

AutoPlot Tools for Spotlight

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Documentation Quality and my phone #

While I have enjoyed creating AutoPlot, and using it in my day to day work at UCLA, I find creating the documentation required to share this work to be tedious in the extreme. The necessity of creating that documentation does not go away. Should you find this documentation wanting please feel to contact me in any manner to help with your questions. My cell phone is (310) 993-4172. My home phone is (310) 207-0392, but we never answer this due to robocalls. Hopefully, if you are stuck in a hotel room at midnight, you are in New York, not Anchorage, but the appropriate hours to call are the hours appropriate to the urgency of your need. Any overseas users, if you're desperate enough to spend the money, I'll answer the phone. My Skype ID is AutoPlotVW. I can always be reached by email at sjones@autoplotvw.com. If I'm backpacking or diving, I won't be collecting mail or answering the phone, but an "out of office" response will be sent back to you by my email program.

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Label Legend Symbols

The concept of Label Legends is one of the powerful and exciting aspects of Spotlight. In its current implementation, it is also one of the most frustrating and obtuse. First, because text will rotate when the fixture is rotated, you are faced with two options. One, you can go to every fixture that faces sideways on a light pipe and drag the text to the appropriate position, usually below the fixture symbol, or two, you can create a set of labels for each of your commonly used fixture facings on the plot. I have found the latter choice to be the preferable way to manage labels. Creating label legends for any given rotation other than straight up can be very irritating, because the Label Legend Manager makes it very difficult to see and judge exactly where text will end up and how it will align when placed anywhere but below the fixture graphic. In addition, it turns out that flipping lighting device objects horizontally or vertically will not always yield the expected text placement, and as a result, even more label legends are required. I have found that I need legends for the following fixture facings:

Up
sideways left
sideways right
diagonal left
diagonal right
fixtures on booms facing left
fixtures on booms facing right.

Flipping fixtures with these labels handles the vast majority of my needs.

Now, there is the question of what should be put in a legend. This is a very contentious issue among those of us who use VectorWorks and is ultimately resolved by everyone making their own label symbols

AutoPlot Tools for Spotlight provides a set of predefined Label Legends, one set with containers and one without

With Containers:

- { Boom <
- { Boom >
- { Diag /
- { Diag \
- { Pipe Side <
- { Pipe Side >
- { Up Screen
- { Up Screen nr

Without Containers:

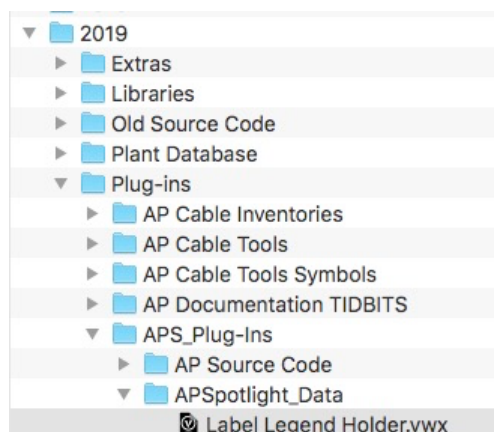
- Boom <
- Boom >
- Diag /
- Diag \
- Pipe Side <
- Pipe Side >
- Up Screen
- Up Screen nr

All of these label legends contain and display the following fields:

- Unit Number
- Color
- Channel
- Address
- User Field 1

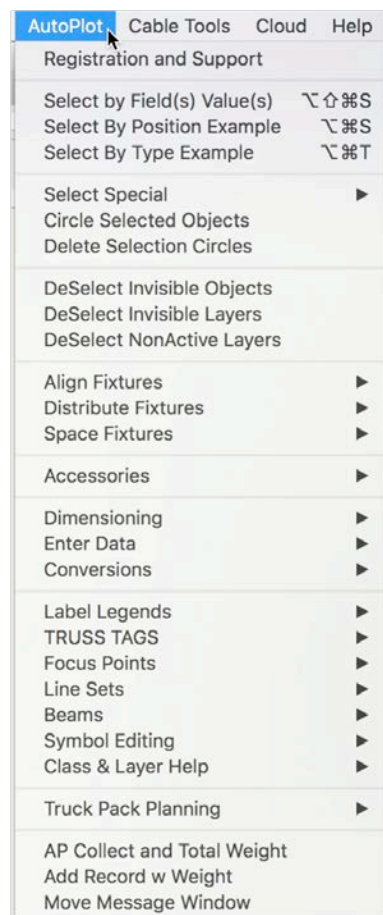
If you wish to display different fields you can use the "Change LL Field Assignments" command (see Label Legends in the table of contents), or you can use the Label Legend editor to add or delete fields.

All the provided label legends are contained in the VectorWorks drawing document, "Label Legend Holder," that is in the "2019" user folder



AP Tools for SL Commands

All the AutoPlot Tools for Spotlight commands are menu commands; there are no additional tools except for the Cable Tools documented elsewhere.



In the following macro descriptions:
“APVW” = AutoPlot Spotlight Tools
“SL” = Spotlight

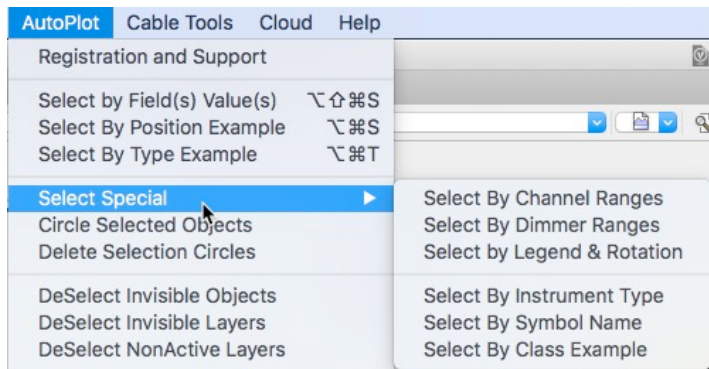
1. Registration and Support

After 21 days, an alert will appear asking you to register your AutoPlot Tools for Spotlight. After dismissing this alert the macros will work normally. After 60 days the numbering and export/import commands will be disabled and an alert will appear asking you to register.

It is now possible to register online. Go to the web site <http://www.autoplotvw.com> to see if on line registration has been enabled. If you have registered earlier versions of AutoPlot VW and do not have a registration number, send an email to me, Sam Jones, at sjones@autoplotvw.com.

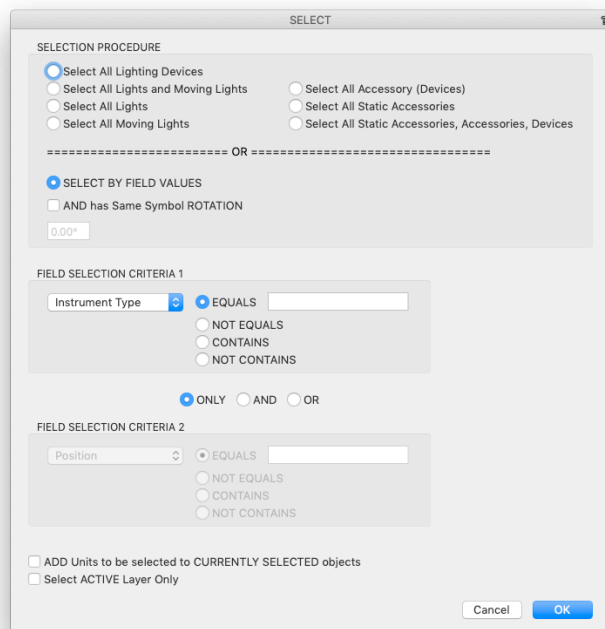
Select Fixtures and Accessories

I have often found that I would like to be able to select one fixture and then select all the other fixtures that share the same value in one or more criteria.



2. Select By Field(s) Values(s)

This replaces the multitude of selection commands in previous versions of the AutoPlot Tools. It will put up the dialog below.



If any of the "Select All...." Buttons are pressed the rest of the controls below the "SELECT BY FIELD VALUES" button will be disabled. To enable the field value controls the "SELECT BY FIELD VALUES" button needs to be selected.

When the dialog box is presented the text edit boxes on the right will have values that represent the values of the first selected object on the active layer **if** that object is a lighting device. The drop down menus on the left will be remembered from the last time the command was used. Pay attention to the "ONLY", "AND" and "OR" buttons as they will have a dramatic effect on the resulting selection. If only one criteria is desired for selection be sure the "ONLY" button is selected.

The "CONTAINS" buttons allow you to select partial values in a field. For example you can select all the fixtures that contain "Front" in the Purpose field. This would include fixtures with the following values "Front SL", "Front CS", "Front SR". The "NOT EQUAL" and "NOT CONTAINS" buttons will exclude Lighting Devices from the selection based on the field selected and value entered

The "NOT CONTAINS" buttons will allow you to exclude Lighting devices from the selection in the same way they are included in the paragraph above.

3. Select By Position Example

This command will select all the Lighting Devices that share the same value in the "Position" field as the value in the fixture that is already selected.

4. Select By Type Example

This command will select all the Lighting Devices that share the same value in the "Instrument Type" field as the value in the fixture that is already selected.

SELECT SPECIAL

5. Select By Channel Ranges

Selects all fixtures within a user specified channel range or ranges inclusive. An example range of channels would be "1,3,5,11-16"

6. Select By Dimmer Ranges

Selects all fixtures within a user specified dimmer range or ranges inclusive. An example range of dimmers would be "1,3,5,11-16". Remember this does reference the "Address" field.

7. Select By Legend & Rotation

Selects all fixtures that have the same Rotation and Legend assigned to them as the currently selected fixture. A dialog box will be presented that will allow you to include rotations that are the 180 degree reciprocal of the selected fixture.

8. Select Lights by Symbol Name

This command will select all the Lighting Devices that share the same value in the "Symbol Name" field as the value in the fixture that is already selected.

9. Select Lights by Class Example

This command will select all the Lighting Devices that assigned to the same Class.

10. Circle Selected Objects

There are occasions when you will want to remember or mark all the objects in a selected group, so that you can work on each individual of that group. This macro will circle the currently selected objects. (See Delete Selection Circles below.)

11. Delete Selection Circles

This macro deletes the circles placed around selected objects by the macro described above.

12. DeSelect Invisible Objects

DeSelects all fixtures that are not visible. All objects on invisible layers **and** in invisible classes will be deselected

13. DeSelect Invisible Layers

DeSelects all fixtures that are not on the visible layers. Sometimes you will issue a command to select all the fixtures of a given type, but you will only want to manipulate the fixtures on the visible layers. Issue this command after making a selection and only the fixtures on visible layers will remain selected

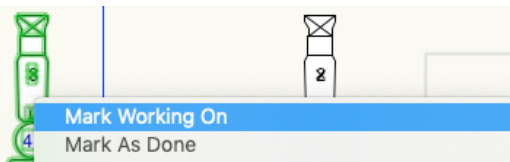
14. DeSelect NonActive Layer

DeSelects all fixtures that are not on the active layer. Sometimes you will issue a command to select all the fixtures of a given type, but you will only want to manipulate the fixtures on the Active layer. Issue this command after making a selection and only the active layer's fixtures will remain selected

ALD Commands

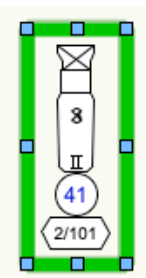
This is a selection of commands that simplify the marking of the plot during focus. During assisting Clifton Taylor after a long break between ALD gigs, I discovered that I got frustrated with wrestling with the $\frac{1}{2}$ inch scale plots, or squinting at $\frac{1}{4}$ in plots and marking them with highlighters as we focused an electric. That evening I threw together these commands that would allow me to scroll along the plot on my Powerbook, marking lights as being worked on or completed and then being able to erase all the marks at the end of the focus session. Two commands are placed as object context menus that appear when the user right clicks on a Lighting Device, and two commands are placed in the AutoPlot menu to facilitate cleaning up.

Object Context Menu Commands (right click on an object)



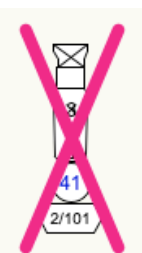
15. Mark Working On

Right clicking on an object, and selecting this menu item will result in green square being placed around the selected object

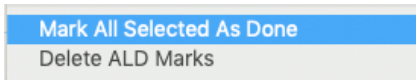


16. Mark As Done

Right clicking on an object, and selecting this menu item will result in a red X being placed on top of the selected object. If a green "working on" square was around the object at the time it was clicked upon, that square will be erased.



Menu Bar Commands (top of screen)



17. Mark All Selected As Done

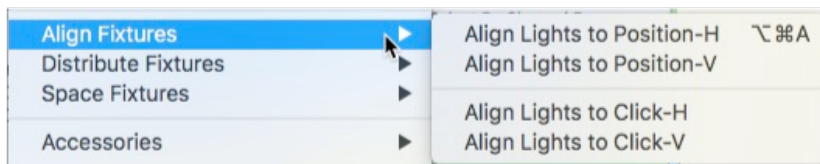
Does what it says

18. Delete ALD Marks

This command deletes all green squares and red X's placed by ALD commands.

Align Fixtures

The functionality provided by these macros is already available to the SL user with the Distribute Tool. However, when I only wanted to align selected fixtures, I *hated* having to select “Align only” and draw the line. I just wanted to click on the point to align to



19. Align Lights to Position-H

- 1) Select a lighting position you want to align to OR a Lighting Device object
- 2) Run Macro
 - a) The macro will align all the lights that share that position to the Y coordinate of the position object. .

20. Align Lights to Position-V

- 1) Select a lighting position you want to align to OR a Lighting Device object
- 2) Run Macro
 - b) The macro will align all the lights that share that position to the X coordinate of the position object. .

21. Align Lights to Click-H

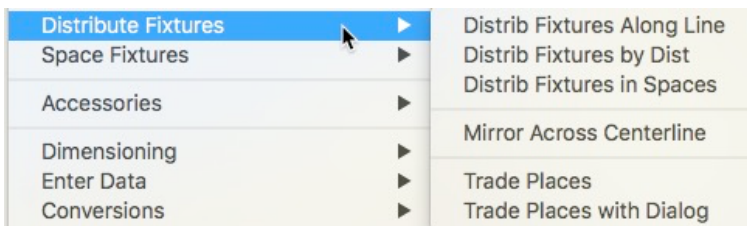
- 1) Select the symbols you want to align
- 2) Run Macro
 - a) Click on the point to align to; fixtures will move up and/or down the screen (change the Y coordinate) to align with the click. The X coordinate will not change. Useful for normal lighting battens.

22. Align Lights to Click-V

- 1) Select the symbols you want to align
- 2) Run Macro
 - c) Click on the point to align to; fixtures will move left and or right on the screen (change the X coordinate) to align with the click. The Y coordinate will not change. Useful for Booms or systems to be aligned on different battens.

DISTRIBUTION

The Distribution macros do exactly the same thing as the SL align and distribute tool except for 2 things. First, these macros give you the option of rotating the fixtures perpendicular to the drawn line; something you can't do with SL. Second, no matter what is selected these macros will only move items that are attached to the "Lighting Device" record. I have often selected other things like pipes and truss when trying to select units to distribute, and everything gets moved and screwed up.



23. Distrib Fixtures Along Line

- 1) Select the symbols you want to distribute
- 2) Run Macro
 - a) Answer the rotation question.
 - b) Draw a line starting at the point you wish the first fixture in the direction you wish to distribute. End the line where you wish the last fixture.

24. Distrib Fixtures by Dist.

- 1) Select the symbols you want to distribute
- 2) Run Macro
 - a) Answer the rotation question.
 - b) Draw a line starting at the point you wish to distribute from in the direction you wish to distribute.
 - c) Enter the desired distance between fixtures.

25. Distrib Fixtures in Spaces

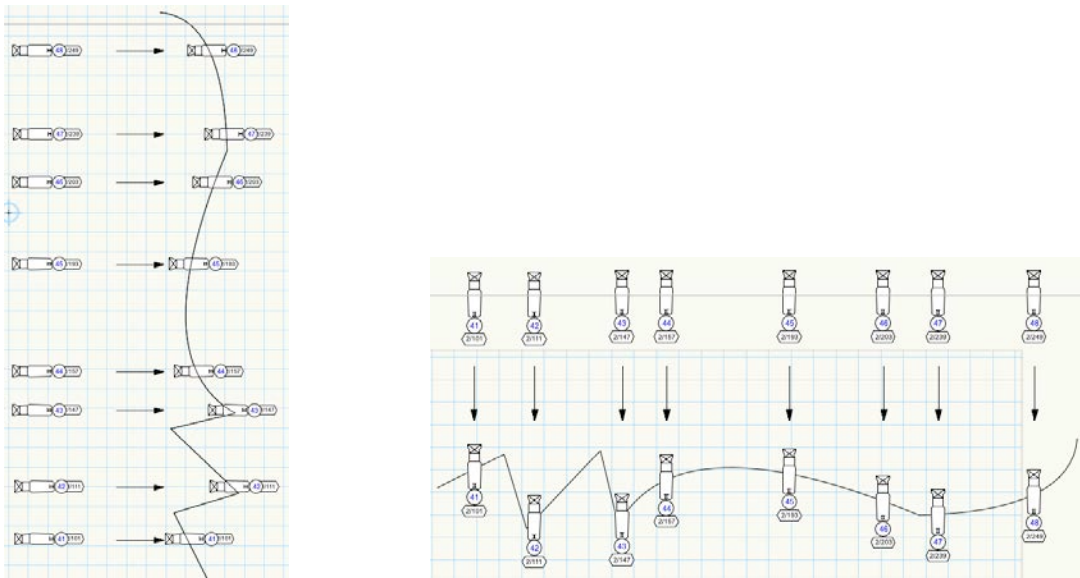
- 1) Select the symbols you want to distribute
- 2) Run Macro
 - a) Answer the rotation question.
 - b) Draw a line starting at the point you wish to distribute from in the direction you wish to distribute. End the line at the point you want the fixtures to be between.

26. Mirror Across Centerline

This macro does what it says. It requires that there be a screen vertical line with one of the following names: "Centerline", "Center Line", or "CL". For now this command will not work with horizontal center lines.

27. Move Objects to Path

This macro will move all the selected fixtures so that their insertion points are on a selected path without changing their X coordinate values. If the difference between the highest and lowest Y coordinate values of the fixtures exceeds the difference between the highest and lowest X coordinate values. The objects will be moved to the path preserving their Y coordinates instead of their X coordinates.



28. Trade Places

This macro will take 2 selected objects and have them switch places. If the objects are Spotlight lighting fixtures that have the "Lighting Device" record they will trade Unit Number values and trade Position values. They will not trade their rotations or other field values.

29. Trade Places with Dialog

This macro works just like the "Trade Places" macro above except a dialog will come up where you can specify which field values get traded between the 2 selected lights and which ones stay with the original.

SPACE

Macros 25 through 28 will maintain the Y coordinate of every fixture and will move the selected fixtures horizontally maintaining their vertical screen positions. Macros 29 and 30 maintain the X coordinate of every selected fixture and move them vertically on the screen. Only one macro, #22 “Space Horiz from Ctr”, provides functionality not provided by SL. These macros are very similar to the SL “Align and Distribute Items” tool. These macros behave like the APSL distribute commands in that they only move lighting fixtures and ignore other selections, and they only require one click to obtain the alignment point.

All spacing commands do not require a line to be drawn, just a click to measure from

Space Fixtures	▶	Space Horiz from Center
Accessories	▶	Space Horiz from Left
		Space Horiz from Right
Dimensioning	▶	Space Horiz in Opening
Enter Data	▶	
Conversions	▶	Space Vertical from Bottom
		Space Vertical from Top
Label Legends	▶	
TRUSS TAGS	▶	Rotate Each Left 45 deg
Focus Points	▶	Rotate Each Left 90 deg
Line Sets	▶	Rotate Each Right 45 deg
Beams	▶	Rotate Each Right 90 deg
Symbol Editing	▶	Rotate Each Obj by Query
Class & Layer Help	▶	
		Flip Each Object Horiz
Truck Pack Planning	▶	Flip Each Object Vertically

30. Space Horiz from Center.

This command will evenly space fixtures on both sides of a prompted mouse click using a prompted distance. The distance is remembered. All spacing commands do not require a line to be drawn, just a click to measure from.

31. Space Horiz from Left

This command will evenly space fixtures from screen right to screen left from a prompted mouse click using a prompted distance. The distance is remembered. All spacing commands do not require a line to be drawn, just a click to measure from.

32. Space Horiz from Right

This command will evenly space fixtures from screen right to screen left from a prompted mouse click using a prompted distance. The distance is remembered. All spacing commands do not require a line to be drawn, just a click to measure from.

33. Space Horiz in Opening

This command works just like the “Distrib Syms in Spaces” except that none of the Y coordinates are changed. For example, you could draw a line from one side of the proscenium wall to the other and the macro would space the selected fixtures on the FOH position without moving them away from that position.

34. Space Vertical from Bottom

This command will evenly space fixtures from screen bottom to screen top from a prompted mouse click using a prompted distance. The distance is remembered. All spacing commands do not require a line to be drawn, just a click to measure from.

35. Space Vertical from Top

This command will evenly space fixtures from screen top to screen bottom from a prompted mouse click using a prompted distance. The distance is remembered. All spacing commands do not require a line to be drawn, just a click to measure from.

36. Rotate Each Left 45 deg

This macro will rotate each selected object 45 degrees to the left, individually. This is different from the normal VW rotate command that would rotate all the selected objects as a group.

37. Rotate Each Left 90 deg

This macro will rotate each selected object 90 degrees to the left, individually. This is different from the normal VW rotate command that would rotate all the selected objects as a group.

38. Rotate Each Right 45

This macro will rotate each selected object 45 degrees to the right, individually. This is different from the normal VW rotate command that would rotate all the selected objects as a group.

39. Rotate Each Right 90

This macro will rotate each selected object 90 degrees to the right, individually. This is different from the normal VW rotate command that would rotate all the selected objects as a group.

40. Rotate Each Obj by Query

This macro will rotate each selected object a set number of degrees, selected by the user, individually. This is different from the normal VW rotate command that would rotate all the selected objects as a group.

41. Flip Each Object Horiz

42. Flip Each Object Vertically

A handy feature in VectorWorks is that you can select multiple objects and then flip that set of objects with the Flip Horizontal and the Flip Vertical commands. When you use the standard VectorWorks commands the object on the right will go to the left or the object that was on the top will go to the bottom, respectively. This is often **not** what you wished. Many times you would like to select a group of objects and then flip each one, individually in place. This is particularly handy when you have mirrored or flipped fixtures horizontally. These two commands will flip each selected object individually, in place, not as a group.

ACCESSORIES



43. Place Devices and Accs

This macro takes the place of Spotlight's accessory tool and places accessories at the front of the selected fixtures. You are given the choice of placing the accessory symbol on **all** selected fixtures or using mouse clicks to choose fixtures to accessorize. You must pick the accessory symbol you want to use before activating the macro. The insertion point of the accessory symbol needs to be on the edge of the symbol that will be next to the fixture. This macro has an additional improvement over Spotlight's accessory tool in that it will not assign a legend to Static Accessories and it will make sure the word "Active" in the Use Legend field is replaced with the actual active legend name.

44. Swap Accessory Positions

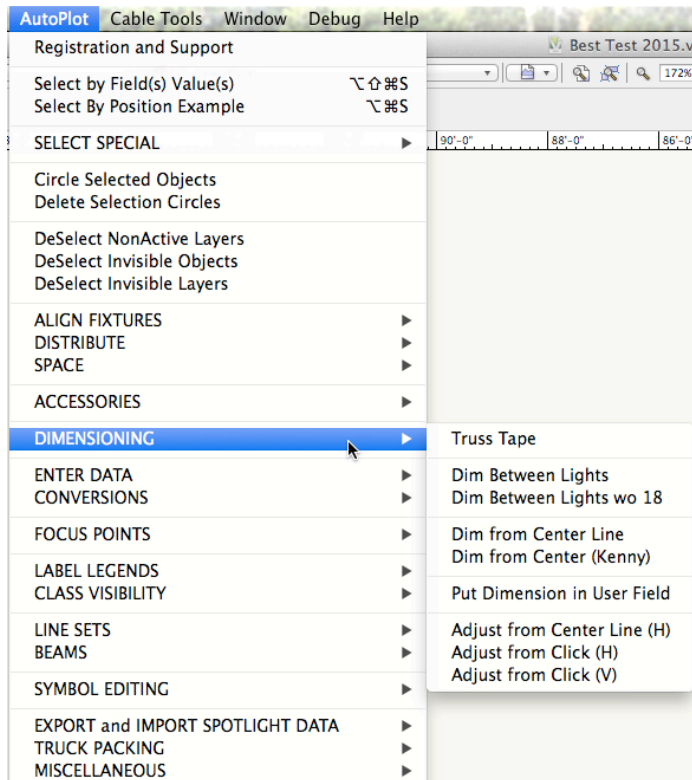
This macro will swap the position of the accessories that are in front of the selected fixtures. Suppose, for example, you first assigned top hats to a group of fixtures and then on the next day you received an increase in your budget and you assigned color scrollers to those lights. Unless you did some manual shuffling, you would be showing top hats next to the fixtures and then color scrollers. That would not be ideal. This macro allows you to swap the positions of those top hats and color scrollers.

45. Swap Accessory Positions

Sometimes accessories will fail to travel with the fixtures to which they are assigned. This command attempts to find fixtures and the accessories to which they are assigned and put them back into position.

DIMENSIONING

All the dimension macros use the default text of the document, but the dimensions are fully editable and may be changed later if desired.



46. Hanging Tape

This macro replaces the "Dim from Click" and "Dim from Top or Bottom" from earlier versions. This macro will dimension from the start of a user supplied line to the selected fixtures. You will be prompted in a message box to draw a line from where you want to measure. The line drawn needs to be parallel to position you want to measure. For example, you would draw a line along the pipe you are measuring, or along the chord of a truss you are dimensioning, or even down the middle of a truss parallel to the two chords. You will then be prompted to click where you want the dimension text to be. Only Lighting Devices will be dimensioned.

47. Hanging Tape ALL

This command works exactly the same as the command above except that it will dimension every object that is selected, not just Lighting Devices.

48. Dim From Center Line

This macro will dimension all the selected lights from the centerline. There must be an object called Center Line in the drawing. (See the "Move To Closest Unit (H)" and "Move To Closest Unit Ctr" for additional functionality)

49. Dim From Center (Kenny)

This macro will dimension all the selected lights from the centerline, just like the macro above. However, Kenny Schutz ended up changing the alignment of the text which really helped with crowded plots. He asked me if I could automate the dimensioning he liked.

50. Dim from Top or Bottom

This macro will create a set of orthogonally vertical dimensions for selected Lighting Devices. The first requested click is where to measure from the next click is where the dimension text will be placed. Usually, this is an unsatisfactory command for fixtures on a diagonal line. For those fixtures, you will want to use the Hanging Tape command.

51. Dim Circular Selection

This macro will dimension between selected fixtures that are located on an arc of the same radius. Nasty errors will occur if fixtures are on different radii. This means that you must select fixtures on the outside cord of a circular truss and dimension. Then you need to select the fixtures on the inside cord and dimension.

52. Dim Between Lights

This macro will dimension between selected fixtures. You will be prompted in a message box at the bottom of the screen to click where you want the dimension text to be.

53. Dim Between Lights wo 18

Often fixtures on a plot are spaced at a standard interval (usually 18 inches in the US), and the spacing interval is given in a note on the plot; only exceptions to the standard spacing are dimensioned on the plot. This macro will dimension between selected fixtures that have a spacing that is different from the noted standard. You will be prompted in a dialog box to enter the spacing you wish not to display and then prompted in a message box to click where you want the displayed dimension text to be.

54. Put Dimension in User Field

This macro will prompt you to pick a user field that will put the dimension values generated by any dimensioning macros into the selected user field of the dimensioned fixtures. Only dimension values generated after this command has been used are put in the selected user field. This has a couple of advantages over exporting the X or Y coordinate of a fixture. Since the above dimension commands can measure from a center line or from a click that is not on the origin of the drawing, it will allow you to make hanging cards that are based on the position of the light relative to the coordinate of your choice. This command will also allow you to pick the option to stop assigning any dimensions to a user field.

55. Adjust from Center Line (H)

56. Adjust from Click (H)

57. Adjust from Click (V)

These macros are designed to cleanup horizontal dimensions of selected fixtures. Many times fixtures are put down on a position and aligned to that position, but they are not put at “clean” measurement intervals. This can result in unfortunate dimensions like 4’-7 3/8”. This is especially true with the “Dim from Ctr” command. All three macros will ask for a unit of measure that you wish to move to. This unit of measure is typically 6 inches or 3 inches, but can be any unit of measure including metric. The macros “Move To Closest Unit (H)” and “Move To Closest Unit (V)” will ask for a click on the point to measure from which is typically the end or center of the pipe. They will then look at each selected fixture and look in both directions left and right or up and down depending on the macro, and move the fixture to the closest unit of measure. The macro “Move To Closest Unit Ctr” will not ask for a click but will measure horizontally from the Center Line. If no centerline exists the macro will tell you.

ENTER DATA

Enter Data	▶	Enter Data for Selected ⌘⌘E
Conversions	▶	Assign Addresses (DMX) 2020
		Apply To All
Label Legends	▶	
TRUSS TAGS	▶	Assign Channels
Focus Points	▶	
Line Sets	▶	Make Custom Fixture WKS
Beams	▶	Make Channel Hookup WKS
Symbol Editing	▶	Make Instrument Sched WKS
Class & Layer Help	▶	
Truck Pack Planning	▶	Copy Field to Field
		Find Replace Field Value
Mark Working On		Empty LD User Fields

48. Enter Data for Selected

Even with the editable worksheets, data entry on multiple fixtures can be tedious. This macro helps a little. It will put up a dialog box of fields to edit for all the selected fixtures, you have the option to sort by Unit Number if you desire. The macro will then put up the dialog for the first fixture. It will fill all the fields with their current value. You can tab and reverse tab (shift tab) between fields. When you hit the return or Enter key on the keyboard or the “Next” button on the dialog it cycles to the next fixture. When you get to the end the macro quits. If you wish to quit the macro before getting to the end of the list there is a “Finish” button on the dialog.

Many times you will want to start entering data in a field other than the "Unit Number." If that is the case, then use the "Default Field" Button to select the field that will be the first field selected for each fixture from then on.

Device Types of "Accessory" and "Device" type will always be selected after the fixture to which they belong. This macro will never include Static Accessories like barn doors even though they may be selected.

The screen will scroll to and highlight the fixture whose data is being edited.

49. Apply To All

A special command for Andy Dunning that allows for quick assignment of the same values to multiple Lighting Devices.

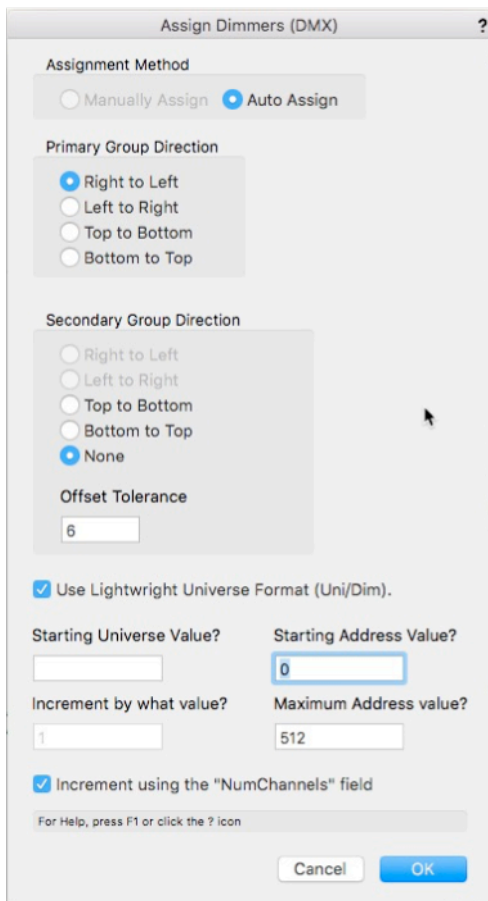
50. Assign Addresses (DMX)

This macro will assign values to the "Address" field. It assumes that you are assigning DMX address values. The macro will display the dialog described above.

The macro will increment each time by the increment level you set. During manual assignment, hold down the "option"(mac)/"alt"(windows) key or the shift key and this will stop incrementing the DMX value so that the same DMX value can be assigned to multiple fixtures. (Why you would do that is currently beyond my experience.)

Universes, Dimmers, and DMX

All the commands that assign dimmer values are aware of the DMX 512 border and the current universe. All dimmer assignment commands will place a value in the "Universe" field based on the DMX value to be assigned and the starting universe value entered in the dialog shown below. If a DMX value will be assigned that is greater than 512 or a multiple of 512 the Universe value to be assigned will be increased by 1. If the increment value when added to the value to be assigned to the dimmer value crosses the 512 border, the dimmer value to be assigned to the first number in the next universe. All of the dimmer assignment commands will display the following dialog box.



The "Use Lightwright Universe Format (Uni/Dim) in the "Dimmer" Field" button has been disabled as this is automatically handled by Vectorworks and Lightwright.

The "Starting Universe Value?" Is the value of the universe you wish to start with when assigning dimmer values.

The "**Starting Address Value?**" is the DMX value you wish to start with. If you are not using DMX values or integers, you will not be able to use this command.

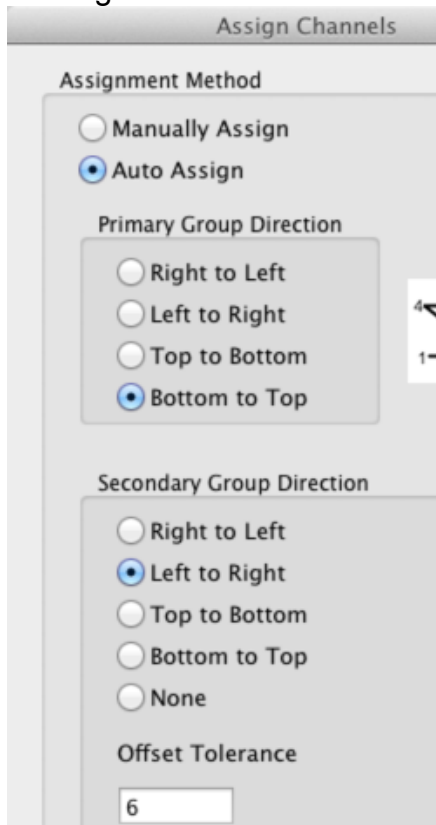
The "**Increment by what value?**" is the amount by which the last value will be incremented to determine the next dimmer value to be assigned.

The "**Maximum Addresss Value?**" is the limit that you want to put on each universe DMX value.

The "**Increment using the "Num Channels" field**" uses the value in the last fixtures "Num Channels" field to increment to the next value to assign. If there is no value in the fixtures "Num Channels" field, the last assigned number will be incremented by 1. Starting with Vectorworks 2019 this field should always remain checked.

51. Assign Channels

This macro will show a dialog asking if you want to manually assign channel numbers or automatically assign channels based on screen direction. In all cases you will need to specify the starting channel and the size of the incrementing value.



The screenshot shows the 'Assign Channels' dialog box. It has a title bar 'Assign Channels'. Below it is the 'Assignment Method' section with two radio buttons: 'Manually Assign' and 'Auto Assign'. 'Auto Assign' is selected. Below that is the 'Primary Group Direction' section with four radio buttons: 'Right to Left', 'Left to Right', 'Top to Bottom', and 'Bottom to Top'. 'Bottom to Top' is selected. To the right of these buttons are two small icons: a left-pointing arrow and a right-pointing arrow. Below that is the 'Secondary Group Direction' section with five radio buttons: 'Right to Left', 'Left to Right', 'Top to Bottom', 'Bottom to Top', and 'None'. 'Left to Right' is selected. At the bottom is the 'Offset Tolerance' section with a text field containing the number '6'.

If you pick automatic channeling you will be allowed to specify 2 different sorts which will let you assign channels to arrays of fixtures.

During manual channeling, hold down the "option"(mac)/"alt"(windows) key or the shift key and this will stop incrementing the channel number so that the same channel value can be assigned to multiple fixtures.

52. Make Custom Fixture WKS

This macro will make an editable worksheet of all the fixtures in the drawing. The user will be able to select the fields to be included and the order that the fields appear. The macro will automatically include the "Alt- " fields to provide numeric sorting. The user will be responsible to place the sorting icons after the macro is created

53. Copy Field to Field

This macro will let you copy the value of one or two fields into another field. This action will be performed on all the selected fixtures, but the data will remain fixture specific. This command would allow you to combine the "Circuit Name" and "Circuit Number" fields into another "User.." field if you so desired

54. Find Replace Field Value

One glaring omission in SL's "Find and Modify" command is the "Contains" operator. Suppose you want to change all 9 fixtures that have the Purpose value of "Cool BackLight SL", "Cool BackLight CS", and "Cool BackLight SR" **to the value of** "Warm BackLight SL", "Warm BackLight CS", and "Warm BackLight SR". You could not search for the value "Cool BackLight" because of the "SL", "CS", and "SR" designations. What is needed is a find and replace command that allows you to search for all the fixtures that Contain the "Cool Backlight" value and replace just that part of the value with a specified value, e.g. "Warm Backlight. This macro gives you this ability. In addition, if a fixture is selected at the time the macro is run the macro will automatically fill in the value of the selected field with the value in the selected fixture. For example, you could select a fixture with "Cool Backlight DSL" in the Purpose field, and run the macro. If you select the Purpose field to search with, the macro will fill in "Cool Backlight DSL" in the dialog prompt, which you could then edit, to "Cool Backlight," and the macro would select all the cool backlight and replace the that value with whatever you specify

55. Empty LD User Fields

This macro will erase the values in all the user fields and custom user fields for the selected Lighting Devices. With the advent of cable tools and other third party commands, user fields can become a depository for outdated data. This command helps managing that data.

CONVERSIONS



56. Convert Lights to Metric

This macro will convert the weight and frame size fields in all the symbols and symbol definitions in the current document that are attached to the "Light Info Record" to their metric equivalents. The frame sizes will be rounded down to the closest 5 mm. (Ever try to cut color to exactly 198mm?) It will also convert the fields of all the "Lighting Devices" that have been placed in the document.

57. Convert Lights to Imperial

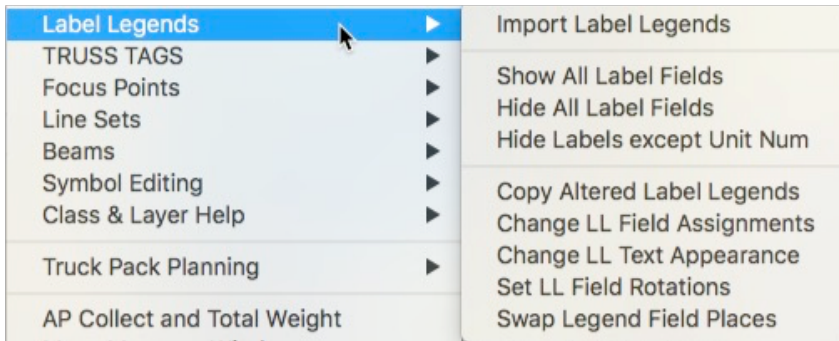
This macro will convert the weight and frame size fields in all the symbols and symbol definitions in the current document that are attached to the "Light Info Record" from metric values to their imperial equivalents (inches and pounds). The frame sizes will be rounded down to the closest 1/8 inch. It will also convert the fields of all the "Lighting Devices" that have been placed in the document.

The metic/imperial conversions above are table driven, so you should be able to convert fixtures back and forth between metric and imperial values without any "value creep" errors.

58. Convert Line Set Units

There will be times when you receive drawings or even create drawings yourself that have line set worksheets with measurements in imperial units that you wish to convert to metric units and vice versa. This macro will do just that. It will convert line set worksheet units from imperial to metric and vice versa.

LABEL LEGENDS



59. Import Label Legends

This macro imports a set of predefined label legends into your document. See the discussion of Label Legends at the beginning of the document. These label legends are stored in a VectorWorks document located in the "APSpotlight_Data" folder inside inside the "APS_Plug-Ins" inside the "Plug-Ins" folder located in the User Folder.

60. Show All Field Labels

This macro will show all the classes that begin with "Label-". This has the effect of showing all the text in the label legends and is used in conjunction with the macro above. If you have both the "Circuit Name" and the "Circuit Number" in your labels, you may need to use one of the macros above after turning on all the label classes.

61. Hide All Label Fields

This macro will hide all the classes that begin with "Label-". This has the effect of hiding all the text in the label legends. I have found this useful; you may or may not.

62. Hide Labels except Unit Num

This macro will hide all the classes that begin with "Label-". This has the effect of hiding all the text in the label legends, **except** the "Unit Number". I have found this useful; you may or may not.

63. Copy Altered Label Legends

This macro will copy the altered label field positions from a one light to all the selected lights. To use this macro, first select all the fixtures you wish to change and then select the macro command. The macro will then ask you to click on the fixture that has the label positions you wish to use. The fixture you pick may or may not be part of the originally selected group.

64. Change LL Field Assignments

This will let you change what a text field in a label legend displays. For example if you have a label legend field displaying "User Field 1" you can use this macro to tell every label legend that displays "User Field 1" to display "User Field 2".

65. Change LL Text Appearance

This macro will let the user globally change the font, size, style, fill, color, and container of each field in the documents label legends. It will change the characteristics of a field or fields in all Label Legends or only in selected Label Legends.

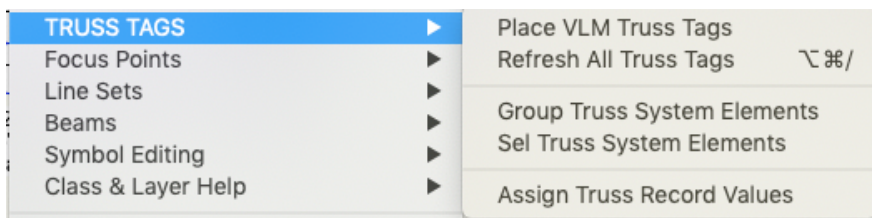
66. Set LL Field Rotations

This macro will let you set whether or not an individual label field will rotate with the unit or not rotate. For example, if you set an up facing label legend to not rotate in the label legend manager, you can use this command to set only the color field to rotate.

67. Swap Legend Field Places

This macro will swap the positions of two selected fields and do the swap for selected label legends only.

TRUSS TAGS



68. Place VLM Truss Tags

69. Refresh All Truss Tags

70. Group Truss System Elements

71. Sel Truss System Elements

72. Assign Truss Record Values.

The "Place VLM Truss Tags" command will place ask you to click on truss assemblies in your drawing. It will then collect some data and display a truss label on the drawing. There if much more to the capabilities of this command in collecting and displaying data. I am currently working on a separate document to fully explain the Truss Tags. When it is ready, which is not now, that document will ship with this one. Feel free to play with these commands, or call me and I will explain them in detail.

FOCUS POINTS



73. *Make Focus Point Grid*

This macro will create an orthogonal grid of focus points with spacing and height that the user inputs. **Warning!** Spotlight has a limit of 100 focus points that it can list in the “Focus Instruments” command. You can have more than 100 focus points, but you will have to type the name of a focus point into the “Focus” field in the Object Info palette if you have more than 100 focus points, which is likely after using this command.

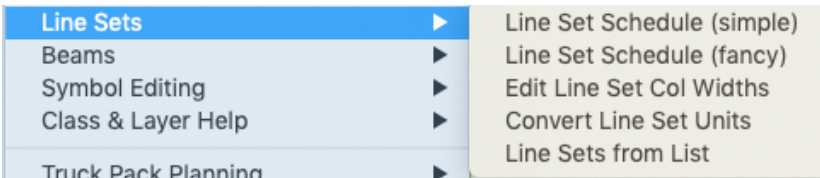
74. *Show Focus Pts.*

This macro will make all the Focus Points visible.

75. *Hide All Focus Points*

This macro will make invisible all the Focus Points.

LINE SETS FROM WORKSHEETS



76. *Line Sets (simple)*

This macro does the same thing as the one above but the schedule is laid out more simply and the trim entry is not displayed. Both macros can run from the same worksheet(s)

77. Line Sets (fancy)

This macro will layout line sets of up the screen according to information provided in the worksheet named "Line Sets", and a click provided xxxxxby the user. If a line sets worksheet does not exist, one will be created and the user will be told to fill in the information in the worksheet and run the macro again. The information in the worksheet is held in three columns. The first row contains column labels, "Line#," "Distance," "Label," and "Trim." In the first column labeled "Line#," the user should enter the number of each line set or the label that you want to display by the line set. In the second column labeled "Distance," the user should enter the distance from the plaster line or from any point that you desire that the line set be measured from. In the third column labeled "Label," the user should enter any additional label information they desire. In the fourth column labeled "Trim," the user should enter the height from the stage for the trim of this line set; in actual fact, you can enter anything you wish here. Once this worksheet is filled in, when the macro is run, the user will be asked to indicate which side of the line set indication that the labels should be placed. The user will then be asked to click on the plaster line or whatever part of the drawing that the line sets should be measured from. Once the user clicks, the line sets will be laid out up the screen. *Older versions of AutoPlotVW used a second worksheet to offset the line sets. This second worksheet is no longer needed.*

78. Edit Line Set Col Widths

This command will ask you to input new column widths using the drawing units and scale. It will then change the stored values for later use. If you want to see a new line set schedule based on the new widths, run the "Line Sets (fancy)" macro after using this macro.

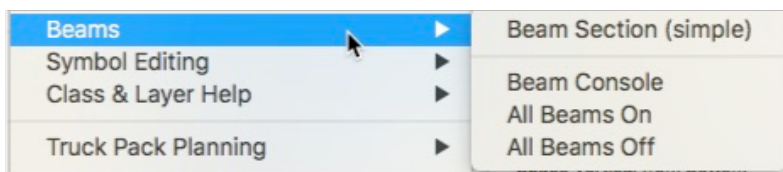
79. Convert Line Set Units

There will be times when you receive drawings or even create drawings yourself that have line set worksheets with measurements in imperial units that you wish to convert to metric units and vice versa. This macro will do just that. It will convert line set worksheet units from imperial to metric and vice versa.

80. Line Sets from List

This command will create all the battens listed in the worksheet used in the Line Set commands. It will ask you some questions about the dimensions of the battens and then ask you to click on the down stage point to measure from on the centerline, that is the click will be assumed to be the center of the battens.

BEAMS



81. Beam Section (simple)

When you want a quick and dirty indication of a beam, spread draw a line and use this macro.

Before using this macro, draw a line from the fixture to the center beam focus point. Leaving this line selected activate this macro and fill in the beam spread in degrees; the macro will then draw two lines with arrow ends, one on each side of the selected focus line which represents the beam's section.

82. Beam Console

This macro allow you to make a channel list of Lighting Devices whose beams you wish to turn on. There is also a “Rem Dim” check box. Alternatively, you can specify a Focus Point name that can be used to choose the fixtures whose beams you wish to turn on.

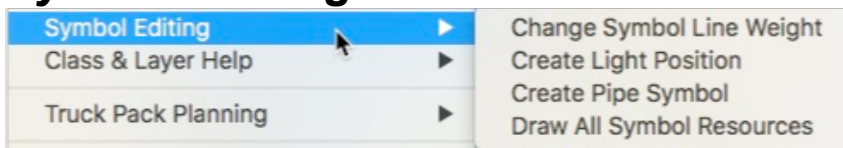
83. All Beams On

This macro will go through the plot and check the Draw Beam button for every fixture so that focused beams are shown.

84 . All Beams Off

This macro will go through the plot and un-check the Draw Beam button for every fixture so that no beams are shown.

Symbol Editing



85. Change Symbol Line Weight

Often when you import graphics for fixture symbols from other sources you will want to adjust their line weights to suit your taste. In addition, many of us feel that the same line weight is not appropriate for both 1/4 in and 1/2 in plots.

This macro will change the line weight of graphic objects in all the selected fixture symbols. Be aware that if you select one fixture and run this macro, all the fixtures that use that symbol will be changed. You will be asked if you want to change all the fixtures in the drawing. If you answer "Yes", then all the fixtures that are attached to the “Lighting Device” record will be changed (all the fixtures in the drawing); if you answer "No", only the selected fixtures and those like the selected fixtures will be changed.

You will be asked to specify a line weight that you wish to change to. You will then be asked if you want to change all the line weights in the symbols to the specified line weight. If you answer “Yes,” every graphic object in the symbol will be changed to the specified line weight. If you answer “No,” you will then be asked to input the line weight you wish to change to the earlier specified line weight. The macro will only change line weights that meet the second input line weight. For example, you can change all the lines to a 10 point line weight, or you can change only those objects that are line weight 7 to line weight 10.

86. Create Light Position

Spotlight allows you to call almost anything a lighting position, which is good. However, to work well, a lighting position should be made from a hybrid symbol, that is a symbol that has a 2D description for plan view and a 3D description for all other views. Having to create this symbol before creating a lighting position can be especially irritating when one is just dealing with battens that are parallel to the floor. This macro simplifies the process

Select an existing line or rectangle, or create a new line or rectangle and leave it selected. Invoke this macro. It will ask you for the height of the position and then create a hybrid symbol placed at that

height above the 0 z level of the active layer. The symbol will be given a name that is its length plus the word “PIPE,” for example, 41’3” PIPE. **It will then turn that symbol into a “Light Position” object and ask you to name it**

From Vectorworks 2019 onward, a “Hanging Positon” will be created.

87. Create Pipe Symbol

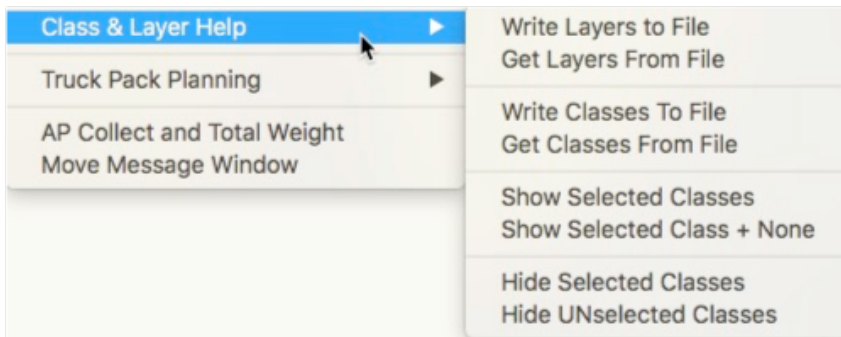
Spotlight allows you to call almost anything a lighting position, which is good. However, to work well, a lighting position should be made from a hybrid symbol, that is a symbol that has a 2D description for plan view and a 3D description for all other views. Having to create this symbol before creating a lighting position can be especially irritating when one is just dealing with battens that are parallel to the floor. This macro simplifies the process

Select an existing line or rectangle, or create a new line or rectangle and leave it selected. Invoke this macro. It will ask you for the height of he position and then create a hybrid symbol placed at that height above the 0 z level of the active layer. The symbol will be given a name that is its length plus the word “PIPE,” for example, 41’3” PIPE. This command **will not** automatically create a Light Position object.

88. Draw all Symbol Resources

This command will create a design layer called “Symbol Display Layer”, and then it will place one instance of every symbol in the drawing resources. The instances are placed based on the settings entered in the commands dialog.

Class & Layer Help



89. Write Layers to File

This command will create a text file that contains the name and attributes of all the layers in the active file.

90. Get Layers From File

This command will prompt you to pick a file that contains a list of Layers and layer attributes. When the file is selected, the command will create a layer for each layer name in the file with the attributes for that layer. If that layer name already exists, the layer will not be created.

91. Write Classes to File

This command will create a text file that contains the name and attributes of all the classes in the active file.

92. Get Classes From File

This command will prompt you to pick a file that contains a list of Classes and class attributes. When the file is selected, the command will create a class for each class name in the file with the attributes for that class. If that class name already exists, the class will not be created.

93. Show Selected Classes

This macro makes visible all objects that have the same class as the selected objects in the document. All other classes are made invisible.

94. Show Selected Class + None

This macro makes visible all objects that have the same class as the selected objects in the document. It also makes sure the "None" class is made visible whether or not there is an object in the None class selected. All other classes are made invisible.

95. Hide Selected Classes

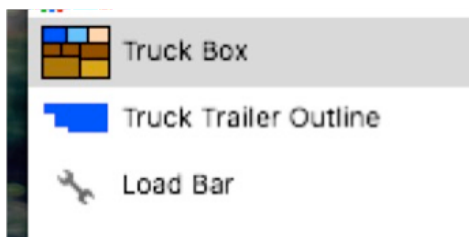
Select the objects that are examples of the classes you want to hide. This macro will hide all objects that are members of the same classes exemplified by the selected objects.

96. Hide Unselected Classes

Select the objects that are examples of the classes you want to see. This macro will hide all objects that are not members of the classes exemplified by the selected objects.

Truck Pack Planning

Three smart objects and nine commands are provided to help plan a truck pack. Starting with the smart objects there is the:



97. Truck Box

If you select this object from the AutoPlot Tool palette, it will place an extruded rectangle on the drawing that represents an object you wish to place on the truck. The dimensions of the object can be controlled in the Object Info Palette (OIP). There are a number of fields that can be displayed on the box and the size and rotation of the text that displays them can be controlled in OIP. In addition, the bottom of the box is marked in black so that the orientation of the box can be displayed. The orientation of a box can be controlled with the following buttons, Stand Up, Tip Forward, Tip Back, Tip Left, and Tip Right. These buttons can be combined with rotating in plan view to place the box in almost any position.

Placing boxes with the Truck Box tool can be tedious, so two commands have been provided to create multiple boxes from a list. See “Create Boxes from File” and “Create Boxes from Worksheet” below.

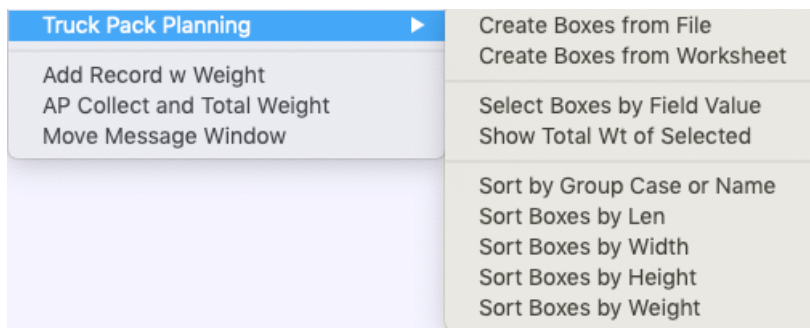
98. Truck Trailer Outline

This object will create a 3D model of a truck trailer. There is provision in the OIP to create a raised platform at the front of the trailer, some times called a “Dance Floor”, and there is provision in the OIP to create a space over the cab. One can test the truck pack or notate an already packed truck by placing Truck Box objects in the Truck Trailer model.

99. Load Bar

This object represents a load bar and can be placed in the truck. It’s height above the floor is controlled by the Z parameter

Nine commands are provided to help create multiple boxes and to sort and select them:



100. Create Boxes from File

This macro will prompt you to select a tab delimited file. Each row will represent a box, and each row will have the following tab separated values.

Group, Case, Name, Length, Width, Height, Weight, Row, Truck Side, Stack Level, Truck, Note, UID.

The first row of the text file will contain the above column names separated by tabs. Each of the following rows will represent a box. Only 3 of the columns are required to have a value, Length, Width, and Height, the rest can be blank but must be separated by tabs. Such a file can easily be created in Excel and might look like this:

	A	B	C	D	E	F	G	H	I	J	K	L	M
	Group	Case	Name	Length	Width	Height	Weight	Row	Truck Side	Stack Level	Truck	Note	UID
2	A	1	PM1D	81	22	58	10 lbs	R1	Driver	1	T1		94
3	A	2	Yamaha Rack	46	40	67	20 lbs	R2	Passenger	1	T2		90
4	A	3	FOH Racks	48	30.5	43	30 lbs	R3	Middle	2	T3		89
5	A	4	FOH Support	33	22	33.5	40 lbs	R4	Driver	2	T4		80
6	A	5	FOH Bundles	48	26	35							81
7	A	6	FOH Bundles	48	26	35							82
8	A	7	Audio Workt	34	29	60							91

Such an excel must be saved as a tab delimited text file. Once a file has been found this command will read it and create a Truck Box object for each row. You will be prompted to click on the location where all the boxes will be created. All the boxes listed in the text file will be placed at that location. You can then drag them to a truck trailer model or wherever you wish.

101. Create Boxes from Worksheet

This macro will look for a worksheet named "Truck Box List". If one does not exist, a dialog will be displayed asking if you want to create one. If you answer in the affirmative, an empty worksheet will be created for you to fill in. Once there is a worksheet named "Truck Box List" in the drawing with data in it, a Truck Box will be created for each row. You will be prompted to click on the location where all the boxes will be created. All the boxes listed in the worksheet will be placed at that location. You can then drag them to a truck trailer model or wherever you wish.

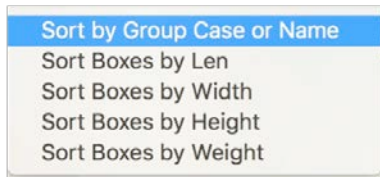
102. Select Boxes by Field Value

This macro will present a dialog for you to pick a field and a value for that field. It will then select all the Truck Boxes that have that value in that field.

103. Show Total Wt of Selected.

This command will show the weight of all the selected Truck Boxes that have a value greater than 0 in the Weight field. The number of boxes that have 0 in the Weight field will be displayed, but a total weight will still be reported.

104-108. Sort Commands



These commands sort the selected boxes and lay them out from a prompted user click.

109. Add Record w Weight Field

This macro will ask for a weight value and assign that weight value to all the selected objects. If the objects are lighting devices it will also assign the weight value to the Light Info Record of the appropriate symbol, so that the next time you insert that type of fixture it will have that weight value. If some of the objects that are selected do not have a record with a field containing the word "weight", a record named "Added Object Info Record" will be assigned to the object and the value will be placed in the weight field. If the object is a symbol, that record will be added to the symbol definition.

110. Collect and Total Weight

This macro will create a worksheet that shows the weight of all the selected objects and totals them. It then displays the worksheet. This not only provides you with a weight total, but it also provides a way to check what is the weight assigned to each object. This command looks for a record or palette field that contains the word "weight". It will then collect the value of that field. If there is more than one field that contains the word "weight", it will use the value of the first field it finds. This may not be the field you want to use. You will need to check the worksheet for weight values that seem anomalous.

111. Move Message Window

Sometimes the message window shows up in the wrong place and the macro that is running will not let you move it out of the way. When the offending macro completes the message window disappears. This macro just puts up a message window for you to move and then close, and that position will be used for all the macros that follow.