

Ipod mini to 32gig and new battery without scratching it.

by **CKOD** on November 21, 2008

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Intro: Ipod mini to 32gig and new battery without scratching it.

In this Instructable, I'll be showing you how to easily open up an ipod mini without scratching or messing up the top and bottom, and upgrade the battery and the drive.

Thanks to geek technique for inspiration, they do have instructions, but not an example of if a 32 gig card would work, and indeed it does.



Image Notes

1. 30 gigs after formatting, our goal.

Step 1: So you have an Ipod mini...

So you have an Ipod mini. or you found one online for cheap, I got mine used for \$60, great now its time to tear into it. Order yourself a 32 gig compact flash card, and a new replacement or upgrade battery, both can be found on amazon. Typically the batteries will come with cheap tools (usually a small flathead and phillips screwdriver, both still useful to us here)



Step 2: Get it open without a scratch

To get inside of your mini, you'll need to remove the white plastic pieces from the top and bottom, they are glued on, and a bit difficult to remove. Typically people pry them up with a thin screwdriver, but at best you make a small mark anyway.

To do this, we're going to use hot glue as a 'handle' to get ahold of the plastic without damaging it. Sometimes a little dot of glue applied and let cure is enough, sometimes you have to glue something down to the piece to use as a handle.

For me the bottom was easiest, add a dab of glue, let it cool, pry it up gently, and put a screwdriver under the plastic to keep it up.

Also, I would be careful with a high temp glue gun, they may or may not melt or distort the plastic, I didn't try, and high on one gun may be a lot higher than another, so don't say you weren't warned if a high temp glue gun melts your iPod and eats your first born.

For the top, I had to glue a screwdriver down to the plastic piece and use that to lift off the cover.



Image Notes

1. Our second victim



Image Notes

1. Our first victim. Make sure your switch is in the hold position before you get started.

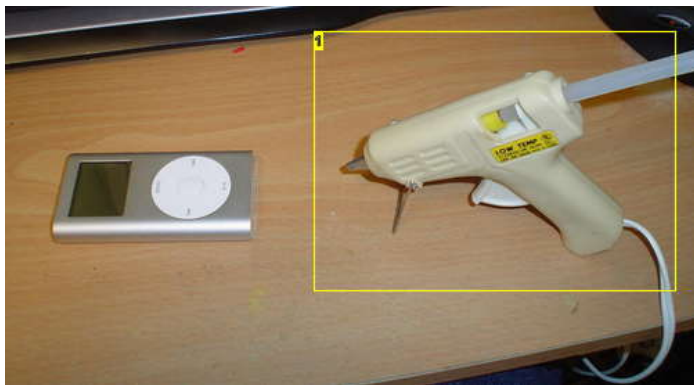


Image Notes

1. Not exactly what comes to mind first when you think of tools to dissassemble an ipod



Image Notes

1. Dab, let cool, and lift.

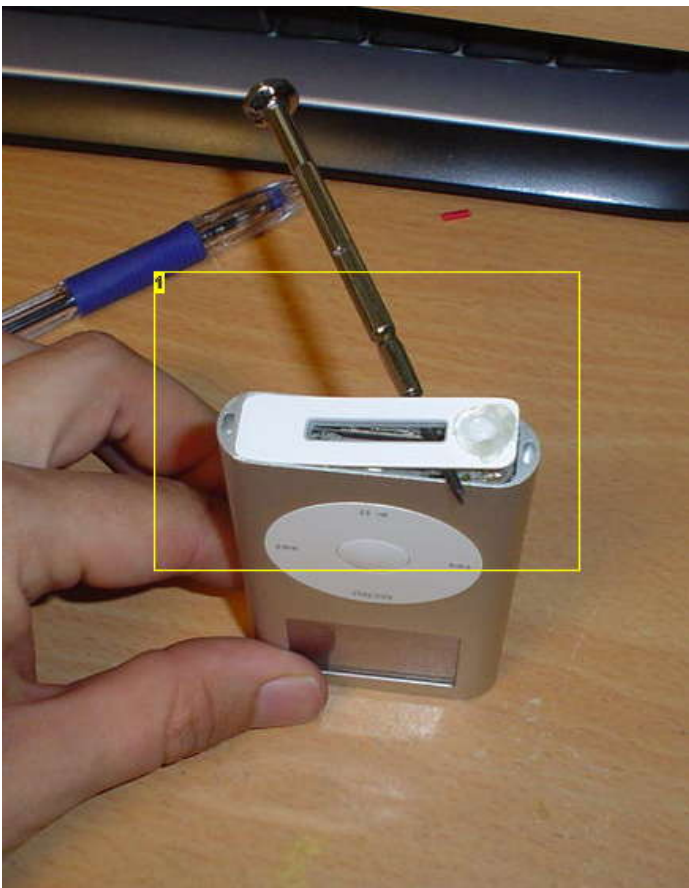


Image Notes

1. And gently pry. Careful to not leave marks.



Image Notes

1. Good bit more glue on the top, dont worry abot a bit on the switch, it is part of the cover, but dont get any on the headphone jack or the grey plastic next to it.



Image Notes

1. Might be hard to tell, but I lifted with the one in the glue and worked a small flat head under the cover carefully before working to get the cover off.

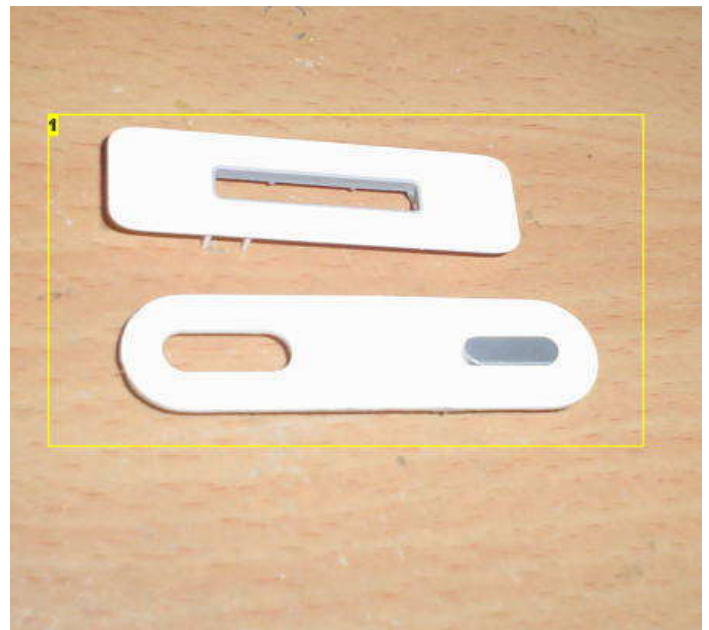


Image Notes

1. Peel the hot glue off, and tada, the lids without any scratches or screwdriver marks.

Step 3: Free up the motherboard

Now that you got the covers off, time to free up the motherboard so you can get it out..

There are only 2 screws holding it in, but you'll need to disconnect the touch wheel before you can pull it out.

Take out the two screws on the top, and use some small screwdrivers to work on getting the on the bottom out. The clip has 4 holes, that are smaller then they could be...

I prefer to use a small phillips head to bend the arm of the clip in, and then use a flathead at the same time ot lift the arm up and out of its groove. Pop out one arm, then the one closest to it. Then do a 3rd on on the far side, and the clip should come right out.

Make sure you are cautious of whats behind the spring clip as youre getting it out (the dock connector and the fragile connector for the touchwheel).

Take your flathead and gently pry up the connector, till it slides apart.



Image Notes

1. Wait, you mean I only have 2 hands to do this?

Image Notes

1. Screw 1
2. Screw 2

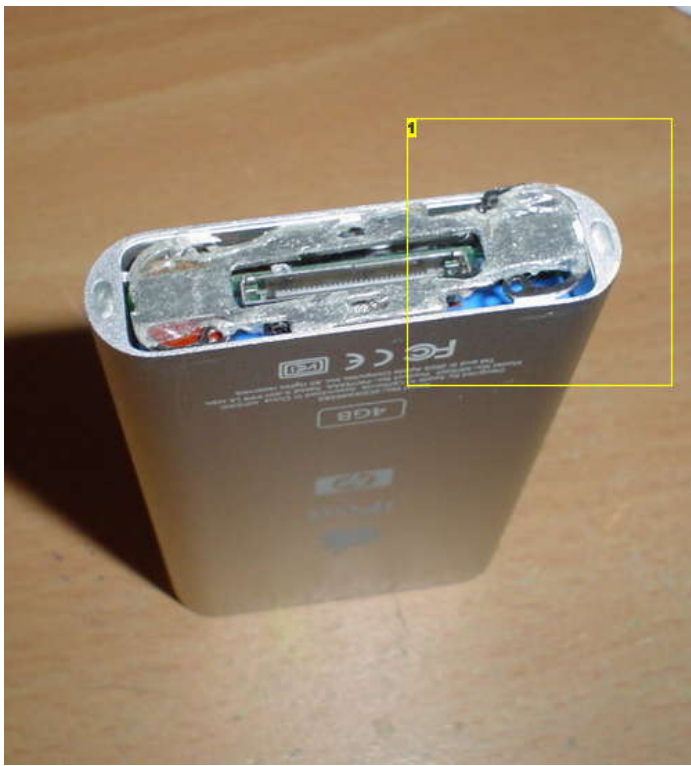


Image Notes
1. Got 2 out now.



Image Notes
1. And the 3rd, just take the clip out.



Image Notes
1. Touchwheel connector

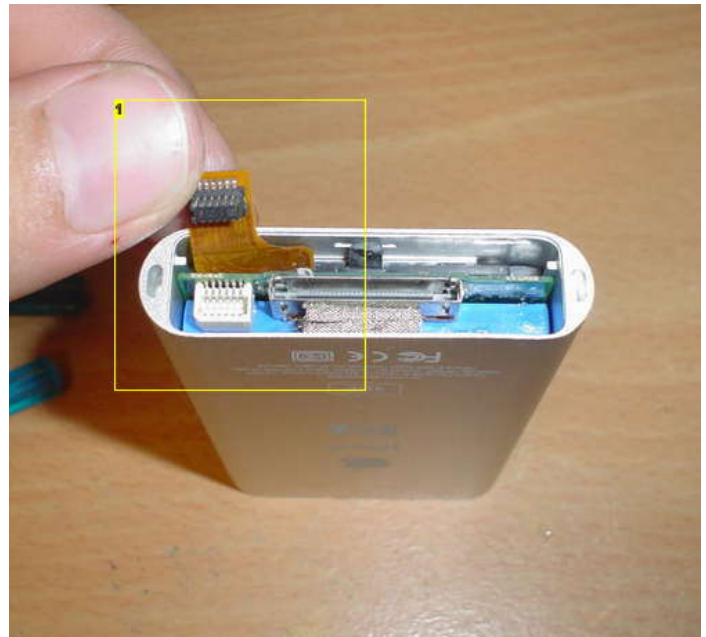


Image Notes
1. Just a small connector soldered to a flexible PCB, I would avoid pulling and prying on the flex pcb as much as I could.

Step 4: Gut it.

The motherboard, display, battery, drive, and the daughterboard which plugs into the motherboard all slide out to the top. Push it out from the bottom to get it started, and grab the mobo by the sides to slide it out the rest of the way.

This ipod had a stock (I believe) battery and a 4 gig seagate microdrive.

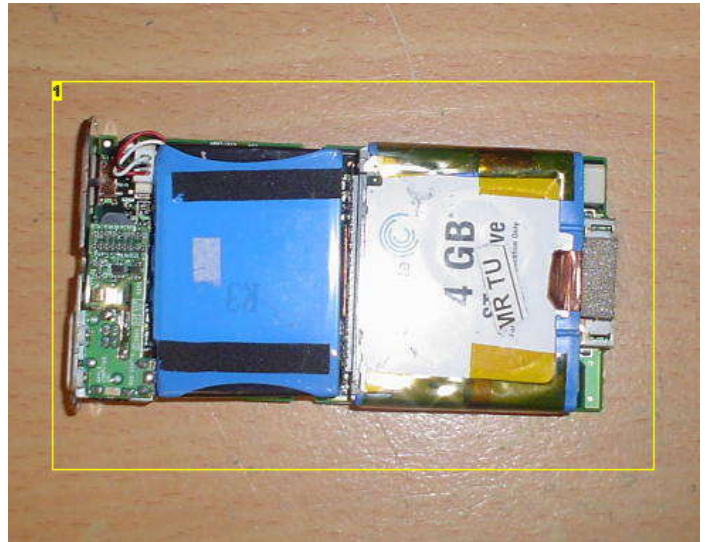


Image Notes

1. Mobo from the backside



Step 5: Upgrade

The battery just unplugs and plugs in, the connector isn't horribly fragile, so just unplug the old one and plug in your new battery. I wouldn't put it in place yet however.

The connector for the microdrive however, is quite fragile, or at least the flex pcb running to it is. Take a screwdriver, and very gently find the seam between the microdrive, and the connector and slide the two apart.

The flex PCB coming from the connector comes out the top, and does a 180 back down to the motherboard, I'd be very cautious about messing with it. When you're pushing in the new compact flash drive, use 2 hand on the edge as opposed to one hand in the center.

Fold your new batter back over to where it belongs, and make sure to tuck the wires out of the way.



Image Notes

1. Fragile flex PCB!

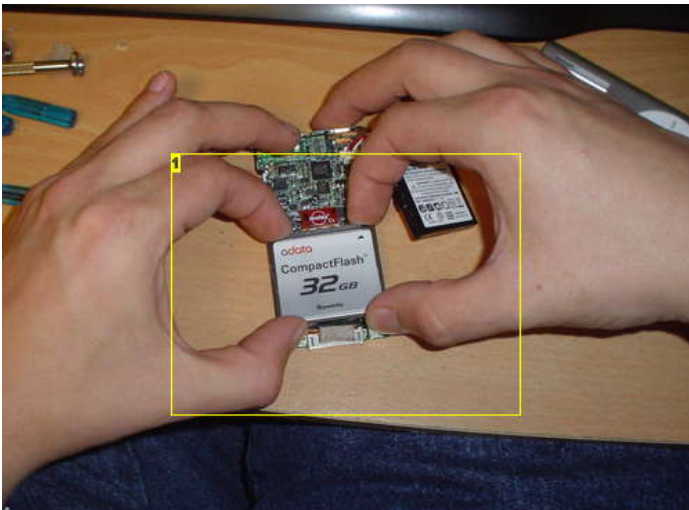


Image Notes

1. New 850 mAh battery (supposedly...) in its new home.

Image Notes

1. 2 hands on the edges, not one in the center.



Image Notes

1. Tuck the wires back down out of the way.

Step 6: Put it back together.

Now that you've upgraded, put the iPod back together, start to carefully slide the motherboard into the case. There is a lip in the case, the circuit board for the wheel goes above this lip, the motherboard does not!.

If there is any dust on the inside of the screen cover, or on the screen itself, now is the time to clean it off.

The motherboard slides in under the lip, back to its original position. Don't force the motherboard in, because it can get caught on the side of the touchwheel circuit board, and if you rip some components off the board, chances are you're boned.

If your motherboard is caught at that first row of components, try rotating it slightly so that the bottom edge of the board is pushed more towards the back of the iPod. The squishy foam/metal thing on the bottom likes to push the mobo upwards, making it harder to assemble.

Once your board is back in, put the screws back, re-attach the click wheel, and put the clip and plastic covers back on.



Image Notes

1. Lip here, the circuit board goes underneath of this lip.



Image Notes

1. Don't knock these off by forcing the board in!

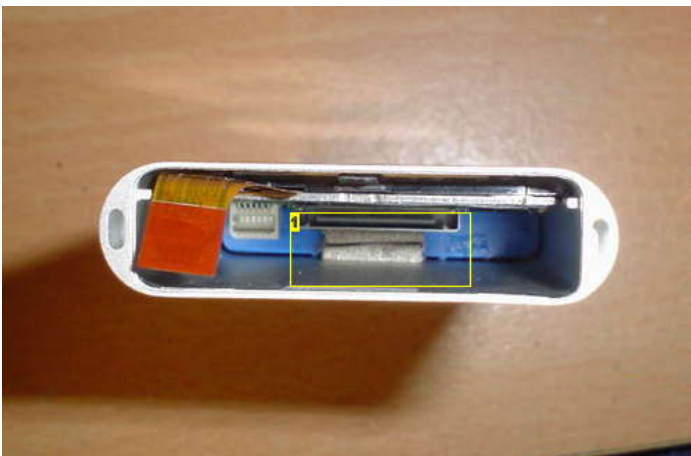


Image Notes

1. That squishy foam/metal thing is what makes it hard to put the mobo in, and yes this is a pic from disassembly.

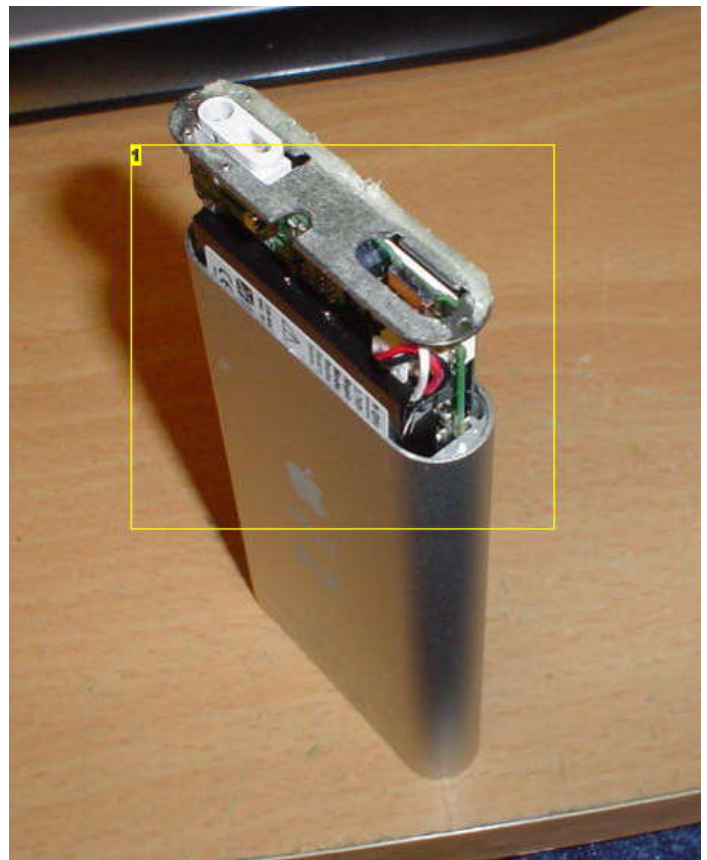


Image Notes

1. That new battery is even more snug then the old one.

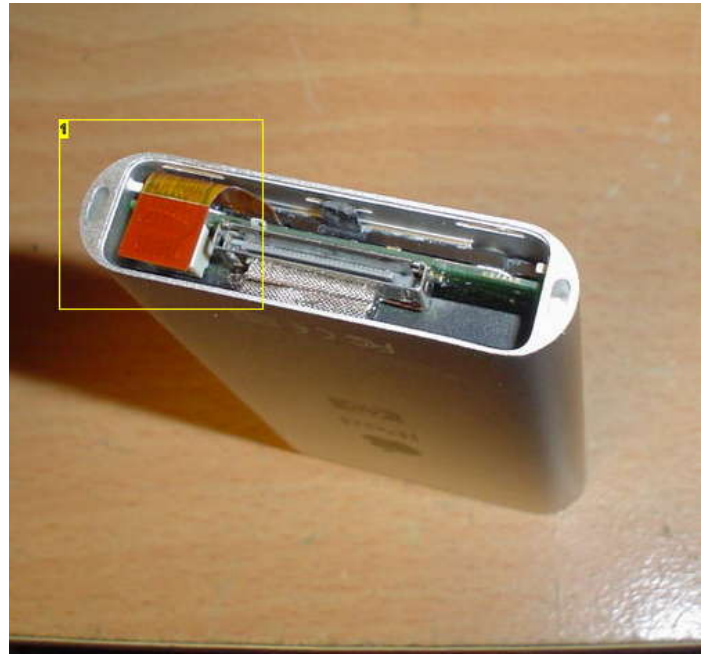


Image Notes

1. Plug in the wheel.

Image Notes

1. Put your screws back in



Image Notes

1. Put the clip back, sticky side up.



Image Notes

1. The clip seated properly now.



Image Notes

1. Snap/stick the bottom cover on, you did pay attention to which way it came off right? In case you didn't, the little grey lip goes towards the front of the ipod.



Image Notes

1. And the top too... make sure that the switch still lines up with the actual switch inside the ipod.

Step 7: Almost there...

But not quite...

You just put a new blank drive into your ipod, so its kind of lost since it just got its memory wiped.

go to apple and download itunes and install it, and then plug in your ipod.

itunes should realize you ipod is not amused at the moment and let you know you need to fix it.

Restore it to factory settings, and congrats, just like new from the factory.

Now uninstall itunes and use winamp or something better to manage your ipod.

Dont forget to charge your new battery all the way.



Image Notes

1. nope, not really



Image Notes

1. Good to go?



Image Notes

1. Just like new



Image Notes

1. itunes seems to be gender confused about my ipod.



Image Notes

1. self explanatory, sort of.



Image Notes

1. then here
2. click here,

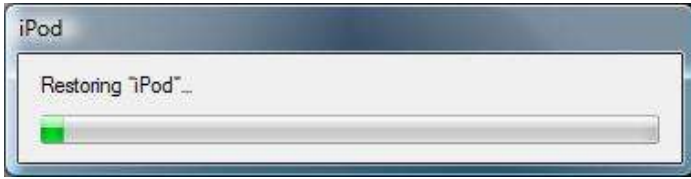


Image Notes

1. caution, you could lose all the data on your blank drive!



Image Notes

1. the results of upgrading one for me, and one for my brother for christmas.

Related Instructables



Microdrive Madness: \$15 solution for your extra microdrives by Brennn10



Upgrade Your iPod Mini With Flash Memory - No More Hard Drive! by fstedie



Convert your 4th Gen iPod to use Flash Memory by fstedie



Convert your 5th Gen iPod Video to use Flash Memory! by fstedie



iPod mini Coin Bank (Photos) by Labot2001



Add More GB to your iPod Mini by Brennn10

Comments

31 comments

[Add Comment](#)



killerjackalope says:

So if the microdrive was wiped completely could it be used in place of a CF card, say in a camera, 32GB would be a big card to bother with on a camera and 4GB would be pretty handy, assuming you're doing this mod anyway it'd be a quick way to recycle it.

Nov 22, 2008. 4:03 AM [REPLY](#)



atombomb1945 says:

The problem with these mini hard drives was that they were not very "action" ready shall we say. They frequently broke down due to too much motion. They probably wouldn't do much good in a camera.

Nov 22, 2008. 7:29 AM [REPLY](#)



killerjackalope says:

hmm good point, it was just a passing notion... They've gotten alot better, my phone has an 8GB microdrive and it does well, the accelerometer will shut it off if you drop it but other than that it's great, pretty fast and extremely good when transferring files...

Nov 22, 2008. 8:21 AM [REPLY](#)



roland985 says:

Hehe, back when microdrives were cheaper than flash... I have a 32 GB Micro SD, the size of my thumb. Tech is crazy...

Mar 13, 2011. 7:01 PM [REPLY](#)



killerjackalope says:

Was in pricing up CF cards for my camera and it's just ridiculous how cheap storage has gotten, also annoying, CF cards are still twice the price of SD... Though when you can go in to the supermarket and get a 16gb flash drive with your shopping without it even being a big purchase...

Mar 14, 2011. 1:40 AM [REPLY](#)



killerdynamo says:

Awesome. The headphone jack on my iPod touch was recently broken by a drunken friend, so I think I'll do this just to keep in the car

Dec 10, 2010. 11:05 PM [REPLY](#)



davidingram says:

help, doesnt seem to be working for me.

Got everything back together, I get the sad face on the ipod, start iTunes to restore my ipod but now itunes doesnt recognise my iPOD so I cant restore it. One DEAD ipod :-(

I have tried all the Apple help, including putting it into 'disk mode', my PC recognises a USB device is attached (makes the correct sound and the LED on the USB port lights up), but it doesnt show in itunes nor in windows explorer

I used a 8GB SanDisk card, top quality, could that be it?? Are there any CF cards that are not compatible?

Anyone have any bright ideas of what I can try please?

Sep 10, 2010. 10:50 AM [REPLY](#)



davidingram says:

OK, I have a (happy) update...

Uninstalled and reinstalled itunes, still not recognised. Kept getting a windows error saying device malfunction or something.

Thought maybe I had put the CF drive in the wrong way round, so opened it up again and flipped it. No joy.

Opened it up AGAIN and flipped it back, this time I left the battery attached (would that have made any difference), reassembles, plugged in, and itunes now recognises it, looks like it is restoring OK as I type this.

happy

Sep 10, 2010. 11:38 AM [REPLY](#)



0_Nvd_0 says:

Great work. Keep it up.

Jul 19, 2010. 7:33 PM [REPLY](#)



mackjr says:

worked awesome thanks

Mar 27, 2010. 7:23 PM [REPLY](#)



mackjr says:

does any one know if this one will work

http://www.target.com/Maxell-Compact-Flash-Card-504001/dp/B002OJN4EY/ref=sc_qi_detailbutton

Mar 27, 2010. 7:47 PM [REPLY](#)



endoguy says:

This looks awesome! I am not sure what gen. my mini is. Will this work for any gen? How do I tell which gen mini I have?

Nov 23, 2009. 3:00 PM [REPLY](#)



ziggysdad says:

are there any make of CF cards that won't work?? I would hate to buy one then find it's no good,as I have nothing else to use them in.

Sep 3, 2009. 5:26 AM [REPLY](#)



cdubnbird says:

just got finished doing this; i added a 32 GB CF card to my ipod mini. it was a total success. i recommend this to anyone with an ipod mini that wants to upgrade it.

Dec 10, 2008. 8:56 PM [REPLY](#)



CKOD says:
Great Success!

Dec 11, 2008. 4:46 AM [REPLY](#)



dombeef says:
VERY NICE!1!!!!!!

Jun 26, 2009. 5:08 PM [REPLY](#)



ColdForge says:

Jun 13, 2009. 10:32 PM [REPLY](#)

I accomplished this instructable with total success. Just one tip, be careful about the quality of batter you buy. I had two batteries where the red crimped wire came out of the white connector. I bought those two for \$9, on the third one which was the successful one, I spent \$20. It was like night and day. So, you often get what you pay for.



ColdForge says:

May 11, 2009. 4:09 PM [REPLY](#)

During this step one of the wires on my replacement battery actually slipped out of the connector. Can this be re-soldered or am I flat out of luck? I sent an e-mail to the company I purchased the battery from hoping for a replacement...



CKOD says:

May 11, 2009. 6:30 PM [REPLY](#)

if you have a fine enough tip for a soldering iron, you can try to put it back in, solder it, put the connector pin back in. If the pin is damaged, you can get some heat shrink and splice the old connector onto the new bat. (use heatshrink not electrical tape to insulate the joints!)



whistlethis says:

May 5, 2009. 12:37 PM [REPLY](#)

Wicked: My mini is rocking almost 30gb and using less power - AND - I've done my part to revive the US economy. Alright, job well done! Thanks for the Instructable! :) As an aside-- another cheap and easy way of getting the white end caps off is to spend a dollar on those cheap, disposable plastic tools that most of the battery replacement sellers also offer. The tools are made of such soft plastic that they don't mar the end-covers or the ipod housing (though, as a consequence, they get beat up and are only good for one or two uses). You just shove the thin lip of the tool along the long side of the end-piece and it pops right out-- piece of cake.



drigo_kmp says:

Apr 14, 2009. 8:06 AM [REPLY](#)

Really nice one there! Two Questions: Does the Compact Flash card come with the same connector that the microdrive has and you just plug it in or did you have to use some kind of adapter? And how do you get the wheel out? I want to custom paint the case while it's disassembled so i would have to take that thing out too not to ruin it.



CKOD says:

Apr 21, 2009. 1:14 PM [REPLY](#)

No adaptors, just plug right in, other Ipods like the fullsize/video will require one but the Ipod mini requires nothing other then a card swap. As far as the wheel, I think it was just stuck in, and you can push it down and out, but cant recall 100% at the moment, plenty of other tutorials around here and online.



natethegreat88 says:

Apr 21, 2009. 12:54 PM [REPLY](#)

I was wondering... do you think that it could be possible to get a flash drive and stick it in the slot that connects you to your PC with a USB adapter that could like store movies and like podcasts? Because my Nano is only 4gbs and it would be cool if you could add like 16gbs.



dchall8 says:

Jan 30, 2009. 10:11 AM [REPLY](#)

I just put a 32 GB CF into a 5th Gen iPod to replace the hard drive (see the Instructable on that topic). Cost from Amazon was \$70 or so. Adapter was \$20 from England. Newegg had similar CF price and cheaper delivery but they delivered it 500 miles away and then canceled/returned the order. Not much help there, so I got it from Amazon. My iPod seems to have other issues. It won't boot at all no matter what. I think it needs a new battery. Having a battery charged above 20% seems to be a key issue with them. And now after I've fiddled with it incessantly, it needs a new screen. NEVER OPEN A 5TH GEN IPOD BEGINNING FROM THE TOP. Still with the new card, card adapter, battery and screen, it will be a deal - assuming it works.



Rozarius says:

Dec 23, 2008. 5:18 PM [REPLY](#)

This is a great instructable, but I was wondering if you could do this with an 8gb iPod Nano..? Any tips would be appreciated.



CKOD says:

Dec 23, 2008. 7:15 PM [REPLY](#)

The nano's have all had the flash chips soldered to the board. If you could find a larger flash chip with a compatible pinout it could work, but it would be much more difficult then the plug, restore and play of all the other Ipod's. (Not sure about the touch/iphone, I think those use soldered on flash also however, but I could be wrong)



joejoerowley says:
Nifty! Thanks, Joe

Nov 30, 2008. 8:39 PM [REPLY](#)



onlyonebowman says:
wouldn't have thought they would have had a compact flash card in there, i guess it was that old

Nov 24, 2008. 7:09 AM [REPLY](#)



mrmath says:
Where did you get the 32G compact flash, and how much did you pay for it? I would think, based on my shopping, that it might be more cost efficient to buy a new iPod than a 32G compact flash.

Nov 22, 2008. 9:16 AM [REPLY](#)



CKOD says:
I got it from amazon, searching for 32 gig CF should turn something up. You can get a 30 gig ipod video used for \$120, but, I was looking for something small. The new nanos go for 150-200 for the 8 or 16 gig. It would definitely be something more suited to if you had an old mini laying around though.

Nov 22, 2008. 10:33 AM [REPLY](#)



collard41 says:
good instructable, always wanted to know how to do that. but fstedie has already got a few like this.

Nov 22, 2008. 3:14 AM [REPLY](#)