

MacLux™

User Manual (online version)
version 1.7.3

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**The pictures have been removed from this manual
to decrease download time**

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General Information

- MacLux™ •
- Copyright ©1990-1991 by Claude Heintz. •
- All Rights Reserved •

- MacLux was created using Symantec's THINK Pascal 3.01 and the THINK Class Library. •
- Special Thanks To: Sandi Bonn, Craig Hickman and Janet Rose. •

MacLux is MultiFinder compatible. MacLux will run on a minimum Mac Plus with System 6.0.x. MacLux is compatible with system 7.0. Color portions of MacLux are only available on Macs with color QuickDraw. This includes an SE/30, LC or any Mac II. For color to work properly, 32 bit QuickDraw must be installed. Sound notes are available on Macs running system 6.07 and later. To record notes, sound input hardware is required.

On a monochrome Mac, as little as 400K is required to run. With 8 bit color, 800-1000k; 24 bit color, 1800k-2000k or more. Multiple monitors eat up more memory, especially in 24 bit mode!! Not enough memory can, in severe cases, cause MacLux to lock up when it is first launched.

The use of MacLux and PaperWork is subject to the software license at the end of this manual. You must read and agree to this license before you use MacLux.

I would like to hear your comments, questions, etc. about MacLux. If you are not a registered user, enclose SASE if you want a reply.

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Introduction

A lighting design is more than a drawing of where to hang the lights. In the same way, MacLux is more than a specialized drawing application. MacLux treats lights and lines as objects which have data associated with them. You access the data through the drawing. The processes of drafting and doing the paperwork are combined in a graphical environment. For a designer this has a great advantage. The designer can think in terms of the function of each light, entering data as soon as the light is drawn. MacLux also provides feedback such as colored symbols and beam and illumination calculations. These tools help the designer make decisions as the design takes shape.

MacLux works in several ways that are analogous to traditional methods of drafting a light plot. Instead of using a plastic template to draw a symbol, you select the one you want from a palette and drag it into place. (Unlike the paper version, the MacLux symbol can be moved or even changed to a different type.) MacLux allows you to create a plot over the top of an existing ground plan, similar to using tracing paper on top of the scene designer's drawings. When drafting on paper, you can use a template to get an idea of the size of beam that a light of a given type will produce. MacLux has a similar feature that will show the oval of the beam on the floor and compute the illumination in footcandles.

MacLux includes features which go beyond traditional methods. Light plots can be created in color—the instruments and beams are colored. MacLux even shows how the colors from different lights will mix. MacLux

will also display a cube placed on the stage so that you can see how beams fall on a three dimensional object. You can even focus lights and create a cue by clicking on the plot to aim and set levels.


MacLux works by taking advantage of the computer's ability to manipulate relational data. For example, when MacLux calculates the beam of a light, it finds the beam spread and candle power of the selected type of light from the key. MacLux also looks to find what position the light is hanging on and enters the height of that position for you. Using this information and the focus of the light, MacLux calculates and displays the beam size and illumination in foot candles. The utility, PaperWork performs similar tasks as it compiles instrument schedules and other reports out of the plot.

Note


This manual assumes the reader is familiar with the terms and conventions of the standard Macintosh interface. For more information, refer to the *Macintosh Reference*, or *System Software User's Guide* that came with your Macintosh.

Quick Tour

Open MacLux—the program starts up with a blank plot.


Select the Draw tool  from the **TOOLS** menu. The cursor will change to a pencil. Choose a spot and press the mouse. The cursor becomes a light. You can position the light before you release the mouse.

You may want to 'tear off' the **TOOLS** menu and place it in a corner of the window for easy access.

Choose the Arrow tool . Double click on the light and you will see the info dialog box with data such as the light's channel and color. Enter a color and a channel. When you hit OK, you are returned to the plot. In addition to the light, its color and channel are displayed


Use the Arrow tool to drag the light to a new location. Notice that the channel and color move along. Now, click on the color and drag it to the side of the instrument. If you move the light again, the color remains in its new relationship to the light.

If you want to change the type of light, click once on the light with the Arrow tool. Choose a new symbol from the **Lights** menu. If you want to change the light's direction, use one of the arrow keys or N,S,E or W. You will notice that the color and channel return to their default positions when you change the light's symbol. If you choose **Key...** from the **Options** menu, you will see information about the type of light you selected.

Use the Line tool  to draw a line. When you double click on the line with the Arrow tool, you will find that it is a lighting position. Like the light, it has data associated with it. The Arrow tool works with a line the same way it does with a light except that by clicking near the end of the line, you can change its length.

Bells & Whistles

Select your light. (If you are using a Mac with a color monitor, choose **Set Color** from the **Edit** menu or press command-K. This allows you to pick a color for the light.) Next, choose **BeamSpread** from the **Selection** menu. Click the Add button, then OK. You will see the beam from your light displayed.

Click with the Hand tool  inside the oval of the beam. Choose **Show Cube** from the **Selection** menu. You will see a cube as it would appear at the point you chose with the Hand tool. (you can only do this on a Mac with color QuickDraw.)

Choose **Show Cue** from the **Cue** menu under **Edit**. Click on your light with the Hand tool and drag the mouse. This allows you to set the level of your light's channel. Choose a point in the window and click with the Hand tool. Then, hold the option button down and click on your light. This allows you to 'focus' your

Using MacLux

This is the way I set up my files to create a light plot with MacLux:

First, I create an outline of the theatre including the major architectural details. The outline of the theatre can be created many ways. Any program that can output a PICT file will work. This plan can then be used with my light plot (Use PICT...).

To make the initial skeleton of the theatre, I sometimes even use MacLux because of its scale grid and **Set Line** and **New Object** commands. I save the outline I've created as a PICT file. (**Save As...**) I import this file into MacDraw II® to jazz it up, adding fill patterns and text. I save the resulting file in PICT format, ready to use under my plot. After associating the PICT file with a new plot, (**New, Use PICT...**) MacLux opens this file when it opens the plot. If I make changes to the ground plan, they are reflected in my plot the next time I open it.

Next, I begin my plot by drawing in all of the hanging positions with MacLux's Line tool. Double clicking on a line with the Arrow tool allows me to access the data about that position including its name and height. Finally, I set the title of the plot (**Show...**) and arrange my key (**Key...**) for each symbol that I'm going to use.

Now I have a blank plot for the theatre. I usually save my blank plot as a MacLux stationary document which allows me to use it over again. I also save the ground plan PICT file as MacDraw II® stationary (in addition to the PICT I'm going to use with my plot) which allows me to re-use it.

The only thing left to add is the ground plan of the set for the production I'm working on. The same process as drawing the blank theatre can be used to add this to the PICT file.

From here on, I can simply start drawing lights. Like a line, double clicking on a light with the Arrow tool allows me to enter an instrument's color, channel, etc. If I'm not sure which type of light to use, I can try various instruments with MacLux's BeamSpread command.

When I'm ready, MacLux prints out my plot. I then trim the pages, tape them together and use a large size Xerox machine to produce the final plot. The utility PaperWork creates the instrument schedule, channel list, color cut list, etc.

The Menu

About MacLux... presents a window that displays the copyright notice and author's addresses. The version of MacLux is shown under the logo. It is important to include the version number if you write to ask a question about MacLux. Clicking the mouse in the About window returns you to MacLux.

Help... shows the help dialog which has buttons for various topics. The topics are generally grouped by menu. Clicking a button shows a window with information about that topic. The information presented is intended to provide a brief explanation that can be used as a quick reference. Clicking the mouse in an information window returns you to the help dialog. When you are finished, click Done.

Under system 7.0, MacLux Help will be found in the **Help** menu instead of the **Apple** menu. Balloon help is also available for menu items.

DAS the rest of the items in the Apple Menu are desk accessories. Some of the DAs affect MacLux.

The Chooser selects a printer. MacLux uses information about the chosen printer to determine page and document sizes.

The Control Panel sets many parameters that determine basic operations such as how fast the mouse moves. The monitor configuration is also set through the control panel. Changing the monitor setting while MacLux is running is not a good idea.

The Scrapbook can be used to cut and paste information between applications. You can use the scrapbook to

import your own symbols into MacLux. The File Menu

New (cmd-N) creates a new untitled MacLux light plot. A plot is a MacLux document (or file) which contains lights and positions and the data attached to them. The document also contains information about the general setup of the plot.

When MacLux is first launched, it automatically opens a new plot. Any new plot is created with the following defaults:

- The Document's size is the chosen printer's page size.
- The Scale is set to 1/4".
- Text fonts are Times and Geneva.

Open... (cmd-O) allows you to open a previously saved plot or stationary document. The number of plots you can have open at a time is limited only by available memory. MacLux will inform you if there is not enough memory to open a requested file.

Close (cmd-W) should be selected when you are done with the plot in the top, active window. You can also close a plot by clicking the box in the upper left hand corner of the window. If you have made any changes to the plot since it was last saved, MacLux will ask if you would like to save it.

Save (cmd-S) saves the current plot to disk. If the plot has not been previously saved, MacLux will give you a chance to name it and to specify its location. Otherwise, Save replaces the old file with the new contents.

Save As... gives the option of saving the current document as a Plot, Stationary, or PICT file.

Stationary is a plot file that can be reused, the original remaining unaltered. MacLux prevents you from accidentally saving over the top of a stationary document. You must use Save As to explicitly alter stationary. This is useful for a "house plot" for a particular venue or if you desire to open new documents with a key or fonts other than the built-in defaults. Under system 7.0, you may also create stationary by using the Finder's Get Info command.

PICT files can be imported into many Macintosh applications. If color is turned on in the preferences, exported PICT files will be bit mapped with a resolution equal to the setting of the main monitor. (This is true even if you are working on a black and white monitor.) Otherwise, the PICT is of the object type that can be edited in a drawing program.

Revert To Saved discards any changes made to the current plot after the last time it was saved. MacLux asks you to confirm that you want to revert to the last version saved in case you selected this item by accident. **Use PICT...** allows you to place a drawing, such as a ground plan, under your light plot. This can be any PICT file, the type created with a drawing program such as MacDraw®. Some paint programs also save in PICT format. The difference is that paintings are bit mapped while drawings are collections of objects. Individual objects in a drawing can be edited. Drawings can also take advantage of printers with a higher resolution than the screen because each object is stored as a mathematical description rather than a collection of dots.

MacLux **does not** include this picture inside the plot document. It only saves the name and location of the PICT file with the plot. If the PICT file gets discarded or moved, MacLux will inform you that it can't find the file and ask if you want to look for it. Under system 7.0, you may use an alias rather than the actual PICT file.

To remove a PICT from under a plot, choose Use PICT... and click cancel. A separate PICT can also be used with the section view.

Document Size... is limited to 32767 x 32767 pixels. Height and width are measured in pixels (1/72 of an inch) and are limited to multiples of 8. A plot may take more than one page to print. In which case, you can trim the pages and fasten them together. The resulting plot can be Xeroxed onto a single piece of paper if desired. You

can set a different size for both plan and section view. The Page Size button enters the size of your printer's page. The PICT size button enters the size of the PICT file you are using.

Page Setup... controls printing on the chosen printer. You can select the paper size and orientation, as well as a number of options for each printer. The page setup is saved with the plot. If the printer is of a different type than the one saved, MacLux will warn you to check the page setup when you select print.

The Color Printing box in the Preferences (**Edit Menu**) also affects how the plot is sent to the printer. See page 12 for more information.

Print... sends the current plot to the printer.

Quit (cmd-Q) closes all open plots and exits MacLux. **The Edit Menu**

Undo (cmd-Z) cancels your last action. Not every command is undoable. **Undo** works with the Draw, Line and Arrow tools. If you mistakenly draw a light or a line or move something to the wrong place by accident, **undo** will reverse your action. **Undo** also works with the other commands in the edit menu, cut, copy, paste and clear.

MacLux's Clipboard functions only within MacLux. It stores **only** the information attached to an object. This means that you cannot copy and paste between MacLux and another application. The MacLux clipboard contains separate places for light and position information. Copying the information for a line does not displace the information stored for a light.

MacLux does use the desk scrap as a means of importing custom symbols. (See **Use Scrap** under the **Options** menu) MacLux can also export PICT files and PaperWork creates TEXT files that can be used with other applications.

Cut (cmd-X) removes a selected object and places its information on MacLux's clipboard.

Copy (cmd-C) copies the selected object's information to MacLux's clipboard.

Paste (cmd-V) replaces the selected object's information with the information of the same type on the clipboard. A light receives light information and a line receives line information.

Clear (delete or backspace) removes the object without saving its information.

Color is available only on machines with color QuickDraw. This includes the Macintosh SE/30, LC and any Macintosh II. MacLux requires 32 bit QuickDraw. Newer Macs have this built into their ROM. Others require an INIT (which comes with the system software from Apple) to be installed in the system folder.



32-Bit QuickDraw

Each Light symbol can be displayed in color. The symbol color is different than a light's color name which is part of its info. For example, a light may have the color r55 in the color field of its information. It may also be displayed on the screen in light purple. MacLux allows you to create a library that associates color names with screen colors.

Colors in MacLux look best when displayed with a 24 bit video board. With 8 bit video, the color displayed is the closest match to the specified color in the system palette.

Set Color... (cmd-K) lets you choose a symbol color for the selected light. This can be done with the standard Apple color picker or the MacLux picker. (see below)

Paste Color... (cmd-option-V) The symbol color of a light is part of the data stored on the clipboard. Paste Color transfers only the symbol color from the clipboard to the selected light without disturbing its other data.

Default Color... sets the color that new lights will be drawn with.

Remember Color saves the selected light's color name and symbol color to the Color Library in the prefs file. If a color with that name already exists in the library, MacLux will ask if you want to replace it.

Use Library Colors looks up every light's color name in the library. If there is a match, MacLux uses the library color for the light's symbol color. If there is no entry for a light's color name, Use Library Colors does nothing.

The **Sound Menu** appears on machines running system 6.07 or greater. It allows you to record sound notes that are attached to a light plot.

Play Note will play a sound note saved with the current plot.

Record Note allows you to record a note if you have a Mac equipped with a microphone or other sound input device. A plot must be saved before a sound can be added.

Delete Note removes the sound note from the file.

The **Cue Menu** gives you access to the levels of all the channels in the plot. Using the Hand tool you can click on a light and drag the mouse to set the level of the light's channel:

SnapShot creates a beam for each light that is on. The focus of each light is set either by using the Hand tool or through the BeamSpread dialog.

Show Cue automatically creates beams each time the level of a channel or focus of a light changes. (Until you select **Hide Cue**.) **New Cue** erases the current cue and creates a new one.

Display Cue... displays the levels of all the channels in the plot.

Save Cue... saves the cue display as a TEXT file.

Preferences... are read from the MacLux Prefs file that **must** either be in the system folder (the preferences folder under system 7.0) or in the same folder as MacLux. If there is no prefs file, MacLux creates one in the same folder as the application.

The prefs file controls several options and contains the Color Library and the Key Library. You can make several copies of the prefs file, each containing different libraries. MacLux only recognizes the one named 'MacLux Prefs'.

Outline  or Solid  symbols can be chosen.

Colors can be chosen via the standard **Apple Color Picker** or the **MacLux Picker**. Colors in MacLux are stored as full 24 bit values. With less than 24 bit video, the color displayed is the closest match to the specified color in the system palette.

The Apple Picker shows you the exact color you are picking even if the closest color will actually be displayed. It

also lets you enter values directly for Red, Blue and Green or Hue, Saturation and Brightness.

The MacLux Picker uses scroll bars to adjust Hue, Saturation and Value. It also displays the complementary and triadic colors of the selected color. Clicking on a complement or triadic color makes that color the new selected color. Thus, you can use the MacLux Picker to explore color relationships. The MacLux Picker only shows colors as they will appear on the screen.

Color can be turned **Off** and **On**. Color is automatically turned off on machines without color QuickDraw in their ROMs. If you are working on a monochrome monitor, you should turn Color off.

With Color On, light symbols can be displayed in color and PICT files are exported as color bitmaps. Turning Color Off will speed up screen re-draw and will cause PICT files to be exported as mathematical descriptions of the graphics like those created with MacDraw®.

When **Auto Color** is **On**, MacLux checks the Color Library each time OK is clicked in a light's info dialog. If it finds a match for the selected light's color name, MacLux uses the library color as the light's symbol color.

With **Color Printing** checked (and a color capable Mac), the plot will be sent to the printer as a color bitmap rather than a mathematical description of the graphics. This requires a huge amount of memory. Unless you have a color printer, you should make sure this option is off. This will speed up printing and take full advantage of the resolution of your printer.

Play Note on Open will play a plot's sound note when it is first opened.

The Selection Menu

Info... (cmd-I) allows editing of the information attached to each object.

The check boxes determine if certain fields are to be drawn. Double clicking on an object is the same as info

In the info dialog for a light, in addition to entering data in the various fields, the dialog lets you specify if the channel, color, number and mark fields are to be drawn. If the Draw N.C. box is unchecked, a color named 'N.C.' will not be drawn, but all others will.

Using the Info

The *channel* is how you, the designer, control the level of the light. This may be a slider on a preset board or a number entered into a computer. A Light plugs into a *circuit*. This may or may not be the same as the *dimmer*, which actually changes the voltage going to the light.

In between the light's circuit and the designer's channel, there may be a load patch where circuits are assigned to dimmers. There may also be a soft patch where dimmers are assigned to channels.

A designer may want to create a *group* of channels that have the same basic function, such as blue backlight. This can simplify the process of cuing by allowing all of the channels in a group to be controlled as if they were a single super-channel. The advantage of the group is that the individual channels may still be controlled separately.

The *mark* field can be used to denote a template or barn door. It may also be used if you want to show the light's focus area.

In the info dialog for a line, both the name and note fields may be set to be drawn. The height is used for beam spread calculations and for the section view.

The **spacing dialog** controls the action of Move, Duplicate, New Object(s) and Set Line. The distance an object is moved, the spacing of lights or the length of a line can be set by specifying a distance and direction. The buttons N,S,E and W are a quick way of entering a direction—0° (N) is the top of the screen. MacLux calculates the number of pixels given the entered distance and current scale. If desired, these X and Y coordinates may be entered directly. The Duplicate and New Object(s) commands allow multiple copies of lights. The number is determined by the 'Number of Units' field.

Move (cmd-M) offsets the selected object by the distance and direction shown in the spacing dialog.

Duplicate (cmd-D) clones the selected object, offsetting the copy by the distance & direction entered. Lights may have more than one copy. The number is determined by the spacing dialog. Duplicating a line will also duplicate any lights that are hanging on it.

New Object(s) is similar to duplicate. If a light is selected, new lights (of the current choice of type and direction) are created instead of clones. If a line is selected, a new line is created, starting at the end of the selected line.

Duplicate and New Object(s) cannot be undone.

Set Line offsets the selected line's end point the set distance from its starting point.

Dimension calculates the selected line's length in scale feet and inches and places it into the line's 'note' field. This must be repeated if the line's length changes.



Number Lights numbers the lights on the selected line.

BeamSpread (cmd-B) is both a calculator and a way of setting the focus of a light.

BeamSpread uses the selected light's beam spread and candlepower (both out of the key) and the height of the position it is hanging on. It calculates the size of the beam given a plan distance. (the horizontal distance from the light to the aim point on the floor) The height may be varied for the purpose of the beam calculation. This gives you the opportunity to gauge the difference between the size of the beam on the floor and at head height.

At any point, a beam can be added to a scratch layer of the drawing by clicking the Add button. The Clear button gets rid of all beams. The beams are displayed in scale and appear in both plan and section views. If Color is on, the beams will be displayed in the light's symbol color. A black symbol is assumed to be no color—only its outline is shown.

Where beams intersect, the resulting mix of colors is calculated and displayed. With less than 24 bit video, the color displayed is the closest match to the actual color that is found in the system palette. You may be able to get a better idea of the actual color with **Show Cube**. (see below)

BeamSpread calculates the horizontal  and vertical  illumination at the center of the beam in footcandles. The dialog allows you to enter an alternate value for candlepower in candelas. This value should reflect the center beam candlepower of the instrument.

When you click OK, the focus of the light is set to the plan distance and direction shown. Like the spacing dialog, 0° is at the top of the screen. This is important because a light's beam may also be displayed as part of a cue, which is separate from any trial beams created with the Add button.

Clear Beam Layer disposes of any beams when you're finished with them.


Show Cube displays a cube shaded by the beams falling on the point where the Hand tool was last clicked. The shading is calculated by the angle and color of the beams striking the selected point and the color of the cube itself. When an exact color cannot be displayed, MacLux uses a dithered pattern to give the impression of that color. You can save the result as a PICT file.


Set Cube Color determines the base color of the cube, the default is white.


The Tools Menu



The **TOOLS** menu can be 'torn off' and used as a palette.

The **Arrow** Tool  selects and moves objects and text. (g)

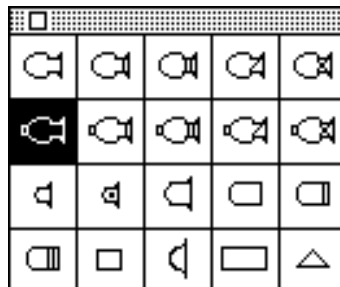
The **Hand** Tool  sets the level and focus of lights. (h)

The **Draw** Tool  draws light symbols. (d)

The **Line** Tool  draws hanging positions. (f)

- Each tool may also be selected by pressing the key indicated in parenthesis.
- **Double clicking** with the Arrow tool brings up the info dialog box, which allows editing of the information attached to an object.
- With the **option** key held down, the Arrow tool will move only text.
- With the **command** key held down, the Arrow tool moves an object the same distance as the last object that was dragged.
- With the **shift** key, dragging a line will also move any lights that are hanging on it.
- Clicking near the end of a line with the Arrow tool allows you to change its length.
- Clicking on the plot with the Hand tool allows you to select a point for rendering the cube or setting the focus of a light. (choose another tool to hide the marker)
- Clicking on a light with the Hand tool and dragging the mouse allows you to set the level of its channel.
- With the **option** key held down, clicking on a light sets its focus to the selected point.
- With the **command** key held down, clicking on a light and dragging will set the level of all channels in its group.

The Lights Menu



The **Lights** menu can be 'torn off' and used as a palette.

- The **Lights** Menu selects the symbol that will be drawn with the draw tool.

- The direction a symbol points is selected using the arrow keys or N,S,E and W keys.
- If a light has been selected using the Arrow tool, choosing a symbol with the **Lights** Menu will change the symbol of that light.
- The **Key...** command (**Options** Menu) accesses information about the instrument type represented by the symbol selected with this menu.
- You can import your own symbols to replace the one selected with this menu.
(See **Use Scrap** under the **Options** menu)
- The practical (triangle) has a followspot symbol hidden in its north facing direction.

The Lines Menu

1 Pixel, 2 Pixels, 3 Pixels are the possible widths of hanging position lines drawn with the Line tool.

- Line widths may also be selected with the keys: 1, 2 and 3.
- If a line has been selected using the Arrow tool, choosing a new size with the **Lines** Menu will change the width of that line.

The Options Menu

Plan View/Section View switches between the two views of the plot. The main view is Plan view. Section view is provided as a quick aid to visualization. A separate PICT file may be used in under the section view. Section view plots the location of positions using their heights. All beams are also shown in section. No editing can be done in Section view.

Section view automatically changes the document's size. The default settings are: The height is the same as the current page size; The width is equal to the length of the sectional cut. You may change this with the **Document Size** command. This will not alter the plan view's size.

Grid On/Off (cmd-G) places a 1', 6" or 3" grid (depending on the scale) under the plot to aid in laying it out. Unlike some drawing programs, objects do not 'snap' to this grid.

Invert Background changes white to black and black to white for the positions, grid and underlying PICT file. It is useful when viewing a cue on a color monitor.

The Show... displays the show, venue, designer and date.

Key... allows editing of information about the symbol selected by the **Lights** menu. This symbol is shown in the upper right of the key dialog. Clicking the **find** button accesses the key library which is stored in the prefs file. In Library mode, the find and save buttons change to **next** and **prev**, allowing you to search the library. Clicking the **save** button saves the information shown as a new entry in the key library. The **OK** button associates the information shown with the selected symbol.

The Lamp/Watts field can contain the name of a lamp or its wattage. PaperWork recognizes 21 ANSI lamp codes including the following: EHR, EHD, EVR, EHG, FEL, EGG, EGJ, BTL, BTN, BTP, BTR, BVT, BVV, DSE,

DSF, DNT, FFN, FFP, FFR, FFS, FCM.

Lights... controls the default info that is placed into a light's fields when it is drawn. The check boxes affect ALL the lights in the plot. To hide all channels, uncheck the Draw box next to the channel field.

The Lights dialog is identical to the Info dialog for an individual light.

Lines... controls the info that is placed into a position's fields when it is drawn. This info also describes, by default, the location of any lights not hanging on (intersecting) a position. The check boxes affect ALL the lines in the plot. To hide all names, uncheck the box next to the position name.

The Lines dialog is identical to the Info dialog for an individual line.

Scale... controls the size of light symbols and how distances are calculated. The Document Scale dialog has three options for changing a plot's scale. The Set button changes the scale leaving existing symbols alone. The Change All button resets existing lights to the new scale. The Resize button acts like a zoom command. It alters the size of the entire plot and changes how an associated PICT file is displayed. The plot can be saved in the new scale without altering the original PICT file.

Sections... sets options for the display of the section view. Show Line Names draws the name of each line next to its location. Show Floor draws a line representing the floor. (height=0)

Text Fonts... (cmd-F) controls which fonts are used when an objects' information fields are drawn. The defaults for a new document are shown.

•Versions of MacLux before 1.6.1 did not support bold and italic. Fonts may need to be adjusted to make a plot display properly with older versions of MacLux.•

Patch... copies information from one field to another in each light's info. For example, if your lighting system is dimmer-per-circuit you may wish to make all the dimmer numbers the same as all circuit numbers. With the Patch command, you don't have to enter them twice.

You might also want to print a plot for the electrician, showing circuit numbers rather than channel numbers. Use the Patch command to copy the circuit field into the channel field. (The Patch command is not undoable so you might want to do this to a copy of the plot.)

Use Scrap allows you to import your own symbols through the clipboard. The change is **permanent** so it is advisable to work with a copy of MacLux.

Use Scrap tells MacLux to look for a picture on the clipboard. If it finds one, MacLux replaces the currently selected symbol with the scrap PICT. The symbol replaced, is determined by several factors. The type of light and direction are chosen as if you wanted to draw the symbol. (Lights Menu & direction keys) Whether the symbol is an outline or solid is set by the Preferences... The symbol is always saved at 1/4" size. All other sizes are created by scaling the 1/4" symbol larger or smaller.

Each type of light has four separate symbols, one for each direction. A symbol can also be either outline or solid. This makes a total of eight pictures you need to create using a drawing or painting program. If you use a painting program such as MacPaint®, the symbols will be bitmapped. They will not scale or print as well as ones made with a drawing program like MacDraw®. The maximum size is 64 x 64 pixels. The size of the outline and solid versions of the same symbol *must* be identical.

Save each view you create separately to the scrapbook. Often you can draw a single direction and then use your application's rotate command to produce the others.

Open MacLux and be sure that the type and direction selected as well as the settings in the Preferences are the way you want them. Open the Scrapbook and scroll to the first picture. Choose **Copy** from the **Edit** menu.

Click on a window belonging to MacLux or close the Scrapbook. Choose **Use Scrap** from the **Options** menu.

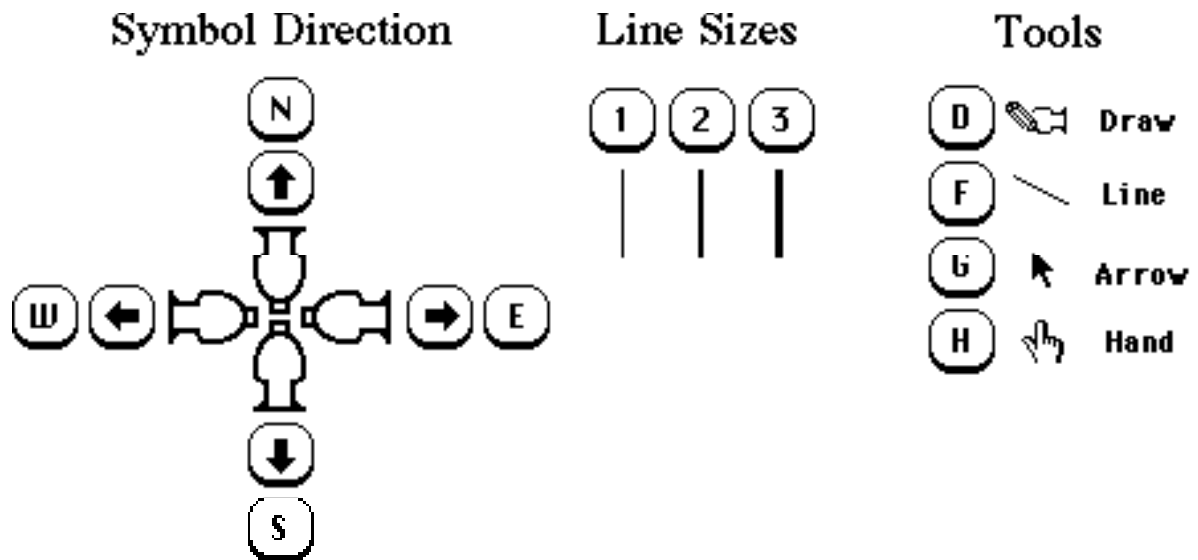
Use the **Draw** tool to be sure the transfer was successful. You will note that the **Lights** Menu remains unchanged even though your symbols are installed.

Repeat for the remaining pictures, changing the direction and Preferences setting for each.

The Windows Menu

The windows menu displays a list of all open documents. Selecting a plot from this menu brings it to the front. The first nine plots have function keys associated with them. **Command-1** for the first, and so on.

Keyboard Controls



- Either the arrow keys or n,s,e,w can be used to select the direction of light symbols.
- The direction keys select the direction of lights drawn with the draw tool.
- If a light is selected, pressing a direction key will change the direction of that light.
- Keys can also be shortcuts to selecting line sizes or tools.
- Like any standard Macintosh application, menu commands can be selected with a combination of the command key (⌘) and a letter.

- **Delete** or **Backspace** is the equivalent to selecting clear from the edit menu.

PaperWork

PaperWork reads the objects in a MacLux file or files into a relational database and sorts them to produce various reports and schedules. Which MacLux plots are read and how they are sorted is controlled by a **Show** file. The show file contains instructions about what order the lighting positions appear in the reports. The show file also determines the report's format.

The resulting reports can be saved as text files or displayed on the screen. These files can be imported into a word processor and printed. In fact, the creator type (information the Finder uses) can be set so that the file can be opened with the word processor from the Finder.

PaperWork is MultiFinder compatible. However, a plot cannot be open in both MacLux and PaperWork at the same time. An open show will be re-loaded when you switch to PaperWork (in case any changes have been made to the plots). The default memory setting (300k) is good for up to about 350 lights. You may need to increase this for larger shows.

Creating a Show

1: If you only have one plot file, choose **Open** from the **File** menu. Open your plot. If you have more than one file, choose **New** from the **File** menu. A dialog appears which allows you to add the files you wish to include. You may designate which plot's key you want to use for the entire show.

2: You will want to choose the order that the positions will appear in your report. Choose **Positions...** from the **File** menu. Only those positions that have lights on them will appear in this list. You can set how the lights on each position will be numbered. The default is from SL to SR (screen right to screen left) and from DS to US (screen bottom to screen top).

3: Choose the type of report you wish to create from the **PaperWork** menu. Additional options for reports can be found under **Report Format...** in the **File** menu.

4: The setup you have just created can be saved as a **Show** file. Opening a show file will automatically open all of its plots, ready to produce reports.

5: Save your reports as text files which you can open with your word processor to finish customizing. **For best results**, when you open the file in your word processor, choose **Select All** (usually found in the **Edit** menu) and then select a mono-spaced font such as **Monaco** or **Courier**. **This will insure that the columns line up properly.**

File Menu

New (cmd-N) creates an empty show file and opens the Plots dialog so that you may specify which MacLux files you wish to compile.

Open... (cmd-O) allows you to either open an existing show file or to open a MacLux file directly into a new show. Only one Show may be open at a time.

Close (cmd-W) should be selected when you are finished with the current show.

Save (cmd-S) saves the current show to disk. The show file will include the settings in the Plots, Positions and Report Format dialogs. A show file does not make a copy of the plot(s), it only records their location(s).

Save As... saves the current show with a new name.

Plots... controls which MacLux files are included in the current show. You may add, delete or change the order

of files. The replace button will exchange the selected Plot for another. You may also designate which plot's key you want to use for the entire show.

Positions... lets you specify both the order of the positions in reports and how to number the lights hanging on each one. Only the names of those positions with lights on them will appear in the list. The default for numbering is from SL to SR (screen right to screen left) and from DS to US (screen bottom to screen top). Use Plot Numbers tells PaperWork not to automatically number the lights on the selected position. Instead, the number field of each light's info is used.

Report Format... lets you customize PaperWork's output. The size of the position name, type of instrument and note fields may be altered. If you prefer to do the formatting yourself, select Export with Tabs. Show Mark and Group includes both these fields in instrument schedules and channel lists.

Insert Circuit Blanks inserts "____" for each light without a specified circuit. Uses Dimmers includes dimmers as well as circuits in reports. Also, with Uses Dimmers checked, the Hookup will be a dimmer list instead of a circuit list.

Reports can be shown on the screen or output to a text file. Reports may be created with the signature of your word processor. This means that the reports created by PaperWork will have the icon of your program and can be opened by double-clicking at the Finder. To find the creator type of your word processor, use it to create a "TEXT" file. (usually through the **Save As...** command) Then use the Find: button to locate this file. The signature of your program will appear automatically.

PaperWork Menu

All reports in this menu can be shown on the screen or saved as a text file, depending on the setting in the Report Format dialog. Reports shown on the screen can be viewed one page at a time. Clicking the mouse will advance to the next page, hitting a key will end the report. Reports saved as text files can be opened with a word processor and printed. **For best results**, when you open the file in your word processor, choose **Select All** (usually found in the **Edit** menu) and then select a mono-spaced font such as **Monaco** or **Courier**. **This will insure that the columns line up properly.** If you have selected Export with Tabs, you can use a proportionally spaced font such as Times or Geneva. However, you will need to adjust the tab settings to make your columns line up.

Instrument Schedule sorts the lights by position and number.

Channel List sorts the lights by channel.

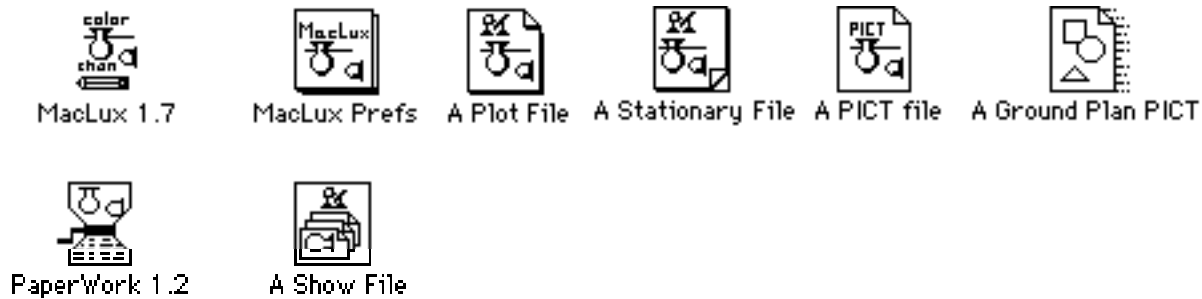
Hookup sorts the lights by either dimmer or circuit, depending on the setting of the Uses Dimmers box under Report Format. The total wattage for each dimmer or circuit is calculated and included in the Hookup.

Lamp Count shows how many of each type of instrument are required. This may be broken down for each position.

Color Lists show how many of each color and frame size are needed. They may be generated either for the entire show or also broken down for each position.

Magic Sheet lists channels by group. The notes from individual lights are also shown.

MacLux File Types



Softw

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