



Battery Management for Extended Battery Life ^{And} Safety

by Ross Hendry

More and more of us rely on our laptops, tablets and mobile telephones, and when we really need them they can often let us down simply by running out of charge. Many modern tablets and smart phones do not have replaceable batteries, so we need to extend their life for as long as we are able to.

Modern batteries use Lithium and are far more advanced than their forerunners, such as Nickel Metal Hydride or Nickel Cadmium, and do not suffer from what was known as 'memory effect', a process that prevented the charger from fully charging the battery.

Lithium batteries need a controlled charge and must never be over charged. The supplier of your product will provide you with the right charger to charge the battery without over-charging it, so it is essential that you only use the charger that came with your device to charge it's battery.

Theoretically, because the charger is a controlled and regulated one, you should be able to leave your battery and charger connected permanently and no damage will be done to either the battery, charger or indeed the device.

However, one of the biggest problems a battery can suffer is heat, this degrades the battery more than anything else, so I advise laptop users to remove the battery when they are using the laptop at home and simply use the battery for travelling. This stops the heat that is inevitably generated by the device from affecting the battery. Simple conduction of heat can cause this to happen, especially in the recent temperatures we have had in our area. Leaving your laptop, mobile telephone or tablet in your car in full sun will have a damaging effect on the battery, even when it is switched off. You should always store batteries in a cool, dry place. If you can guarantee to keep moisture out then store them in the fridge for even longer life.



So you have looked after your battery and are having to use your device on the go, how do you get the longest use from your device?

1. Do one thing at a time - sounds simple but do you really need Skype loaded? or your printer software? Probably not, so do not have them running. Disable anything you do not need and simply run the program you do. Once you have finished shut down the app/program before opening the next.
2. Turn things down - do not have the screen as bright as it will go. Beside being bad for your eyes, this is one of the things that drains the battery very quickly; the same is true of sound volume, use head phones and keep the volume reasonably low.



3. Turn off Wifi and Bluetooth if you are not using them. If you are reading a book or watching a movie that is on your PC these are heavy users of your power and not necessary whilst you are reading or watching stuff on your PC. On a Smartphone, if you turn to 'flight mode' it will turn off all transceivers i.e. WiFi, Bluetooth and the telephone transceiver, and this will also extend your battery life.

If you have a second battery then store it only 40% charged and only fully charge it before you go travelling; do the same for the other battery, make sure it is at least 95% charged. Whilst you are travelling try to keep the stored battery from getting hot because heat will reduce its capacity very quickly and significantly.

I have a program on my Smartphone that monitors the battery and advises me when I am using too much power or the phone is overheating. These are available free from the Play store or the Windows store and will also work on Android Tablets - it is called 'DU Battery Saver'. The free version can get up to 50% more life from your battery, and up to 70% from the Pro version.

On my Laptop I use another similar utility (also free) called 'Battery Care' you can find information and download it here: <http://batterycares.net>

This 'Battery Care' website will also provide simple advice on caring for your battery, so take 5 minutes to have a read.

If you do have to purchase a new battery please use only manufacturer's ones and the same for battery chargers - buy another that is identical to your previous model, or if you do buy a universal one, get advice before buying it. The cheaper ones will not seem so inexpensive if they damage your device or catch fire and burn your house down.

Ross Hendry is the proprietor of Interface Consulting and Engineering, who has over 42 years experience in Communications, Computer Technology and Direct Marketing. (See advert below).

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