

THE DOC'S BATTERY & CHARGER REVIEWS

**REZAP 880 USB CHARGER
REVIEW**

OCTOBER 2004

REPORT

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REZAP 880 USB CHARGER REVIEW

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WHAT IS IN THE BOX?

The Doc has an engineering sample of the new Rezap 880 USB charger, so not all details maybe correct. The package includes the Rezap 880 USB charger, four 2200 mAh AA size batteries and a USB cable. The Rezap 880 USB's market is "high power batteries made affordable", and I will add portable. At \$25 (\$24.98 to be precise) for the package, that represents great value for money. But do not expect the fast performance of a Powerbase charger or the versatility of the Rezap Battery Doctor. The Rezap 880 USB is aimed a specific market and you should carefully consider whether it meets your needs. So read on.



Here is the charger leaning up against the USB cable. The USB cable plugs into the top of the charger - the top being the silver end. This is clearer in the picture on the left below.



The USB plug is on the right side and the Nokia Adapter (8200/8300 series) plugs into the

left side. These are the 2 ways to charge the batteries – USB connector or a Nokia Adapter 8200/8300 series charger.

The little black switch on the third picture near the top of the charger allows the user to manually switch between AA and AAA size batteries. The green cover in the first picture is partly open. The LED in the centre of charger, just above the battery holders, is the charging LED. It is red while charging and turns off after charging is complete.

The Rezap 880 USB is a specialist charger and should be viewed as such. It will appeal to those who:

- ➔ want affordable high powered AA rechargeable batteries, without any frills;
- ➔ need portability above anything else.

It will also appeal to the international traveler, especially if they are taking a laptop with them, as any USB ports can also be used to charge batteries. You do not need to worry about a compatible charger in different countries.

USER INSTRUCTIONS

The test charger was an engineering sample, it did not have any instructions. The artwork of the proposed packaging suggests the instructions will be adequate.

CHARGER TYPE (UNIVERSAL OR MINI)

It is closest to a mini charger, but is really in a category of its own being a USB charger.

BATTERY SIZES CATERED FOR

The Rezap 880 USB will only charge:

- ➔ AAA; and
- ➔ AA batteries.

BATTERY TYPES CHARGED

The Rezap 880 USB only charges Ni-MH batteries. And you are limited to 2 batteries at once.

FEATURES SET & USE

Not a great deal to talk about here. The package describes the charger as “compact, light and powerful”. It is, but the light weight of the charger is both a strength and a weakness. It is very light and therefore mobile. However, at first touch the construction seems flimsy. But on closer inspection it did seem to able to take its fair share of punishment -The Doc pressed on it hard from several angles. It is stronger than it first appears, but it is not bullet proof, so do not abuse it.

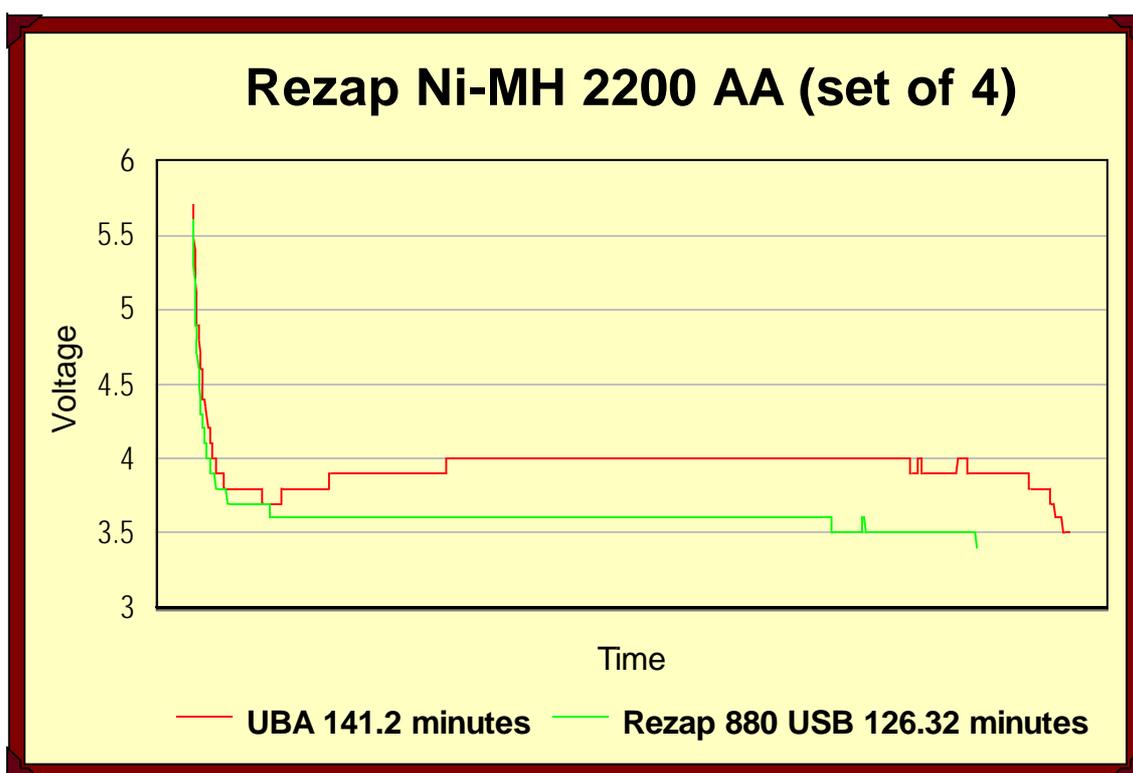
Use is simple and straight forward, the red light means the batteries are charging. No light means the batteries are charged (or the safety cut off has activated – see further below). Maximum recommended battery capacity is 2200 mAh for AAs and 750 mAh for AAAs. It will take 12 hours to fully charge a battery set. The Docs' tests, with AAs batteries, confirms 12 hours.

You need to use the correct technique to insert the batteries into the charger, especially the bigger AA batteries. It can be a battle to get the battery in the charger until you perfect your technique (too hard to describe in words).

When using a Nokia adapter, remember that it may increase the charge time and not fully charge the batteries. The Doc only had access to a Nokia 8210 charger rated at 120 mA, the Rezap 880's output is 260 mA. So the Rezap 880 USB is not being used to full capacity, meaning an increase charge time and the possibility that the batteries are not fully charged - due to the timer protection cutting in before the charging is complete. This was borne out in my testing where the battery performance was less when using the Nokia 8210 charger: 114.15 minutes verse 126.32 minutes for the USB charge. So just remember that the Nokia results do *not* adversely reflect on the battery set or the charger, the better guide is the results using the USB connector.

Note: If you are using the USB port on our computer, remember that the computer's power supply must be able to power all the devices including the Rezap 880 USB.

How does the charger perform in charging? Look below. In normal testing the cut off point for the test is when the battery hits 3.5 volts for the first time. Batteries do not last very long at 3.5 volts anyway, maybe a minute or so. However, there was a very unusual pattern in the Rezap USB charger test. The batteries quickly dropped in voltage and discharged large amounts of their capacity around 3.6 and 3.5 volts. So the following graph shows uses 3.4 volts as the cut off. The battery set used was the Rezap 2200 mAh AAs. The UBA test results will be slightly different to that for the Rezap 2200 mAh "official" test which used 3.5 volts as the cut off point.



The UBA clearly outperforms the Rezap 880 USB (like it does most chargers), but the Rezap does fair better than the results first suggest. You can only charge 2 batteries in the Rezap 880 USB, which means the set charged first has been out of the charger for at least 12 hours. Ni-MH batteries lose a reasonable amount of power in that period (power loss over time is not linear). They lose most power in the first 24 hours than any other time. So if we level the playing field, we would probably add a few more minutes to the Rezap 880 USB. Overall the Rezap 880 USB does a good job. The Doc also used the Vanson Speedy Box with the battery set and it managed 134.50 minutes, the Rezap 880 USB is not that far behind.

SAFETY FEATURES

The Rezap 880 is not microprocessor controlled. But the safety features include:

- ➔ timer protection;
- ➔ reverse polarity protection;
- ➔ output voltage regulated at 3V max. protection;
- ➔ low charge current to ensure that slight overcharge of the batteries won't damage the batteries.

It is important with all "manual" chargers not to put the batteries back into the charger if they have been fully charged, as the Rezap 880 USB cannot sense they are charged. If you recharge in this situation you will most likely damage the batteries and substantially reduce battery life. Understand the limitations of the charger you own in order to maximise battery life. If you are not the type of person to exercise care when charging batteries in a manual charger, buy the Rezap Battery Doctor instead. The Rezap 880 USB has reasonable safety features for its price point.

DOC'S RATING (RANKED OUT OF 10)

At this point The Doc will not award a ranking. The rankings were developed with mini and universal chargers in mind. To apply them to this specialist charger would probably unfairly penalise the charger. It would score lower than what it deserves.

CONCLUSION

If you are looking for minimum of weight, you only need 2 batteries at once and have access to a USB port or a Nokia 8200/8300 series adapter, then this is the charger for you. It will not be suitable for more demanding users.

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