

Laptop Battery

What do the power ratings mean - mAh, Volts, and Watts?

mAh (Milliamperes) represents the amount of stored energy in your battery. 1000 Milliamperes = 1 Ampere. The more mAh capacity - the longer your battery will last. Several batteries from www.secure-battery.com have higher mAh ratings than your original battery brand. This does not mean that the battery is not the correct replacement, but rather it is a longer lasting battery. Voltage in a battery refers to the 'volume' of electricity that is delivered to your computer. The amount of energy that comes from your wall outlet is far in excess of what you need to operate the tiny circuits of a computer. Hence your power adapter contains a "brick" or bar like box that decreases the energy to a much lower voltage rating. Each computer manufacturer designs their computers for the appropriate voltage requirement. Your battery pack will then be engineered to match the voltage of the power AC adapter. Laptop battery packs are composed of several battery cells that are wired together in series. By combining the cells in this fashion, higher 'volumes' of energy can be delivered to your laptop computer. For laptop computers, each battery cell has a voltage rating of 3.6 & 3.7 volts. (3.6V & 3.7V are used interchangeably and refer to the same amount of voltage.), each battery cell has a capacity of 2000 ~ 2200mAh.

Cells	Voltage/Cell	Formula	Nominal Voltage
1 cell	3.6V or 3.7V	1 cell x 3.6 or 3.7V	3.6V or 3.7V
2 cells	3.6V or 3.7V	2 cells x 3.6V or 3.7V	7.2V or 7.4V
3 cells	3.6V or 3.7V	3 cells x 3.6V or 3.7V	10.8V or 11.1V
4 cells	3.6V or 3.7V	4 cells x 3.6V or 3.7V	14.4V or 14.8V

How to calculate battery cells?

e.g. a laptop battery is 10.8V/4400mAh,
 $3 \times 3.6V = 10.8V$
 $2 \times 2200mAh = 4400mAh$
 $3 \times 2 = 6$ cell battery

e.g. a laptop battery is 10.8V/6600mAh,
 $3 \times 3.6V = 10.8V$
 $3 \times 2200mAh = 6600mAh$
 $3 \times 3 = 9$ cell battery

Watts measure the amount of energy a device uses. This is a rating that will be found on your monitor and laptop PC, - not your battery.

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Unique solution ID: #1000

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Last update: 2022-11-25 10:43