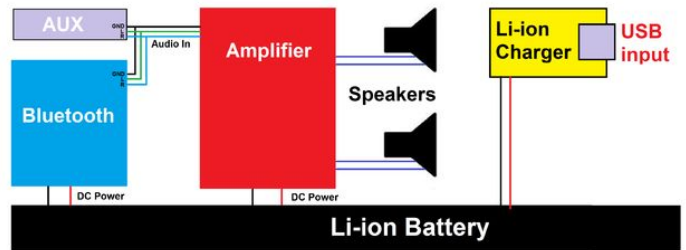


Step 6: Soldering Them Together

Solder all the modules together. This project requires a little experience in electronics. If you need help, feel free to write a comment!

To make your work easier, you can follow the block diagram above.





Step 7: Sealing The Enclosure

Apply enough superglue around the edges to seal the enclosure. Be sure to cover all the gaps, it must be 100% airtight. If air escapes the case, the "PartyBar" would sound like crap :D



Step 8: You're Done!

Enjoy your PartyBar!



Related Instructables



DIY Floorstander Speakers
(Photos) by ASCAS



DIY HiFi Bookshelf Speakers (Studio Reference) by ASCAS



DIY RC Android Sumobot [Bluetooth Multiplayer] by ASCAS



DIY Portable Boombox (from SCRATCH!) by ASCAS



Make a Bluetooth Mono Headset/Mic on the cheap by stuffman



Bluetooth Speakers using Raspberry Pi by sajingeo

