



## About Lens

Lens normally magnifies an area of the screen around the mouse pointer. It can alternately try to track the caret (the "text cursor") in text applications, if you enable Track Caret mode, or it can display a magnified fixed area of the screen, if you choose Freeze Location mode

This is a Windows version of an Amiga program I wrote in 1985. First written in 1991, it has been updated through the years, thanks to your support. It was written in C++, and compiled using Borland's compiler (for the 16 bit version) or Microsofts Visual C++ compiler (for the 32-bit version). I have also produced a version of Lens for the OS/2 2.x Workplace Shell.

Lens for Windows, version 2.03 (this version) adds many features, bringing the Windows version up to the level of the OS/2 version. It also introduces a Win32 (Windows/NT or Windows 95) version in the distribution.

If you feel this program has value to you, I'd really appreciate a payment of \$5.00 US sent to me at:

Ned Konz  
810 21st Avenue North  
St. Petersburg FL 33704  
USA

I can be reached on the Internet as [nedkonz@gate.net](mailto:nedkonz@gate.net) or on Compuserve as 76046,223 .

## About the Author

I've been working with microcomputers since around 1975 (that is, as long as there have been microcomputers). I helped build an Altair, helped start the first computer store in Tampa FL, and started the first computer store in Daytona Beach FL.

I got into software by bootstrapping myself from being an electronics technician, through doing electronics design, and then into programming.

I found that I didn't get solder burns as much while programming.

My experience includes a fair amount of embedded systems work, robotics, and data communications, also publishing, text processing, and typesetting. I've programmed in several assemblers, C, C++, and a variety of little languages and tool-specific languages.

So far, I've avoided writing database or business software (and hope to keep it that way), except for a particularly dreadful 3-month stint doing magazine subscription fulfillment using Informix.

Currently I'm working in C++, because it seems to be the best general-purpose language around for the kind of work I'm doing (embedded systems for robotics and process control).

In real life, I enjoy diving, making beer, cooking, motorcycling, and bicycling (I rode my bicycle across the US from Florida to Oregon in 1985).

Why do I write shareware/freeware? I enjoy the feedback I get from people who use my programs. In the case of Lens, many regular users are vision-impaired, and Lens makes it easier for them to use their computers. It's nice to know that something I found useful or interesting is also useful or interesting to someone else.

Other shareware/freeware programs I've written (on a fine BBS near you):

- KEYIN (1985)(DOS) -- run an application and feed it keystrokes.
- INTERCEPT (1985)(DOS) -- intercept and report on interrupt/DOS calls made by an application.
- LENS (1985)(Amiga)
- SCREENDUMP (1985)(Amiga) -- dump graphics screen to printer
- SWAPDCP (1993)(OS/2) -- allows editing of KEYBOARD.DCP file
- LENS (1993)(OS/2) -- OS/2 PM version of LENS

Let me hear what you think about Lens, even if you don't send any money... I rely on user feedback to improve my programs, and would like to get yours.

## Always on Top mode

Lens can be made to always stay on top of all other windows, even if it doesn't have the focus.

To do this, select "Always on top" from the Settings menu, or use the 't' key.

## Changing Magnification

The magnification may be changed with the Zoom In (+) and Zoom Out (-) menu choices. The available range is from 1X to 40X.

The magnification can also be changed using the '+' or '=' key to increase magnification, or the '-' key to decrease it.

The .INI file entry "**magnification**" sets the initial magnification. See [Saving Settings](#).

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## Display Cursor mode

Lens can display the location of the mouse cursor, using a cross to indicate the location. You can select whether or not you want to display the cursor location, using the "Display cursor" Settings menu choice, or the 'C' key.

## Expert mode

By default, Lens prompts you with a message box every time you try to change a setting. To turn off this behavior, select "Expert mode" from the Settings menu, or use the 'X' key.

If you select Expert mode, Lens will quietly change its settings when commanded.

## Freeze Location mode

If you choose "Freeze Location" from the Settings menu, (or type the 'f' key), Lens will change its cursor into a magnifying glass, and wait for you to position the cursor over an area on the screen and click the left mouse button.

Until you disable this mode, Lens will then continue to magnify the area you clicked on. If you have Repeat mode enabled, any changes to that area of the screen will be represented in the Lens window as they happen.

## Hiding the Menu Bar

You may choose to display or hide the Lens menu bar.

By default, the menu bar is displayed, but you can change this setting using the Settings menu choice "Display menu bar", or by using the 'b' key.

If you have the menu bar turned off, you can still use the System menu to change the settings: if you have the title bar displayed, just click on the upper-left hand corner of the Lens title bar, and the System menu will pop down. If you don't have the title bar displayed, you can use the **AltSpace** key combination to pop the System menu down.

If you have the title bar turned off, the menu bar is no longer displayed.

## Hiding the Title Bar

Lens can be made to hide its title bar (the bar at the top of the window that includes the system menu/close button, the title of the program, and the minimize and maximize buttons).

This can be done either by selecting "Hide Title Bar" from the Settings menu (or the system menu), or by double-clicking on the Lens window.

You can re-display the title bar (and menu bar, if it was enabled) by double-clicking again on the Lens window.

If you do this, you can still drag the Lens window around using the mouse.

You can also use the System menu to make settings changes, by using the **Alt-Space** keystroke combination to pop the System menu down.

## Keyboard shortcuts

KEY	ACTION
t	<u>Always on top mode</u> (toggle)
+, =	Increase magnification
-	Decrease magnification
r	<u>Repeat mode</u> (toggle)
k	<u>Track caret mode</u> (toggle)
a	About Lens
v	Save Lens settings (see <u>Saving settings</u> )
b	Hide the menu bar (see <u>Hiding the menu bar</u> ) (toggle)
F1	Lens Help (this file)
x	<u>Expert mode</u> (toggle)
c	<u>Display Cursor mode</u> (toggle)
f	<u>Freeze Location mode</u> (toggle)
Alt-Space	Display the System menu

## Release Notes

- **Version 2.03, 5 July 1995**

Made 32-bit version. Added to standard distribution.

- **Version 2.02, 17 December 1994**

Changed mail and Internet addresses.

- **Version 2.01, 15 October 1994**

Bug fix version:

- Re-compiled to work on 80286 processors as well as '386 and higher.
- Fixed bug where save when iconized resulted in bad restart.

- **Version 2.00, 7 May 1994**

Added enough new features to warrant a new major version number!

- Finally fixed 256-color StretchBlt palette bug
- Real Windows help file
- Freeze Location mode
- Always-on-top mode
- Hide title bar feature
- Display cursor position feature
- Changed postal address

- **Version 1.04, 4 July 1993**

- Changed layout of "Usage" message box for better display on NEC 640x400 displays for Japanese users.
- Added explanatory text about StretchBlt bug.
- Removed BIX email address.

- **Version 1.03, 8 August 1992**

My first bug report! Fixed bug where repeat mode was never saved. Also made it so that changing magnification from the keyboard using the + and - keys would cause a window repaint. So now you can leave your mouse alone and use the + and - keys to get the magnification you want.

- **Version 1.02, June 1992**

Changed text of About box.

## Repeat Mode

Repeat mode continues to magnify even if the cursor has not moved. This mode should be set if you wish to magnify contents of a window which is changing on its own without the mouse or the caret being moved, for example when magnifying animation. This mode may be a resource hog and slow down your system if the `timerInterval` setting is too short (see [Saving Settings](#)).

Repeat mode may be turned on or off using the menus, or by using the 'R' key (see [Keyboard shortcuts](#)).

## Saving Settings

Lens saves its settings in its initialization file (or registry entry) when you choose "Save Settings!", or use the 'V' key. This initialization file (or registry key) may be named as a command line parameter to Lens (see [Starting Lens](#)), otherwise it will default to "LENS.INI", in your Windows directory.

If you're using Lens32 (the 32-bit version of Lens), the registry key you specify will be under the key "HKEY\_CURRENT\_USER\Software\NedKonz". If you have specified a key name as a command line parameter, this will be the subkey name, otherwise it will be "Lens32".

The "timerInterval" setting in this initialization file sets the minimum time between magnifications (in mSec). Setting it too low, especially with repeat mode ON, will cause your system to slow down. The default setting for the timer interval is 200 msec (1/5 second).

A default LENS.INI (for VGA) file follows (with comments)

```
[Lens]
; top, left, right, and bottom are
; the initial position of the lens window.
; These default to 0, 0, screenwidth/2, and screenheight/2.
top=0
left=0
right=320
bottom=240
; this is the initial magnification (1-20)
magnification=2
; repeatMode and trackCaret are either 1 or 0.
repeatMode=0
trackCaret=0
; timerInterval sets the minimum time
; between magnifications.
; It defaults to 200 mSec (1/5 second)
timerInterval=200
; Setting displayMenuBar to 0 inhibits
; the display of the menu bar in the Lens window.
displayMenuBar=1
; setting displayTitleBar to 0 makes the window
; appear without any title bar or menu bar.
displayTitleBar=1
; setting alwaysOnTop to 1 makes the Lens window
; always appear on top of other windows,
; even if it is not the active window.
alwaysOnTop=0
```

## Starting Lens

Lens may be started from its own icon like any other Windows program.

### 16-bit version

If you want to use a specific initialization file (see [Saving settings](#)), name this file in the Command Line entry for the program Properties in Program Manager.

For instance, if you wanted to run Lens from the C:\LENS directory, and use an initialization file in that directory, you would use a command line of:

```
C:\LENS\LENS.EXE C:\LENS\LENS.INI
```

in the Program Properties settings.

By naming specific initialization files, you can have multiple Lens windows, each with their own different settings.

### 32-bit version

If you want to use a specific registry key (see [Saving settings](#)), name this key in the Command Line entry for the program Properties in Program Manager.

For instance, if you wanted to run Lens from the C:\LENS directory, and use an registry key named "Fred" (that is, "HKEY\_CURRENT\_USER\Software\NedKonz\Fred"), you would use a command line of:

```
C:\LENS\LENS.EXE Fred
```

in the Program Properties settings.

By naming specific registry keys, you can have multiple Lens windows, each with their own different settings.

Since the registry keys are saved under **HKEY\_CURRENT\_USER**, each user has his or her own sets of Lens32 settings.

## Track Caret Mode

Lens can be told to try to track the caret (the "text cursor") in some text applications. To do this, enable Track Caret mode using the menus or the 'k' key on the keyboard (see [Keyboard shortcuts](#)). You can try Track Caret mode with Notepad. It also works with the Borland C++ integrated development environment.

This mode does not work with all applications. It will not work, for instance, with Word for Windows, which doesn't use the built-in Windows calls for displaying and moving the caret. Also, since it is impossible for Lens to tell whether the caret is actually being displayed, this setting may cause a lack of Lens motion when a non-text program is active.

Lens will track the mouse cursor if the caret position in the active window is at the upper left hand corner (0,0), otherwise it will track the caret.

