

Power Saver for Windows 9x - Version 2.0

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Introduction

Power Saver for Windows 9x is a software utility that lets you control the power usage of your computer display. Power Saver consists of two programs: a resident utility that is always available via hotkey and Taskbar icon, and a screen saver module.

Power Saver's resident utility lets you immediately put your computer's display into a low power mode. The Power Saver screen saver puts your display into successively lower power modes after specified intervals of system inactivity. The touch of a key or a twitch of the mouse restores your display to its normal power-on state. Power Saver's resident utility and screen saver modules work together to let you start saving power at any time, with additional power savings as your computer sits idle. There is no need to waste time or power waiting for the screen saver to start.

Power Saver uses the VESA DPMS hardware and software features of modern display adapters and monitors. VESA DPMS provides three levels of power savings for computer displays: stand-by, suspend, and active off.

- **Stand-by** is a low power state that provides some power savings with a quick return to the normal power-on state.
- **Suspend** is a lower power state that provides additional power savings with a slightly longer delay before returning to normal.
- **Active off** is the lowest power state that provides the greatest savings, but requires the most time to return to normal.

Some display adapter and computer display combinations may not support all three power saving levels. Power Saver will identify and use any or all of the power saving levels available on your computer. If your computer system does not support any of these three VESA DPMS low power states, Power Saver will still run, but with limited functionality.

Windows 9x provides "Energy Star" settings on its *Display/Screen Saver* properties page that allow you to put your display into two of the VESA DPMS low power states. Power Saver goes beyond that by letting you use all three low power states, and with Power Saver you can immediately switch to any low power mode by hotkey or by clicking on Power Saver's Taskbar icon.

Read This!

Power Saver has been tested on a variety of computer systems. To the best of the author's ability, Power Saver performs as intended with no unpleasant side effects. However, there are uncountable combinations of hardware and software in general use and it is possible that some combination of factors will uncover a heretofore unknown problem in Power Saver. In a similar manner, the addition of Power Saver to a system may uncover a previously unseen defect in software from another party.

Power Saver uses documented video BIOS interfaces supplied with your computer's display adapter to enter and leave the low power modes. Power Saver does not directly manipulate the display adapter hardware, nor does it use undocumented or reverse engineered techniques. The author believes the program is safe to use, but the author cannot be held responsible for any damage or data loss that may occur when Power Saver used. Use this software at your own risk!

As with any new program, you should test Power Saver in a variety of situations before adding it to your normal suite of programs.

Using the Power Saver Icon

The Power Saver icon in the Windows 9x Taskbar gives you immediate access to low power modes for your computer display. Power Saver will take different actions if you left-click, left double-click, or right-click on the icon. The icon appears as a small computer monitor with the letters 'PS' on the display.



Figure 1. The Power Saver Taskbar icon.

A single left-click of the mouse on the Taskbar icon pops up a menu with the low power states available on your computer. In addition, the menu contains selections to immediately start or disable the installed Windows screen saver, and to exit Power Saver. Selecting any of the low power states from the menu will place your computer's display into that low power mode. Any mouse movement or the press of a key returns your display to its normal on mode.



Figure 2. The left-click menu.

A left double-click of the mouse makes Power Saver carry out its default action. When you first install Power Saver, the default double-click action is to place the display into the stand-by low power mode (provided your computer supports the stand-by mode). You can change the default action with the *Power Saver Properties* dialog.

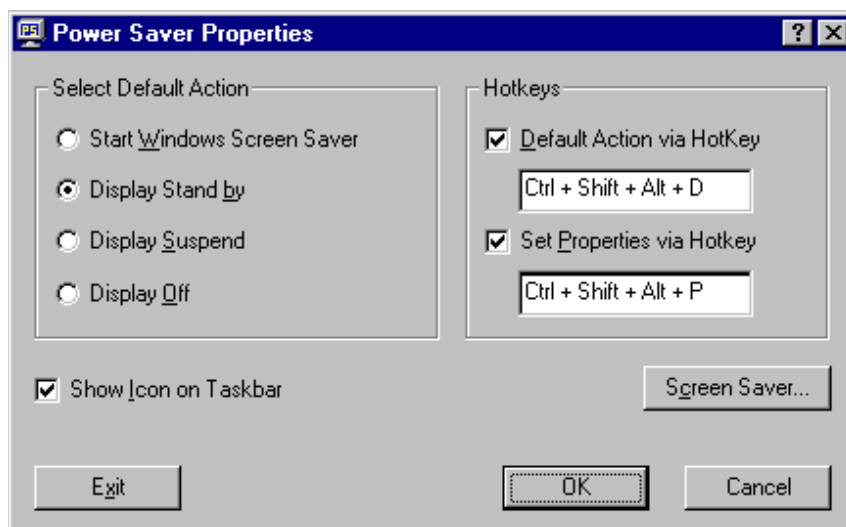


Figure 3. The *Power Saver Properties* dialog.

A right-click of the mouse on the Power Saver icon pops up a menu which allows you to modify Power Saver properties or see a brief informational display. With the *Properties for Power Saver* menu selection, you can specify which of the available low power modes to enter when you left double-click on the Power Saver icon. The *Screen Saver...* button on the properties dialog lets you change Power Saver screen saver settings.

A checkbox on the properties dialog allows you to turn off Power Saver's Taskbar icon. This can be useful if your Taskbar is already crowded with other utility icons. When the Power Saver Taskbar icon is disabled, you can still enter low power modes and pop-up the properties dialog by hotkey combinations. The properties dialog will also be displayed if you run the Power Saver utility a second time while Power Saver is already running.

Using the Power Saver via hotkey

Power Saver functions can be invoked with hotkey combinations. A *hotkey* is a particular combination of key presses that immediately perform the associated function. Power Saver hotkeys are assigned via the *Power Saver Properties* dialog.

Power Saver can use two hotkey combinations: one hotkey will execute the default action--the same action performed by a left double-click on the Power Saver Taskbar icon. The other hotkey will pop-up the Power Saver Properties dialog. This is particularly useful if the Taskbar icon is disabled.

Using the Power Saver Screen Saver

While your computer sits idle, the Power Saver screen saver module can put your display into successively lower power states at selected intervals. The screen saver does not display amusing or animated graphics; it simply saves power. All you'll see while the Power Saver screen saver is running is a blank screen.

The Power Saver screen saver works to save you power in two ways. First, when you enter a low power mode by hotkey or from the Power Saver menu, the screen saver immediately starts counting down to place your display into even lower power modes provided your system remains idle. Second, if you make the Power Saver screen saver your active screen saver in the Windows Control Panel, the screen saver will put your display into a low power mode when the screen saver idle wait period completes, even if you don't use the Power Saver Taskbar icon.

When you install the Power Saver package, the Power Saver screen saver is copied to the Windows System directory to be with your other screen savers, but the installation process does not change your current screen saver selection (in case you really want flying windows or a scrolling marquee or whatever you have selected as your current screen saver). Even if you use a different screen saver, Power Saver can save you power on-demand by using the Taskbar icon or hotkey.

If you want to save the most amount of power automatically, you should make the Power Saver screen saver your selected Windows screen saver with the following procedure: open the Windows 9x Control Panel by clicking the *Start* button and select the *Settings* and then the *Control Panel* menu items. Next double-click the *Display* icon and pick the *Screen Saver* property page. Scroll through the list of available screen savers and click on "PwrSaver Screen Saver".

Windows 9x does allow you to save power using with its own Energy Star screen saver settings, but it supports fewer low power modes than Power Saver, and it does not give you the ability to switch to a low power mode on-demand. If you select Power Saver as your primary Windows screen saver, your should turn off the Windows 9x Energy Star screen saver options so they don't undo the savings provided by Power Saver.

You can customize the Power Saver screen saver through its properties sheet. These settings are available from the *Screen Saver...* button on the Power Saver icon properties dialog, or from the *Settings...* button on the *Screen Saver* page of the Windows 9x Control Panel *Display* properties. The *Power Saver Screen Saver Properties* dialog lets you set the amount of time to wait between low power modes. There is no time setting for the stand-by low power mode since that mode is typically set as soon as the screen saver is started. You can also prevent the screen saver from using some of the low power modes, but you should normally leave all the modes enabled that are available on your computer.

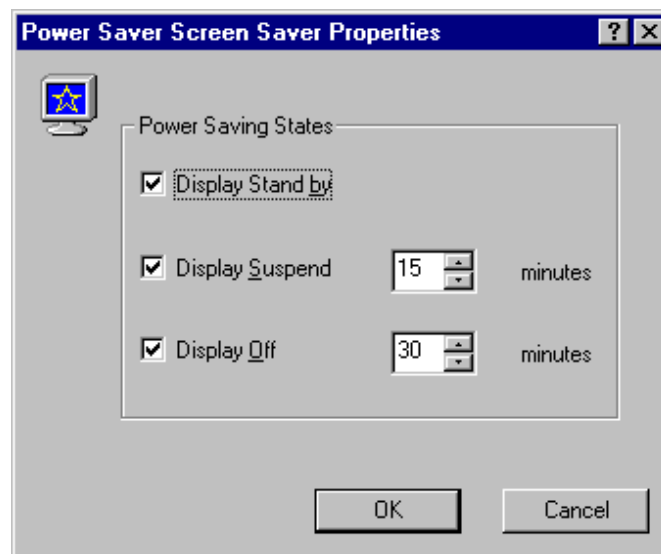


Figure 4. The Power Saver Screen Saver Properties dialog.