

Edison 1.0

09/13/92

This simple application displays the following information in a tiny, relocatable window on Mac's equipped with the Power Manager (Portable, PowerBooks, Duo's, etc.):

- digital battery voltage
- CPU speed
- AC adapter plugged or not plugged
- Charging state (hi charge or trickle)
- 2 timers which are automatically started or halted by detecting the insertion or extraction of the AC adapter plug:

- actual power-on-time since last charge (ie. how long

- your Mac has been in a non-sleep or non-shutdown mode.)

- elapsed real-time since last charge

Edison does not tell you how long you have left till your battery goes dead, nor does it show the percentage of battery life remaining. I use Apple's Battery DA to help me judge these things.

Edison is freeware. It requires System 7.0, and the Power Manager to run.

This version fixes a few bugs that were present in the previous released version (1.0b) related to disappearing display windows, and a sometimes inaccurate battery timer. It also reduces the preferred application partition size from 384K to 80K. Commands have been added to reset and pause the battery timer, and to center the display window.

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Usage

Edison is meant to be run "in the background". Place Edison or an alias of Edison in the Startup Items folder of your your System folder so it runs automatically when your computer is restarted. Move the display window to where you want it (the location will be remembered the next time you restart Edison). Leave the program running all the

time, and let it quit by itself when you restart or shutdown your machine.

Displays

Edison presents information in a single, draggable window, which can be switched to any of 4 displays. You can change from one display to another by using the commands under the Display menu, their command key equivalents, or alternatively, you can option-click within the display window to switch to the next display.

There's a Move to Middle menu item (command-M) under the Display which will center your display window in the middle of the screen, just in case, for some unforeseen reason, your display window has disappeared off your desktop.

Display 1:

Voltage, CPU speed, AC adapter plug state, HI charge state, charger error, and low battery warning.

he cpu clock rate displays 16 or 1 on my PB100 (ie 16Mhz in normal mode, and 1 Mhz in rest mode).

The gray shading indicates low battery voltage. The shading also appears on the other 3 displays.

According to Inside Mac VI, the HI charge symbol means the battery is being charged at "the hicharge rate (1.5 amps) "

The charger error symbol (lightning bolt with a horizontal line across it) indicates (in the words of Inside Mac VI): "that the charging circuit is having trouble charging the battery".

For more detailed information, refer to the chapter on the Power Manager routines in Inside Mac volume VI.

Display 2:

Battery-life timer.

his is how long your machine has been on and running off the batteries. It will not include the time that the machine was in sleep mode. It also will not include the time when your machine has been shutdown.

Let's say you start Edison when your PowerBook is plugged into the AC adapter. This display should indicate 00:00:00, and stay that way. As soon as you unplug the adapter, this timer begins counting up. The timer will freeze as soon as you plug the AC adapter back in (this is assuming that your machine is on and Edison is actively running when you insert the plug). When you unplug the adapter again, the timer will reset back to 00:00:00.

If the timer is running it can be paused by choosing the Pause Timer menu item (command-P) under the Display menu. You can resume the timer by choosing Resume Timer (command-P). (I use the Pause feature to halt my timer when the first System warning message appears on my Powrbook, warning me of low power. I later write this number down)

If you want to manually reset this timer back to 00:00:00, choose the Reset Timer menu item (command-R) under the Display menu. I found this feature useful when I swap in a spare battery into my Powerbook, and I didn't want to plug in the adapter just to reset the timer. You can only reset the timer when the AC adapter is not plugged into the computer.

Display 3:

Switches back and forth between Display 1 (battery voltage) and Display 2 (battery life timer) every 2 seconds.

he battery-life timer can be Paused or Reset while in this display mode.

Display 4:

Elapsed (true time) since last charge.

This is how long it's actually been since you last unplugged your powerbook from the AC adapter.

When Edison is running, and it detects that you pulled out the AC adapter from the back of your portable computer, the timer resets to 00:00:00, and begins counting up. Plugging the adapter back into the Mac will freeze the timer.

This counter will keep on ticking through sleep modes and between shutdowns and should display the right time, as long as you don't change or delete Edison's preference files. The program will probably get confused and display an incorrect time if you've manually changed the clock (through the General control panel, for example) while Edison is running.

If you want to reset this timer manually back to 00d 00:00, choose the Reset Timer menu item (command-R) under the Display menu. You can only reset the timer when the AC adapter is not plugged into the computer.

Preferences

Edison remembers the location of your display window along with other information by creating an "Edison prefs" file in your Preferences folder. If it discovers that the file "Edison prefs" is an alias, it tries to resolve it. Thus, you can keep the real "Edison prefs" in the System folder of your main drive, while keeping an alias of it (with exactly the same name) on a secondary boot-up drive (like a RAM disk for example).

If you boot from different disks (like a RAM disk and a hard disk), make sure to have just one "real" "Edison prefs" file in the Preference folder in one disk, and aliases of this file (also called "Edison prefs") in the Preference folders of the other disks. Otherwise, your window location and timers will change when you boot from one disk and then another.

Balloon Help

Whoopee! Since this was my first Mac program, I thought I'd toss a couple of balloons in here just as an experiment. Probably not really useful to you now, since you've already read this far into this document.

Revision History

1.0 - 09/13/92

- Changed the memory's application size from 384K (the Think C default) down to a more realistic 80K
- Moved all error and warning strings into the resource fork, instead of embedding them in the code.
- Created a more useful About box
- Modified some code to try to prevent the display window from disappearing (several users reported this problem), or from improperly updating when switching between displays.
- Added additional menu items to the Display menu to recenter the window. This can bring back a display window that's disappeared.
- Added an additional menu item to Pause/Resume the battery-life timer.
- Added an additional menu item to Reset either of the two timers.
- Fixed a bug in the calculation of the battery life. Version 1.0b tended to calculate inaccurate battery life time when one repeatedly quit and restarted the application just shortly after the machine was restarted.
- The delay (in number of ticks) between voltage samples was placed into a STR# resource. As released, it's set to 30 ticks when Edison runs in either the foreground or background.

1.0b - 08/26/92 - Initial release.

- It just started working. I found a name for it which didn't include the strings "PB" or "PowerBook", and heck, I even figured out how to give it an icon! I find the program useful. Hopefully others will too. I've tried it only on my PB100 running System 7.0.1 so if it doesn't work on your machine, oh well...at least you didn't pay for it :--)