Dirt Cheap Accu Charger

Want to hack a Mobile and make it do sumpin useful ?

Want to protect the envirnoment ?

Want to own a current/voltage/temperature limited charger that will elegantly and safely charge 4 rechargable cells both AAA and AA Nimh and Nicad types ?

If so You'll need the following items !

BOM:

1 Orphaned Mobile phone

1 Battery Clip

1 Battery Holder for 4 AAA Accus

1 Battery Holder for 4 AA Accus ; this is optional but what the heck !

First Step:

Get Yourself an old has-been GSM Cell phone with Power supply transformer, either from a thrash dump or from Ebay. In the UK alone, according to a BBC report, 1 million mobiles are jettisoned every year

at Xmas time to make way for newer, more fashionable models, received as presents from Santa Claus. Yep, that's right, these miracles of modern HiTec are simply dumped and are doomed to rot back into the soil and Also to dissipate their toxic cargo of heavy metals to the four winds.

So, my friend, do yourself and the environment a favor and save At least one neglected and abandoned Mobile from a fate worse than Death…(It's and perhaps also Ours ???).

Let's take the Ericsson A1018S for example !

Inside this ancient phone.. (It was released 7 years ago and according to Moore's law, that makes it actually 7,000 Years old in the human scale Of reckoning time) …beats a stout and valiant heart.

The heart pulse comes from a precision temperature regulated Quartz crystal, ticking along at a tempo of 13,000,000 Hz (ticks per second) ! Not only that, the frequency is maintained to an accuracy of 0.000001%. Wow !

This signal is then fed to an Atmel AVR Microprocessor running @ 13 Mhz. And this chip controls all the functions inside the mobile. It has on board:

8K Serial Eeprom

Graphic LCD display

256K Flash Memory

I2C bus

Red and Green Leds

Led backlighting

Ring Tone sounder

17 Key keypad.

Pwm Psu controller

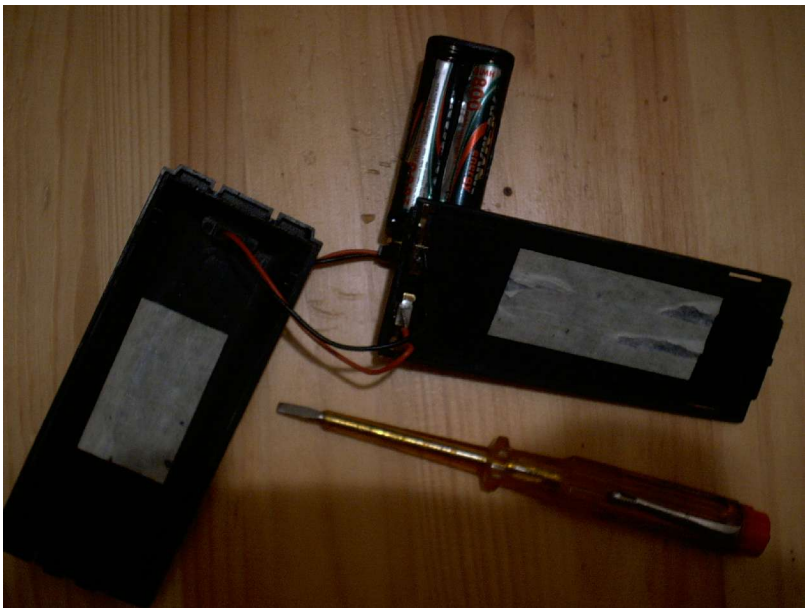
Sim card adapter……..And that's' only the Digital part of the PCB !

A real beauty, built before the time of massive Large Scale Integration and Eminently hackable. This introduction into the field of Reverse Engineering (hacking) of Mobile phones starts with a very easy example.You don't need to knowanything about programming. You don't need to have read the CCITT Gsm Specs.You don't need to be an expert in soldering/desoldering sub miniscule SMDs.And last But not least, You don't even need to be patient !

Second Step:

You now have the Fone in front of You on your kitchen table, having either rescued it from the garbage pile or successfully liberated it from Ebay for the princely sum of 1$!! … No kiddin , check for yourself !!!

Now proceed to disassemble the Battery-Pack with a small, thin-bladed screwdriver and inside you will see 4 AAA type cells. Don't discard these, just leave on the top of the table ! We'll reuse these babys again … the aim is 100% Recycling , and nothing less will do, Ok ? You'll see that the positve pole of the Accu Array is soldered to the Terminal marked + (Plus) via a RED wire and the negative pole is likewise soldered to Terminal marked – (Minus) via a BLACK wire. Good so far ! Simply apply a hot soldering-iron to the terminals and when the solder begins to become fluid, simply remove both wires from the terminals. Now for the tricky bit … I didn't promise you a rose garden ??



Third and Last Step:

This time we reverse procedure and it's time to Solder. Gently heat the Terminal Marked + (Plus) and solder the RED wire of the Battery clip to this terminal …Gently ! Do the same with the BLACK wire of the Battery clip, this time soldering it to the - Terminal (Minus) and not forgetting the gentle side of Your nature. All's well, simply Snap the 2 sides of the Accu container back together again and that's that !

Testing:

Observing polarity place the 4 Cells to be harged into the battery holder and Connect the battery holder to the battery clip protruding out of the back of the Fone. Check the connection between the Clip and the Holder once again and then.. and ONLY Then connect the Transformer to the Fone and plug it into the wall outlet socket.

If all goes well, you'll now hear a beep from the Fone and see the following measage appear on the LCD display: " Insert Card ". Press the " No " key twice and soon You'll see the Red Charging -Indicator light up. After an elapsed time of between 1 to 4 Hours You'll then see the Green Fully Charged Indicator light up.

The accus can be left in situ in this mode forever and the 13Mhz ,0.000001% Tolerance, Crystal controlled ,Risc-Processor will see to it that the Accu Cells are safely And efficiently trickled charged ad infinitum. Not bad for 3 Bucks, hey ???

Ullasmann.

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Please address any queries, criticisms, suggestions etc. to ullasmann@vype.de

PS. If you're interested in seeing what can *really* be done with this Fone, well Have a little peek here… → **http://www.spletomat.com/tech/a1018**

These guys are truly amazing !!

Health Warning:

Please note that this Charger is suitable for charging only **Nicad** and **Nimh** Rechargable Accumulators. **All** and I mean **All** other types Of batteries and cells must **NOT** be used with this device. Period !!!

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