



BatLight 1.90 User's Guide

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1. About BatLight

The PowerLED is the forgotten feature on a m5xx. BatLight makes this feature useful.

BatLight is a program that links the battery level to an LED action. With BatLight active you can see whether the battery is below a defined level or/and when the device is attached to a cradle/travel charger and whether it is charged or charging.

Depending on your settings BatLight can set the PowerLED *off*, *flash* or *on* when the battery is charging, charged or/and low.

BatLight only works with a m5xx device and OS 4.x.

BatLight also calculates different statistics about the charging process and low level warnings. The statistics are separated in three different groups: general, charging and low level statistics.



2. System requirements


BatLight only works on a Palm m5xx and PalmOS version 4.x. The program detects any other device or OS and it will automatically disable itself.

3. Installing BatLight

BatLight is an application and can be installed using your Palm device install tool and then hotsync.

4. Upgrading from a previous version

You can install the new version over the old one with the Palm device install tool and then hotsync.

Before you install a new version you must deactivate  the current version. If you are installing over version 1.5 then the settings like registration code, battery level, etc. are taken over by the new version.

5. Upgrading from BatLight Lite

You can install this version over BatLight Lite with the Palm device install tool and then hotsync. If you use a version of BatLight Lite below 2.0 before you install the full version you must deactivate BatLight Lite. After installing this full version BatLight Lite will be disabled and can be deleted from your device.

6. Using BatLight

In the main screen of BatLight you can set the following two features:

Action at level:

With the checkbox you can select this item. The percentage setting is the level the action of the LED will change at. Depending on the option set at "**LED action when**".

LED action when charged:

Here you can set the type of action for the LED when the device is charged. You can choose between *off*, *flashing* and *on*. Standard setting is *on*.

LED action when charging:


Here you can set the type of action for the LED when the device is charging. You can choose between *off*, *flashing* and *on*. Standard setting is *off*.



Flash level below:

With the checkbox you can select this item. Below the selected percentage setting the LED will start flashing. If you attach the device to a charger the LED will respond to the settings made at "**Action at level**" option.

If BatLight is active and the battery level drops below 10% the LED will be made dead (=off). No additional option needs to be selected for this. The PowerLED will not react on any program. This feature avoids that the battery is drained unnecessary. If you attach the device to a cradle or travel charger when the battery level is below 10% then the LED will be kept dead until the level is above 10%. This is done to speed up the charging process.

If you have set the above mentioned values the program must be activated with the  button. The status field will report the status of the program. If you change values while the program is active the program will take the changes in account and you do not have to deactivate/activate the program again.

7. Sample frequency

BatLight samples the battery level depending on the load of the battery and if the device is connected to the cradle/travel charger or not. When device is not connected to the cradle/travel charger and the battery is fully loaded the sample frequency will be less than when the battery is drained to half load. The minimum frequency is about every 2 minutes and the maximum frequency is every 4 hours. Because when measuring the battery level BatLight wakes the Palm without letting the LCD go on, there could be problems with other programs/hacks. The sample frequency can be tuned see [preference settings](#).

When the device is connected to the cradle a specific fixed sample frequency must be used due to a bug in the Palm OS.

8. Preferences settings

The preferences dialog can be found via the menu “Options” → “Preferences”. In the preferences dialog of BatLight you can set:

Flash speed:

Here you can set the speed for the flashing of the LED. You can set five different speeds. Standard setting is the middle speed.

Tolerance level:

With this option you can set the tolerance for the battery level the program has to take in account. If you choose a small value then the program will react on every deviation of the set battery level. If you set a larger value then the LED will only react if the deviation is large. Standard setting is 3%.



Sampletime device Off

Here you can set a fixed time for BatLight to check the battery level, when the device is not connected to the cradle and off. Standard setting is Auto.

If you set this option to "Never" the battery level is not checked when the device is off only when it is switched off. With the setting "Auto" BatLight determines the sampletime depending on the battery level (See [Sample frequency](#)).

This option is especially useful if you have a conflict with an other application (See [Conflicts with other programs/hacks.](#)).

Sampletime device On

Here you can set a fixed time for BatLight to check the battery level, when the device is not connected to the cradle and on. Standard setting is "Auto".

If you set this setting to "Never" the battery level is not checked when the device is on only when it is switched on. With the setting "Auto" BatLight determines the sampletime depending on the battery level (See [Sample frequency](#)).

This option is especially useful if you have a conflict with an other application (See [Conflicts with other programs/hacks.](#)).

Activate after reset:

If this option is set, the program will restore itself after a soft reset. This option is also called the “Set and Forget” feature. With this option set the LED action will look like a feature of the operating system built in by Palm itself.

This option should be used with care, because when BatLight conflicts with an other program or hack there could be a situation that a hard reset is the only option. Standard setting is not checked.

Low level flash only when on

With this option you can make the LED only flash when the low level setting is reached AND the device is on. Standard setting is not checked.

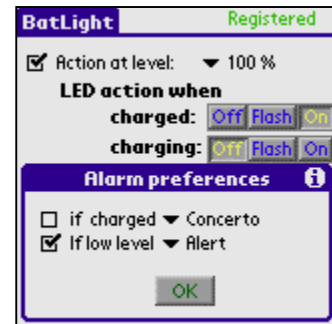
Backlight off when in cradle

Some backlight utilities interact with BatLight and turn on the backlight, after some time, in the cradle. Because this slows down the charging process you can turn the backlight off in the cradle with this option. Standard setting is checked.

9. Alarm preferences

In the alarm preferences dialog you can choose if you want an alarm when the device is charged or when the predefined low level is reached. With each alarm you can select the sound you want to hear. The volume of the sound is taken from the general preferences alarm sound setting.

If a sound is selected the sound will be played until you tap anywhere on the screen or the sound has ended. Standard setting is “if charged” not checked and “if low level” checked.



10. Calibration

With the preference calibration you can calibrate the 100% battery level. In the calibration dialog you see the following data:

Maximum Voltage:

Here you see the maximum voltage the battery has reached. This value is measured by BatLight when it is active and saved. You can reset this value with the reset button.

Current Voltage:

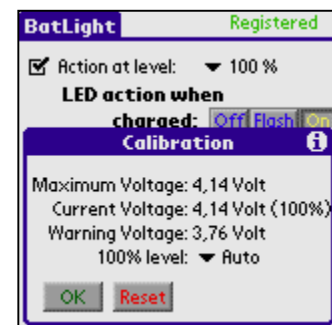
This is the current voltage of the battery with the level percentage.

Warning Voltage:

As the battery reaches this voltage the OS will give a warning that you should charge the device.


100% level

At the 100% list you can set the voltage which BatLight should take as 100%. With this setting you can let BatLight signal that the battery is really fully charged. If you set this BatLight will adjust the % displayed by current voltage immediately. If it is set to Auto BatLight will use the palm OS calculation of the % of the battery level. The maximum voltage is shown to make it easy for you to set the right setting for the 100% level. If you set this too high BatLight will never signal that the battery is charged.



11. Log viewer

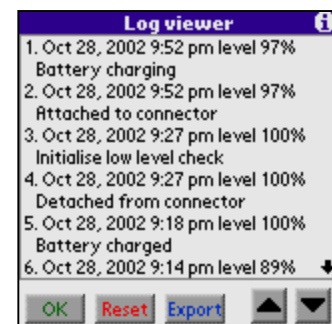
The Log viewer can be found via the menu “Options” → “View

log” or with the button  on the main screen. BatLight keeps track of all actions. The last 500 actions can be viewed with the log viewer.

All log entries are numbered and have a date/time stamp.

With the arrows on the bottom of the screen you can move to the end and beginning of the log entries. With the export button you can export the log to a memo (see [Export log](#)).

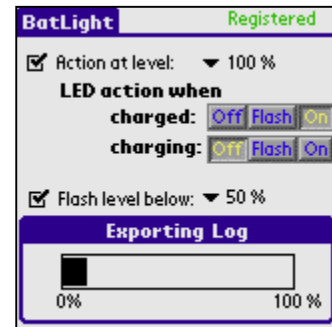
The logdata is saved in the file BatLightDB.pdb, if you have any problem with BatLight you should send this file along with the bugreport ([Conflicts with other programs/hacks.](#)).



12. Exporting log

You can export the log to a memo via the menu “Options” → “Export Log” or when viewing the log (see [Log viewer](#)).

During the export of the log entries a progress bar is shown. Exporting the log does not clear the log. If you want the log to be cleared go to the log viewer. If the log has the maximum size (500 entries) the exporting takes a while and the memo is about 32 Kbyte.



13. Statistical information

The statistical information can be found via the menu “Options” → “Statistics” or with the button



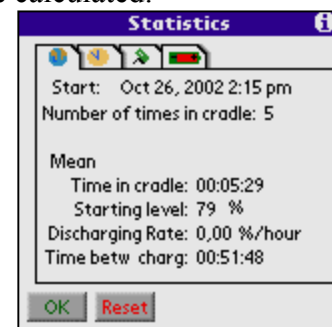
on the main screen. BatLight calculates different statistics about the charging process and low level warnings. The statistics are separated in four different groups: general, Next charge, charging and low level statistics. Each group is represented on a separate tab page. The tab will only appear if there is data available. BatLight calculates statistical information on the charging process and low level states. To get reliable statistical information you have to let BatLight calculate for a number of charges. The following information is calculated:



General statistics:

The general charging statistics are calculated over all charges. Concerning the complete charging and discharging of the battery a number of different statistics are calculated.

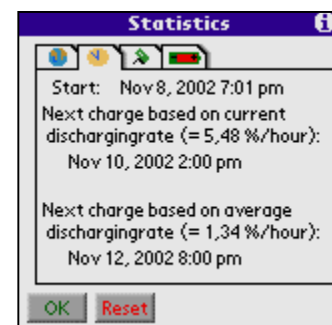
- Number of times in cradle
This is the number of times the device is connected to a cradle.
- Mean time in cradle
The mean time in cradle is ca
- Mean starting level
The mean level of the battery when connected to the cradle is calculated here.
- Mean discharging rate
This is overall the discharging rate of the device.
- Mean time between charging
The mean time between attaching the device to the cradle.



Next charging statistics:

In the next charging statistics an estimate is made based on the average and current discharging rate, when the device should be charged again. This tab will be shown after the first full charging process.

- Next charging based on current discharging rate
The current discharging rate is the discharging rate from the last charging. This gives an impression when you should charge if you continue working with the palm like you do currently.
- Next charging based on average discharging rate
The average discharging rate is the discharging rate from the first installation of BatLight.

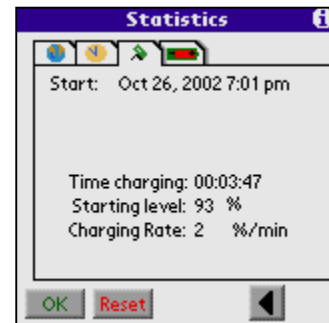




Charging statistics:

The charging statistics are calculated for each single charging process. To get reliable statistics only the processes which take longer than 60 seconds are taken in account. You can go through the data of each charging process with the arrows. The following information is calculated from each charge:

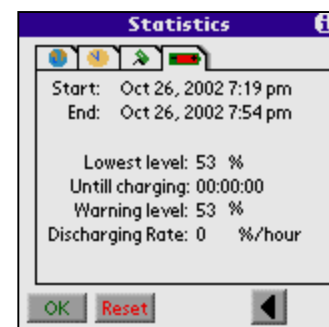
- Time charging:
The time it took to charge the device. This will be shorter or the same as the time in the cradle.
- Starting level:
The starting level of the battery when connected to the cradle
- Charging rate:
The charging rate of the battery. This is calculated from the moment the device is connected to the cradle until it is fully loaded.



Low Level statistics:

The low level statistics are calculated for each single low level warning. You can go through the data of each low level warning with the arrows. Start and end date/time of the low level condition are shown and:

- Lowest Level
The lowest battery level during the low level warning state.
- Until charging
The time between the beginning of the low level warning and the start of the charging
- Warning level
The battery level at which the low level warning started. Due to the fact that BatLight samples every 10 to 15 minutes this level could be lower than the defined low level.
- Discharging rate
This is the discharging rate during the low level warning.



14. Pay Your Sharewares/Register!

The shareware distribution model allows authors to make very cheap software available to users. Also, shareware authors usually update their software as often as needed, and paying for the software you use keeps authors motivated!

This program is shareware. The unregistered version is fully functional for 10 days.

If you like the program and wish to keep using it, please register for the nominal fee of \$9.95 (US).

If you register the program please give the correct HotSync ID.

The Hotsync ID can be found in the registration window.

Registering will provide you the following:

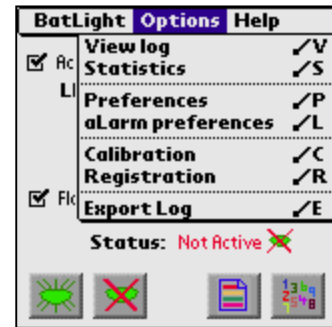
- a registration code which will unlock the application.
- Free upgrades of the software.

Registration is available through Palmgear HQ :

- online via: www.palmgear.com
- via phone: 817.640.6558
- via fax: 817.640.6614



If you have received the registration code you can unlock the application via the menu “Options” → “Registration”. In the registration window you can fill in the registration code. If the code matches the HotSync ID the application will be unlocked. This program is provided without any warranty and the user accepts full responsibility for any damages, consequential or otherwise, resulting from its use.



15. Send your comments and suggestions!

If there is any improvement you would like, please send your suggestions to A.P.J. Verschuren (e-mail: Batlight@altavista.nl). Registered users are informed by e-mail when a new version is available. Also, please remember to send any e-mail address change to the author if you want to continue receiving update e-mails.

Your e-mail address and user information is kept as confidential data. **It is not given or sold to anyone else.**


16. Conflicts with other programs/hacks

Because BatLight uses some unsupported and undocumented features of Palm OS, there might be conflicts with other hacks or programs. If you experience problems with BatLight and other programs or hacks please report these to the author. Include the program name, use, the problem and why you think BatLight might be the cause in the report. If you send a report always attach the BatLightDB.prd, to the report. This database holds vital information for determining the cause of the problem. Send the report to Batlight@altavista.nl

Known problems:

- If you use a backlight utility it could happen that when the device is in the cradle the backlight is switch on, after some time, at half brightness. This is caused by the fact that BatLight checks the battery level, it does this by switching the palm on with the LCD off. When this happens some backlight utilities also switch on the backlight, after some time. Because I have not found a way to detect if the LCD is on or not I am not able to correct the behaviour of these backlight utilities. Therefore I have added an option in the preference dialog which sets the backlight off in the cradle. This option is standard checked, if you want to work with the palm in the cradle you should uncheck this option (see [preferences settings](#)).
- Security software
Some security software automatically activates after a certain time. Because Batlight samples the battery level, and wakes up the palm to do so (see [sample frequency](#)), the security software is never activated. If you experience this kind of problems then you can set the sample time in the [preference dialog](#). You can set different sample times for when the device is On or Off. The sample time when the device is On should be smaller than the sample time when the device is Off because the battery level is dropping faster when the device is on.

17. Removing BatLight

Before you delete BatLight you must deactivate . If you want to remove all information of BatLight from your device you should perform a soft reset after you have deleted BatLight. Not performing a soft reset after removing BatLight could result in a crash of your palm.

18. Changes history

➤ **BatLight 1.90** (14 November 2002)

New features

- ♥ Export from Log viewer.
- ♥ New tab in statistics with estimate date and time for next charge
- ♥ Optimised calculation of several statistics
- ♥ Made compatible with the program SyncLight
- ♥ Minor Bug fixes

➤ **BatLight 1.80** (26 August 2002)

New features

- ♥ Further enhanced colour user interface.
- ♥ Option of sound is back
- ♥ Added feature to export log to memo.
- ♥ Now possible to see the last 500 log entries.

➤ **BatLight 1.71** (08 July 2002)

New features

- ♥ Enhanced colour user interface with colour icons.
- ♥ Option added to set different sample time when not in cradle (see [sample frequency](#)).
- ♥ Option added to calibrate the 100% battery level (see [Calibration](#)).
- ♥ Extended the low level list (now from 15% to 60%). The battery is made dead at 10% (was 20%).
- ♥ Settings are taken over from version 1.50 and higher now.
- ♥ Minor bug fixes.

➤ **BatLight 1.61** (27 May 2002)

Optimalisations

- ♥ Better recognition of travel charger (recognition may take a few minutes).
- ♥ Option added to set the backlight in cradle to solved the backlight interference.
- ♥ Minor bug fixes.

➤ **BatLight 1.60** (20 May 2002)

New Features

- ♥ Extended the statistics with separate data of every charging process and low level warning.
- ♥ Now possible to see the last 100 log entries and each log entry is numbered.

➤ **BatLight 1.50** (28 March 2002)

New Features

- ♥ Logging the actions of the charging process and showing them with a viewer.
- ♥ Possibility for choosing the details to be provided for the charging process.
- ♥ Added option to alarm when the device is charged or when the battery is on low level.
- ♥ Added option to only let low level LED flash when device is on.
- ♥ Corrected the slow charging bug.
- ♥ Minor bug fixes.

➤ **BatLight 1.41** (20 February 2002)

New Features

- ♥ More intuitive user interface.

- ♥ Corrected the situation that after a reset BatLight would not check the battery level.
 - ♥ Minor bug fixes.
- **BatLight 1.40** (16 February 2002)
- New Features
- ♥ LED signalling when below a specified low level of the battery.
 - ♥ Below 20% of battery level LED is made dead by BatLight to save energy.
 - ♥ Statistical information calculated about charging process.
- Optimalisations
- ♥ Checks the battery level not in fixed interval any more but depending on battery level and settings.
 - ♥ Tested on OS 4.1
 - ♥ Minor Bug fixes
 - ♥ Size of program decreased with more than 50%
- **BatLight 1.30** (27 December 2001)
- Optimalisations
- ♥ All known side effects are eliminated.
 - ♥ Auto off timer works with BatLight active (also LED Off setting selected).
 - ♥ Greatly improved reaction time when connected to cradle/travel charger (maximum two seconds now).
 - ♥ Improved detection of incapable devices (Not OS4.0 or no LED available).
- Bug Fixes
- ♥ Corrected “Fatal error ” and “Memory error” which occurred in some circumstances when installing BatLight.
 - ♥ Corrected several conflicts with other programs.
- **BatLight 1.21** (6 December 2001)
- New features
- ♥ Added option for selecting the flashing speed of the LED.
- Optimalisations
- ♥ Better detection of different types of travel chargers/RS 232 cradle.
- Bug Fixes
- ♥ Corrected detection of travel charger.
 - ♥ Corrected “Fatal Error” bug.
- **BatLight 1.2** (2 December 2001)
- New features
- ♥ The LED action can be chosen between “Off”, “Flash” and “On”. Because of this the setting “Seconds between flashing” is gone.
 - ♥ Different LED actions can be chosen for the different states during charging or charged (e. g. “LED on” when charging, “LED off” when not charging)
 - ♥ Added option for selecting “Tolerance on battery level” (Preferences dialog).
 - ♥ Added option for setting “Device off when connected” (Preferences dialog).
- Optimalisations
- ♥ Added Preferences dialog.

- ♥ BatLight does not need the LCD screen to be on, it now also works with LCD screen turned off.
- ♥ Complete recoding of LED actions.

Bug Fixes

- ♥ BatLight now reacts on auto shut off time (not when action LED off is enabled see important).
- ♥ Corrected detection RS232 cradle.

➤ **BatLight 1.11** (6 November 2001)

Bug Fixes

- ♥ Calculating registration code, when Hotsync ID with first character in lower case, corrected.
- ♥ Corrected uncontrolled flashing in rare circumstance of installation of same application with curtain settings.

➤ **BatLight 1.1** (4 November 2001)

New features

- ♥ Possibility to automatic restore settings after reset (Set and Forget feature).
- ♥ Option to let the LED flash while charging or when charged
- ♥ Extra the option for seconds between flash with the option 0 seconds (continuous flashing).
- ♥ New registration algorithm

Optimalisations

- ♥ Better detecting of device capabilities.
- ♥ Faster LED signalling after detection of battery level.
- ♥ Complete redesigned code for detecting the attached connector.
- ♥ Added small icons to the program.
- ♥ Recoded the routines for detecting charging and charged.
- ♥ Better detection of end trail period.

Bug Fixes

- ♥ When re-entering the program, correct settings are shown.
- ♥ Correct end of trail period in registration dialog is shown.
- ♥ LED light will only flash in cradle.
- ♥ Corrected detection of cradle direct after installation via hotsync.

➤ **BatLight 1.0** (25 October 2001) Initial release.

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