Magic VLSI Layout Tool
Current distribution version 8.2

Distribution Documentation (PDF format)

These papers are all found in the magic source distribution in PostScript form. They have been translated here into PDF. For updated, online versions of the technology file format reference manual, choose "Technology Files" from the menu on the left. For updated, online versions of the tutorials, and for an online command reference, choose "Using Magic" from the menu on the left.

Check the translations page for translated versions of the Magic documentation. Currently there is a tutorial translated into Spanish by Ing. Miguel Eduardo Flores Gomez of the Universidad Don Bosco in El Salvador, soon to be a full set.

A number of these papers can also be found at the following URL:
http://bwrcs.eecs.berkeley.edu/Classes/IcBook/magic/

Introductory Material

1. *Introduction*
2. *Copyright*
3. *Magic Addendum: Version 6.5 differences*, Stefanos Sidiropoulos

Maintainer's Manuals

1. *Magic Maintainer's Manual #1: Installation and Development*, John Ousterhout and Walter Scott
2. *Magic Maintainer's Manual #2: The Technology File*, Walter Scott and John Ousterhout
3. *Magic Maintainer's Manual #3: Display Styles, Colormaps, and Glyphs*, Robert Mayo and John Ousterhout
4. *Magic Maintainer's Manual #4: Using Magic Under X Windows*, Don Stark

Standard Tutorial Set

1. *Magic Tutorial #1: Getting Started*, John Ousterhout
2. *Magic Tutorial #2: Basic Painting and Selection*, John Ousterhout
3. *Magic Tutorial #3: Advanced Painting (Wiring and Plowing)*, John Ousterhout and Walter Scott
4. *Magic Tutorial #4: Cell Hierarchies*, John Ousterhout
5. *Magic Tutorial #5: Multiple Windows*, Robert Mayo
6. *Magic Tutorial #6: Design-Rule Checking*, John Ousterhout
7. *Magic Tutorial #7: Netlists and Routing*, John Ousterhout
8. *Magic Tutorial #8: Circuit Extraction*, Walter Scott
9. *Magic Tutorial #9: Format Conversion for CIF and Calma*, John Ousterhout
10. *Magic Tutorial #10: The Interactive Router*, Michael Arnold
11. *Magic Tutorial #11: Using IRSIM and RSIM with Magic*, Michael Chow and Mark Horowitz

(Old) Technology Manuals

1. *Magic Technology Manual #1: NMOS*, John Ousterhout
   (Note that this refers to an "nmos.tech" technology for which I do not know of any extant copy.)
2. *Magic Technology Manual #2: Scalable CMOS*, Shih-Lien Lu and John Ousterhout
   (Note that this is just a page referring to a MOSIS email request form that no longer exists.)

SCHEME Tutorial Set

Tcl/Tk Tutorial Set

WRL DRC Extensions Tutorial

Magic Manual Pages

Online manual pages, converted from "man" format to HTML.

magic (1)	**ext2sim (1)**	**ext2spice (1)**
mag (5)	**ext (5)**	**sim (5)**
net (5)	**dlys(5)**	
displays (5)	**glyphs (5)**	
cmap (5)	**dstyle (5)**	

The Magic Whitepapers

These papers are referenced in the distribution documentation but are not easy to come by, so I have posted them here for download.

1. *Corner Stitching: A Data Structuring Technique for VLSI Layout Tools*, John Osterhout, December 13, 1982 (scanned PDF).
2. *Magic: A VLSI Layout System*, John Ousterhout, Gordon Hamachi, Robert Mayo, Walter Scott, and George Taylor, December 2, 1983 (scanned PDF).
3. *Plowing: Interactive Stretching and Compaction in Magic*, Walter Scott and John Ousterhout, December 2, 1983 (scanned PDF).
4. *Magic's Incremental Design-Rule Checker*, George Taylor and John Ousterhout, December 7, 1983 (scanned PDF).
5. *A Switchbox Router with Obstacle Avoidance*, Gordon Hamachi and John Ousterhout, December 7, 1983 (scanned PDF).
6. *Magic's Obstacle-Avoiding Global Router*, Gordon Hamachi and John Ousterhout, Chapel Hill Conference on VLSI, 1985 (scanned PDF).
7. *REX - A VLSI Parasitic Extraction Tool for Electromigration and Signal Analysis*, Jerry Hwang, 28th ACM/IEEE Design Automation Conference, 1991 (scanned PDF). See ACM copyright notice on the first page.
8. *REX - A VLSI Parasitic Extraction Tool for Electromigration and Signal Analysis*, Jerry Hwang, 28th ACM/IEEE Design Automation Conference, 1991 (same as above, in native PDF with links).

Miscellaneous Documentation

Papers related to Magic and other programs in the distribution.

1. *Introduction to Simulation using IRSIM*
2. *Using Texture Mapping with Mipmapping to Render a VLSI Layout*, Jeff Solomon and Mark Horowitz, Design Automation Conference (DAC) 2001, Las Vegas, June 18-22, 2001 (Currently in the process of obtaining permission from ACM to post this paper).

Papers related to programs not in the distribution, which work with Magic.

1. *State Assignment and Minimization using Meg (Mealy Machine)*
2. *PLA Layout Generation using MPLA*
3. *State Assignment and Minimization using Peg (Moore Machine)*

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