kitsch-bent > batt_dmg

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before we begin...

tips

- this circuit is very simple and was made small and thin so it can be placed inside the gameboy easily. feel free to experiment ;)
- if you replace the LED with your own, assume the forward voltage to be 4.6V @ 20mA (the IC will not connect the circuit until engaged at 4.6V). use this for your calculations. the resistor is 0603 package. the included red LED is rated at 2.5V @ 20mA
- be patient! rushing through this tutorial will only result in careless mistakes.
- be confident!
- be willing to ask for help! you may of course e-mail us at kitsch-bent for direct help, but also remember there are several online communities where you can generally find very supportive and wonderful people. these include: chipmusic.org and chipcoalition.com

supplies

- tri-wing and phillips screwdrivers. note: some cases are not held together with tri-wing screws. please check your case. the majority use this type of screw, however
- small wire cutters
- batt_dmg kit
- soldering iron and solder
- a DMG-01 model gameboy (the 'classic')
- an adhesive to hold the circuit in place (we use double-sided tape, but hot glue would work well also) see step five

step one

- take all six screws out which hold the case together, and separate the two halves of the case
- the ribbon cable will come out with a gentle pull downwards
- set the screws and the top half of the case aside. don't lose the screws.



step two

- empty the contents of your kit
- you will find it contains a clear power switch, two 6" (~15cm) strands of wire, and the pre-assembled batt_dmg circuit board.



step three

- take out the two screws holding the circuit board down to the back part of the case and remove the circuit board from the case
- remove the gray power switch, it will be replaced with the clear one in the kit



step four

• solder the two wires to the circuit board, as shown in the picture



step five

- using an adhesive of your choice, attach the circuit board to the case as shown in the picture
- we suggest double-sided tape for the adhesive. glue will also work if you wish.



step six

• reattach the circuit board to the case with the two screws you removed earlier



step seven

 solder the two wires to this part of the back circuit, as seen in the photo. these are your connections to the gameboy's batteries (at the power supply rather than directly to the battery tabs).



step eight

• screw the DMG back together



- now, when your batteries in your DMG get weak, the red LED comes on to alert you!
- the light will illuminate when the batteries can only supply 4.6V. the DMG is designed to run at 5V, with a voltage input tolerance of +/- 10%. meaning, (some of) these ICs are suggested to operate at 4.5V – 5.5V. this low-power indicator will alert you when the batteries can only supply 4.6V, so that you may extend the life of your equipment and are not surprised by a weak battery when it matters most (like a performance).
- the light will not illuminate until the batteries get weak enough. please be aware of this when testing this circuit yourself. if you have weak batteries laying around, try them.



congratulations!

you are finished :)

we hope you enjoy your batt_dmg

if you have any questions, please do not hesitate to contact us.

