School Technology Deployments: Battery Calibration (Apple®)

Battery calibration is often misunderstood by schools deploying iBooks® and MacBooks® (as well as notebooks and tablets from any manufacturer). Here is some information we have gleaned from the experience of our customers.

Apple recommends that iBooks and MacBooks have their batteries properly calibrated prior to deployment and strongly suggests that they be re-calibrated after every few months of use. Like other notebook batteries, these have internal microprocessors that provide an estimate of the amount of energy in the battery as they charge and discharge. Periodic re-calibration assures that the onscreen battery time and percent display accurately and that users do not assume that the batteries are dead and have to be replaced (prematurely).

iBooks and MacBooks are often stored overnight in laptop carts, allowing the batteries to be re-charged. Others are taken home by students, hopefully being re-charged at home before they are used during the school day. In both cases, they never get re-calibrated as part of any routine maintenance.

We hear that most technology coordinators and the teachers responsible for maintaining iBooks and MacBooks simply replace a battery when they hear it is not holding a charge. Ideally, they should test the battery's real status by re-calibrating its electronics.

Our Apple chargers have two calibration slots that make this very simple.

iBooks: Apple instructs users to calibrate a battery by fully charging it; fully draining it by use; then re-connecting the power adapter until the battery is fully charged. Apple explains the process this way: "When the battery reaches "empty", the computer is forced into sleep mode. The battery actually keeps back a reserve beyond "empty", to maintain the computer in sleep mode for a period of time. Once the battery is truly exhausted, the computer is forced to shut down. At this point, any open files could be lost. Therefore, it is important that you find an electrical outlet and connect the adapter before the forced shutdown occurs."

All of our chargers are equipped with two calibration bays that make this an easy process. The chargers fully drain and re-charge the batteries twice, allowing their software settings to reflect the true state of the battery's charge status. It is easily done overnight without the kind of monitoring and supervision needed by the iBook's own calibration feature.

MacBooks: Apple says MacBook batteries are different. To calibrate the battery, Apple recommends fully charging the battery, letting it rest fully charged for at least two hours, disconnecting it and using it under battery power until the MacBook goes into sleep mode, then leaving it in sleep mode for at least five hours. Then they suggest plugging it in until it is fully charged again.

Some user blogs recommend doing this every 30 battery cycles, which would be a huge maintenance burden for a school!

Re-calibrating using an off-line charger: All of our multi-battery chargers are equipped with two calibration bays that make this an easy process. The chargers fully drain and re-charge the batteries twice, allowing their software settings to reflect the true state of the battery's charge status. It is easily done overnight without the kind of monitoring and supervision needed by the iBook's or MacBook's own calibration features.

For more information and specifications, visit
http://www.pc-security.com/products_solutions/battery_charger/pdf/AppleBatteryChargerFlyer1_1a.pdf

For information on Apple's battery recommendations, see http://docs.info.apple.com/article.html?artnum=86284.

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