

# LogicSim 3.0.2

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## INTRODUCTION

### But du logiciel :

LogicSim permet de dessiner simplement des circuits logiques, en utilisant le drag & drop pour placer les composants. Il permet également de faire une simulation des circuits et peut afficher les courbes des signaux en différents points.

LogicSim est un "CartePostaleWare". Si vous aimez ce logiciel, merci de m'envoyer une belle carte postale.

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Comme ce logiciel était développé en langage Pascal, il n'y aura probablement pas de nouvelle version (difficulté à trouver un compilateur Pascal).

### What is LogicSim?

LogicSim is an application that simulates digital circuits.

LogicSim has an easy-to-use graphical interface similar to standard drawing programs such as MacDraw™. Circuits are built up from standard components (gates, flip-flops, LEDs, switches, etc.) and can include more complicated modules created by compiling a previous circuit. LogicSim also has a "Signals window" providing an oscilloscope display of the signals at nodes in the circuit. LogicSim 2.8 is a discrete-time event-simulator which makes it more accurate than LogicSim 2.2 and most shareware simulators which use a fixed delay for all gates.

LogicSim 2.8 runs on a Macintosh LC or better and requires System 7 or greater (with System 7 you must have the Macintosh Drag-and-Drop extension installed, this extension is now distributed with LogicSim).

LogicSim is Freeware (or rather PostcardWare)! However, I had to develop LogicSim on a Macintosh LC, so if you are using it on a Quadra or a PowerPC, I think it would be a nice gesture if you were to send me some \$ for my work, so that I can buy a faster computer too!

This document was compiled by Charles Williams from a mixture of experiments on pre-release versions of LogicSim and notes supplied by Arnaud Masson. It may not therefore be an entirely accurate description of the distributed version. If you have any corrections or suggestions that will improve the *documentation* please send them to <C.D.H.Williams@exeter.ac.uk>.

## Contacting the Author

If you like this software please send a postcard to:

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Bug reports and suggestions to : [arnaud.masson@noos.fr](mailto:arnaud.masson@noos.fr) for the time being.

## Related WWW sites

LogicSim 3.0.2 (last version) : <http://macbrusoft.free.fr/>

Charles Williams: <http://newton.ex.ac.uk/people/williams/>

ClarisDraw symbols for electronic components:

<ftp://newton.ex.ac.uk/teaching/CDHW/Symbols/ElectronixSymbols.sea.Hqx>

LogicSim is PostcardWare.

If you use this program, please send me a postcard.

You can also send me some \$ (check or money) if you think it's a really good program!

My postal address is :

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Thank to all the nice people that have already sent postcards and money for LogicSim.

I reply by e-mail whenever it is possible. However some people don't have an Internet access so I would like to say here that I appreciate their support !

If you want to receive by e-mail LogicSim updates, fill in the following form and send it to [arnaud.masson@noos.fr](mailto:arnaud.masson@noos.fr)...

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NAME: .....  
ORGANIZATION: .....

E-MAIL ADDRESS: .....  
POSTAL ADDRESS: .....  
.....

ON WHICH MODEL OF MAC DO USE LOGICSIM ?  
.....

WHAT DO YOU USE LOGICSIM FOR ?  
.....  
.....

WHAT WOULD YOU LIKE IN NEXT VERSIONS ?  
.....  
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**2.6.3a**

- new "Preferences" command and dialog
- the display of the component list has been improved (no more 3D effect and centred pictures)
- the component names are right centred (definitively!)
- new "Delays" dialog with a popup that show a new kind of file called "family". A family file contains delay values that are used for the inputs and outputs of all members of this family. Family files must be in the "Families" folder to be loaded and shown in the popup menu. A family is create with the "Create new family" command et can be edited later with the "Modify family" command
- Warning: *the delays (only) in the documents made with older versions of LogicSim are lost*
- the <tab> key (which didn't work in 2.6.2b) can now be used in the standard way in dialogs

**2.6.3a1**

- the default family for all components is "Default delays" (which contains only 0 delays)
- the name of the family is written in geneva 9, red and plain
- dragging items to the Finder trash has the same effect as 'delete'
- I hope that the wires are better drawn on LaserWriter (?), ie they have the good width

## 2.7a

- change in the menu management. The title of a menu that have no enabled item becomes gray. The time between the click on the menu title and the drawing of the menu must be shorter.
- nicer scrollbars with proportional thumbs and 3d arrows
- bus are now allowed, no more 'wired' component needed. This means that several outputs can be connected at the same node. If an output is at 1 and another at 0 and they are connected together, then the two components are burning

## 2.7a1

- the '->' button in the 'Signals' window is hilited correctly
- the 'Windows' menu contains the names of all the opened documents
- the 'Notes' window font is monaco 9 which has a fixed character width
- no more 'Show notes' in the 'Edition' menu (use 'notes' in the 'Windows' menu instead)
- new component: 'Input4', this is the opposite of 'Display4'
- new simulation option called the 'auto advance delay'. This the delta time which is automatically added at the current time when the simulation has entered a stable state (in previous version of LS, it has a default value = 10.0, but in fact it didn't work very well)
- nicer nodes
- enhanced 'Module preview' dialog. The pin positions can be changed by dragging small circles (blue for the inputs and red for the outputs). This can be useful after having pasted a non-standard component picture. However the pin numbers cannot be modified yet.
- the stimuli window can have comments that start with '//' like C++. For instance :  
input1: L0 50 L1 +50 L0 // this is a comment  
// a line of comment  
input2: L1 // this is another comment
- nicer command palette with icons and new buttons for 'component name', 'component options' and 'component delays' (which avoid to use the double-clicks + modifiers)
- faster simulation than v2.7a

## 2.7b

- fix the bug that makes crahes with the '•' (Record) button
- stimuli are printed again in the 'info' window (if this option is checked of course)
- the meaning of the command buttons is shown in the 'help' window
- nice (?) background texture in the component list

### 2.7.1b

- the drawing window is better refreshed (it looks faster). This mechanism uses about 250K of system shared memory (if available)
- fix an awful bug that can make LogicSim crash when many documents are opened
- improved memory management. That must avoid some crashes but may request more memory.

### 2.7.2b

- Fix the bug with the 'Record Stimuli' check mark
- Dragging components from the drawing area to the finder trash doesn't crash anymore
- Drop & replace feature. For instance if you drag a clock onto a switch symbol (the target component is hilited), the switch is deleted and the clock is put at the switch location (without losing the connections).

### 2.8a

- Picture and text items in the drawing area. To add a picture or a text, copy a selection from you favorite text editor or drawing program, and paste it in LogicSim.
- "Save As Spice Source..." and "Save Spice Source" commands. They are not complete yet.
- A gate counter is now displayed during simulation startup
- The animated cursor has now a fixed speed (I have seen how fast it was on a PowerMac...).
- The bad display of some colors in the drawing area (light blue was looking like yellow) has been fixed.

### 2.8a1

- New manual version

### 3.0a

- 68K and PowerPC native (\*)
- Fixes some memory management bugs

### 3.0b

- Fixes a bug that may cause an unexpected end of application when component modules are updated with a different pin number

(\*) The PPC version is NOT in the initial freeware release of version 3 (it may be a \$20 shareware)

### Things to do...

- "Print" command for Signals Window
- Add an option to save only the visible part of the 'Signals' window
- Add the time scale drawing in signal pictures (for saving or printing)
- Draw the wires in color (red for L1 or blue for L0)
- Update the SDK doc
- Full "Undo" command
- Color choice for LEDs
- Add a "visible on signals" checkbox in component option dialogs
- Search components in aliased folders

Comments & bug reports :  
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Download :  
<http://macbrusoft.free.fr/>