# Prod Lx

Created by Tom Bexon (tom@tb-lx.com)

Installation

Auto-Installation

To install, Download the Prod Lx.zip file and save it somewhere on your hard drive. Unzip this and inside you should find this manual, and a ProdLx.vwlibrary file.

Open Vectorworks Go to: Tools>Plug-ins>Plug-In Manager. Once the Plug-in Manager window has opened click Install. Navigate to wherever you have saved the *Prod Lx.vwlibrary* file, and select the *.vwlibrary* file. Vectorworks will then automatically install the plug ins, and work space. Once the installation operation is complete you will need to restart Vectorworks.
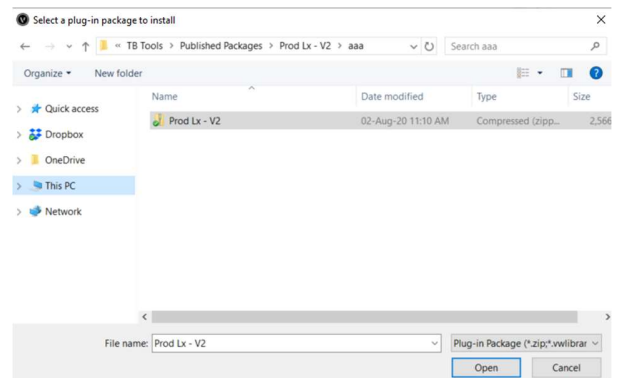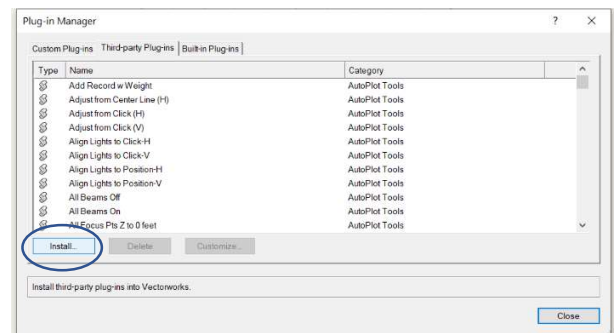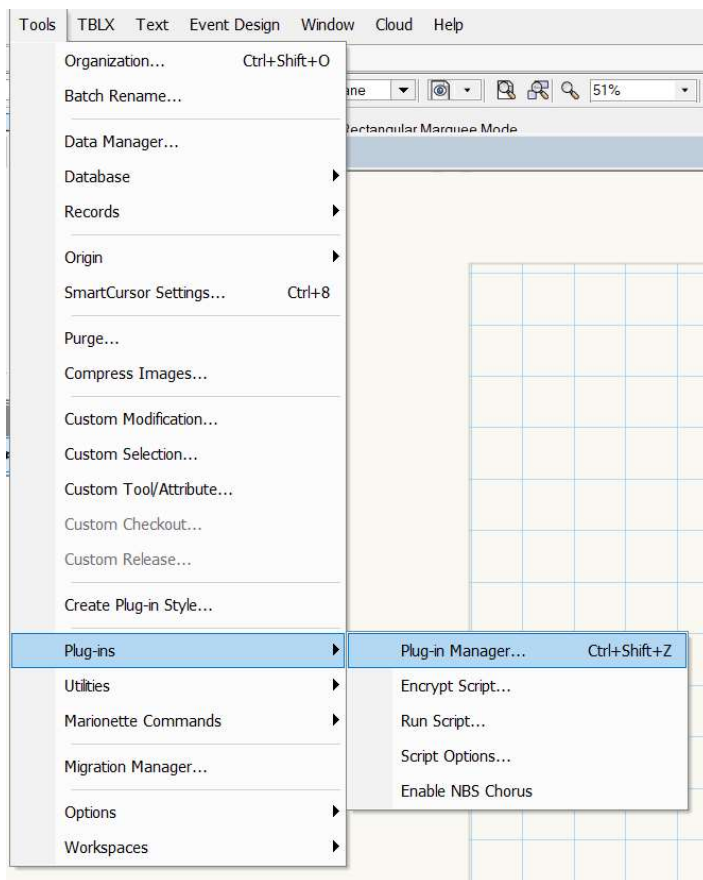
Adding the tools to your workspace

In order to use the tools within this package you must first add them to your workspace. When you run the installation a workspace with all the tools already in it is automatically created. To activate this workspace go to: Tools>Workspaces and select 'Prod Lx.
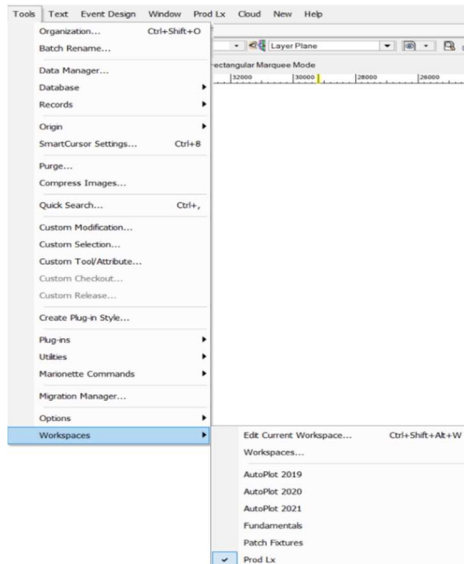
However if you already have tools from another workspace (Such as AutoPlot), you may want to combine these tools into an existing workspace. To do this go to: Tools>Workspace>Edit Current Workspace.

The way this window works is you drag commands from the left and deposit them under menus on the right. The commands are separated into two types: Menu Commands and Tools.

Menu Commands are commands that sit up in your menu tool bar, tools are commands that sit in your tool palette.

To add a new menu command drag the top command, 'New Menu' across to the right.

I recommend you create a new menu called Prod Lx and add all the commands under the sub menu Prod Lx on the left, as shown in this Screenshot.
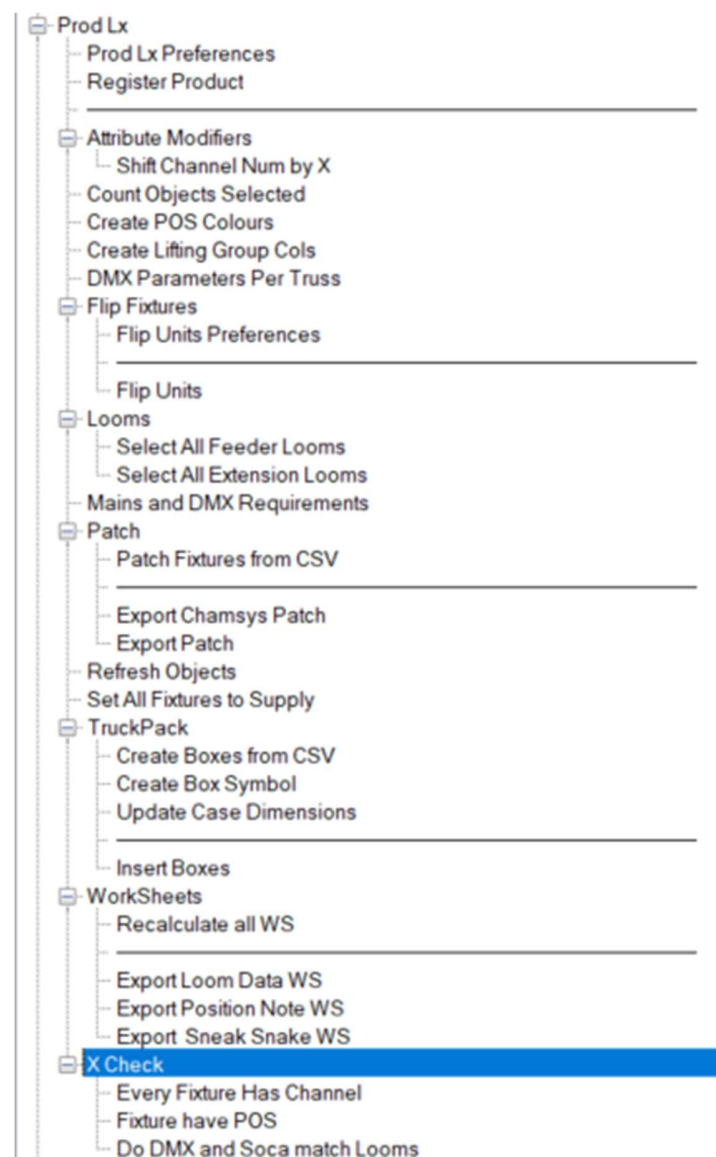
Next we need to add the commands that sit in the tool palette. **WITHIN** the Palette tool set create a new Tool **Set** NOT Tool **Palette**.

Then again drag all the tools under the Prod Lx sub menu over to the right, as shown here.
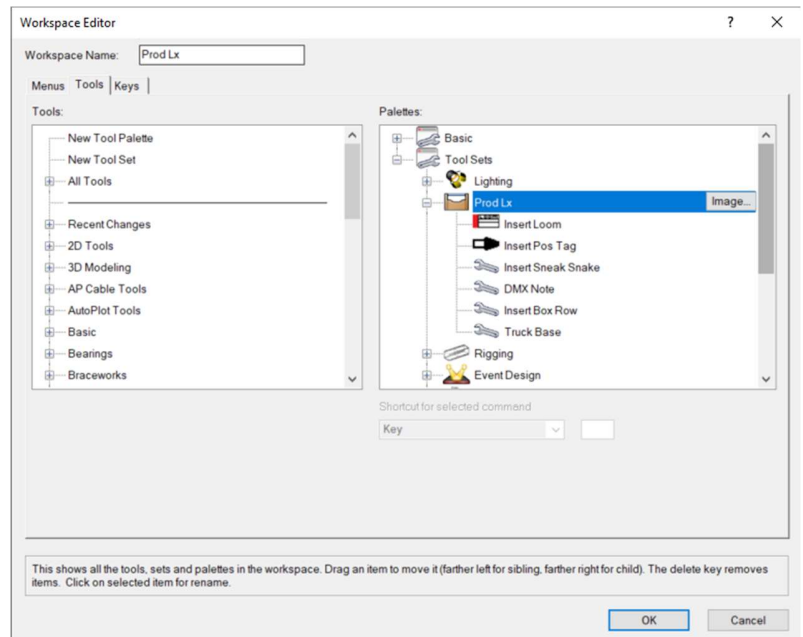

Registration

To use the plugins within this package you must first register them. If you haven't done so already go to TB-LX.com/licences/ and purchase the appropriate license. Once you have purchased a license you should receive an email with your license. (this will be a .crt file attached to the email). Once you have your license, download and save it somewhere, I recommend saving it within your Vectorworks user folder. (which can be accessed by going: Options -> Vectorworks Preferences -> User Folders and then clicking Explore to open an Explorer or Finder window, depending on your operating system.

Within Vectorworks run Prod Lx -> Register Products command.

You should see a window like this. Enter the email address you registered the product with, and then click "Select License Key" and navigate to wherever you saved the license, and select that file. You should then get a pop up confirming that the license has been validated. When you click Ok the path to said License file will be saved so that you don't have to re-register you're license every time you open Vectorworks.
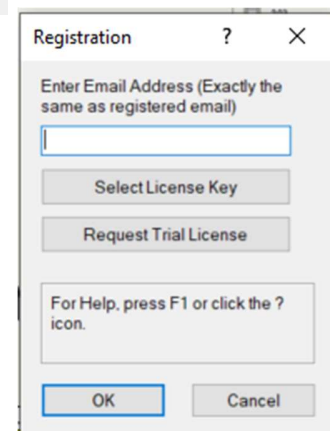
A cautionary note: If you move your license file you will have to re run the register product command, because Vectorworks will no longer be able to find you're license file.
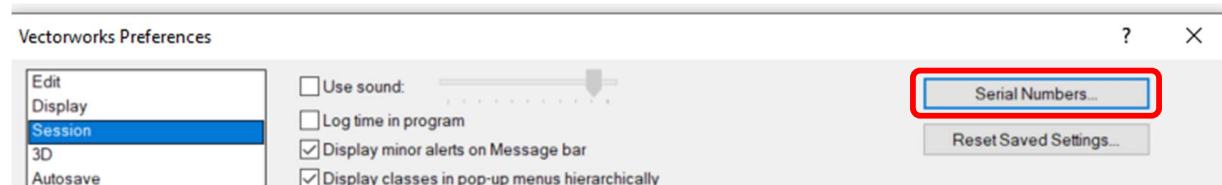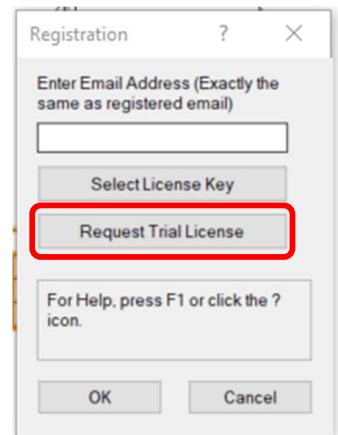
Request a Trial

Want to try Prod Lx before you buy? We offer free 90 day trials. If you require longer than 90 days I'm happy to accommodate, please email tom@tb-lx.com to discuss further.

To request a 90 Day Trial follow the installation instructions above to install Prod Lx normally, then once you have successfully added the plugins to your workspace, run the Product Registration command, and click the 'Request Trial' button.

You will be presented with a dialog where you can fill in:

Your email address: This should be a valid email you have access to, as you're trial license will be sent to this address.

Your Seat ID: This is the last 6 characters of you're Vectorworks serial code, and is unique to you're license. Please note only one trial license can be registered per Seat ID. To view you're license go to: Tools > Options > Vectorworks Preferences > Session and click on Serial Numbers.

First Name and Last Name: The name you would like the license to be assigned to.

Once you have filled in all the requisite information click Request Trial button, and you will see a pop up that will tell you whether you're trial has been successfully created or not. You should receive an email with you're Trial license shortly after.
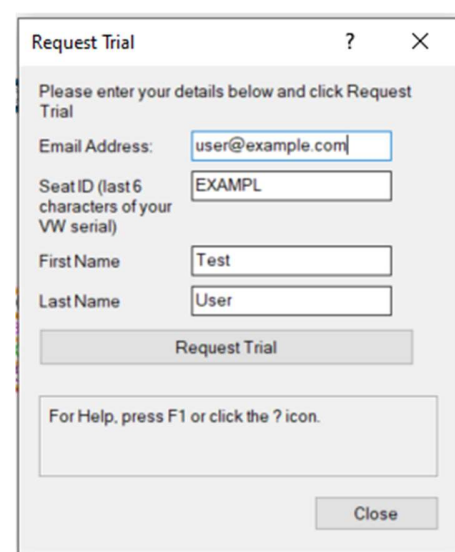
Tools

Below is a description of each tool/ Menu Command.

Insert Loom – Inserts a Loom note. The colour and type of loom can be changed from the OIP menu, and all necessary fields can be filled in from the OIP. If no record called "Loom Note" is present, when activated, this tool will automatically create the record and attach to every Loom Note object. All Fields are automatically filled in and updated when changed in the OIP.

If the Loom is a staggered Loom (e.g the cables are different lengths) the user can specify their specific lengths by typing the label followed by "/" and then the length. So if I wanted to a 25m Multi labelled "AA" I would type into Multi 1 field "AA / 25m". This will automatically fill in the requisite fields within the "Insert Loom Note" record format for easy exporting.

The Separator Character can be changed within the Preferences Menu.

You can change the Multi Type using the Multi Type Dropdown. If you want a new type of Multi adding to the list, please let me know!

Multi Fan Out - Displays a Multi Fan Out symbol. The user can select the type of Fan out. (Custom Fan outs can be added within Prod Lx Preferences) Within the OIP there are checkboxes for displaying the multi head Type, aswell as Cable Range circles.

Within Prod Lx Preferences the user can add custom Fan out Types, aswell as customise the cable lengths. They can also customise the colour of both the Fan out and Cable Range Circles.

Insert Pos Tag – Inserts a position/truss tag. The colour and Direction of arrow can be changed from the OIP menu, and all necessary fields can be filled in from the OIP. If no record called "Position Note" is present, when activated, this tool will automatically create the record and attach to every POS Tag object. All Fields are automatically filled in and updated when changed in the OIP.

If the name of this POS Tag is set to the exact same name as a spotlight Hanging Position name, the plugin will calculate the weight of the fixtures attached to that Hanging Position, aswell as make an estimation for cable. Accounting for Cable weight can be turned off within the Prod Lx Preferences Menu.The formula used to calculate cable weight is:

$$(TRS\_weight * fixture\_count) + (Spider\_weight *(fixture\_count /6)) + (Soca\_weight * (fixture\_count / 6) * (truss\_length / 1000))$$

Where TRS_weight = 1kg, Spider_weight = 2kg, Soca_weight = 0.52kg
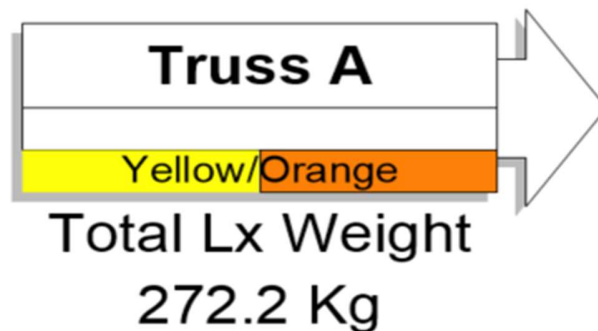

Pro Tip: You can use Spotlight Numbering to quickly enter squential truss names e.g 'Truss A', 'Truss B' See below screenshot for an example of these settings.

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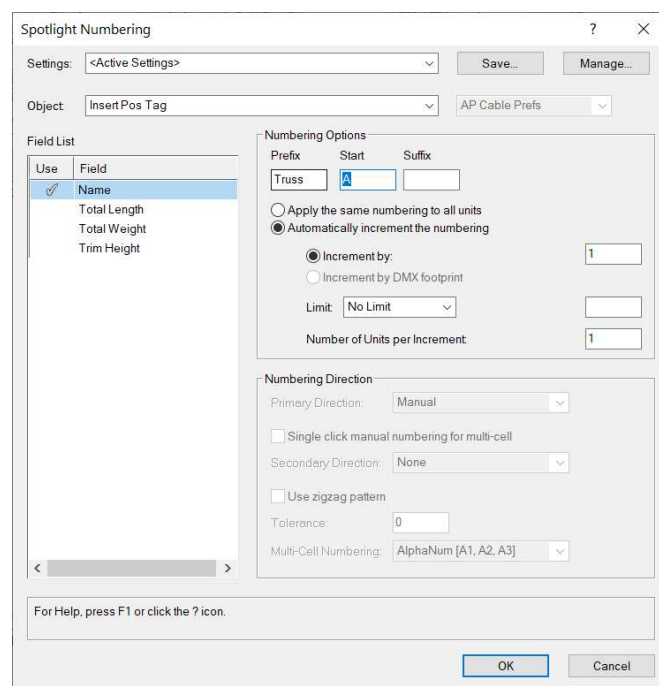
Insert Sneak Snake – Inserts a Sneak Snake Symbol. All necessary fields can be filled in from the OIP. If no record called "Sneak Snake" is present, when activated, this tool will automatically create the record and attach to every POS Tag object. All Fields are automatically filled in and updated when changed in the OIP.
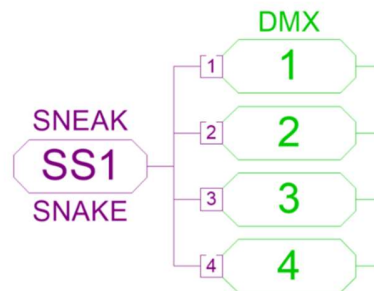

DMX Note – Inserts a DMX Note to denote either the beginning or end of a DMX line. The Type, and direction of the note can be changed using the Type field in the OIP.
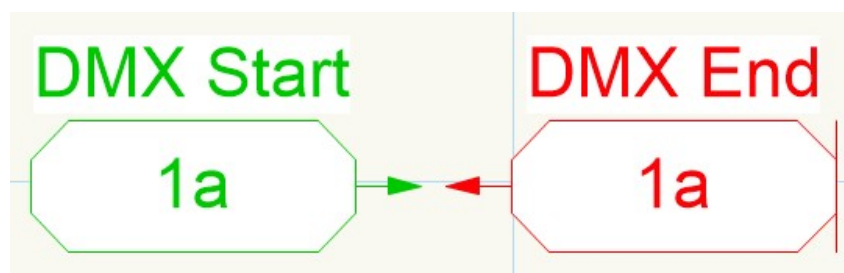
PLX Motor FO – This displays a motor fan out symbol. The user can select what type of Fan out the Fan out is. (Custom Fan outs can be added within Prod Lx Preferences) Within the OIP there are checkboxes for displaying the multi head Type, aswell as Cable Range circles.

Within Prod Lx Preferences the user can add custom Fan out Types, aswell as customise the cable lengths. They can also customise the colour of both the Fan out and Cable Range Circles.
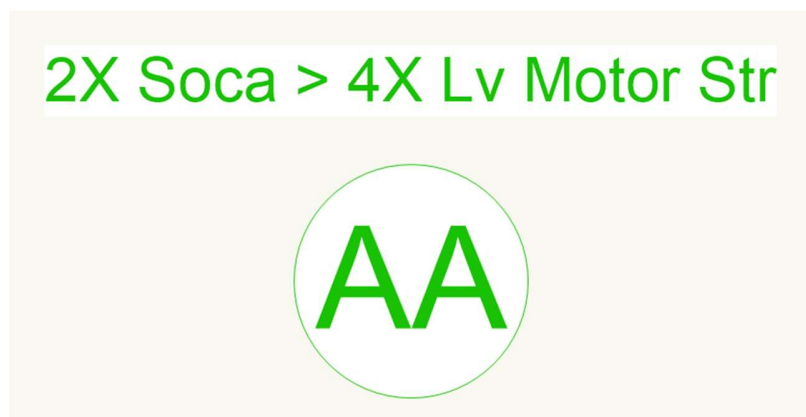
Simple Motor – Tool for displaying simple 2d Motor Symbols on a plot. The User can set a Motor Label, chose the type and Department (which will colour the Motor Accordingly). There is also a checkbox to automatically display the XY co ordinates relative to the document origin.
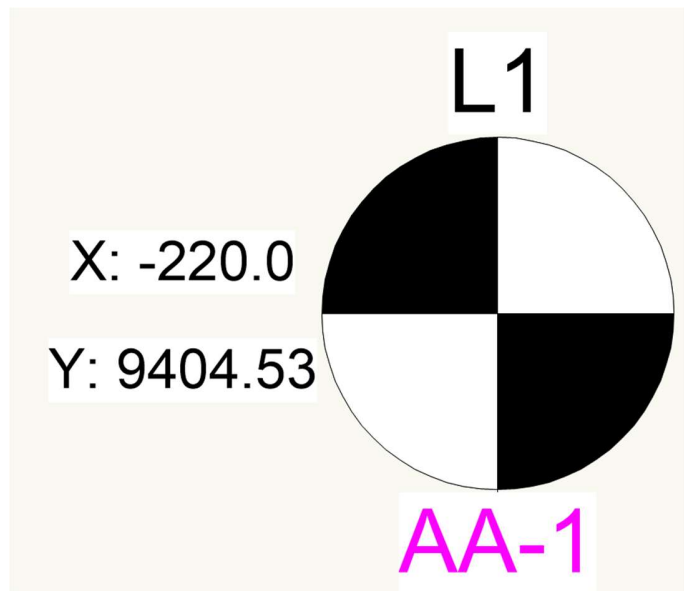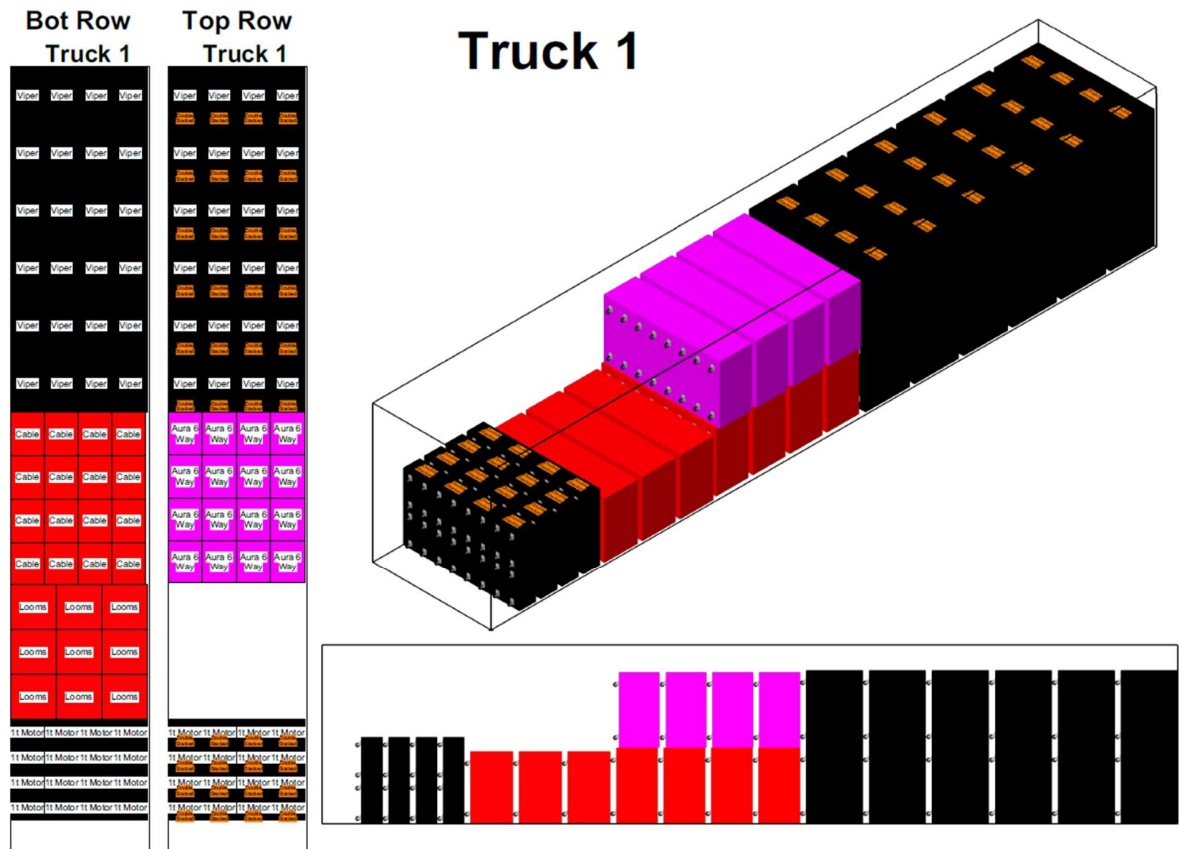
TruckPack

TruckPack is a series of tools that assist the user in drawing out their Truck Packs. The aim of this is both to ascertain whether the required will fit in the available space, but also to work out the easiest and most efficient pack BEFORE you're actually having to load it!

The tools are designed to allow the user to create their packs as quickly and efficiently as possible (because who wants to be spending their evenings drawing Trucks when they could be at the pub!)   To that end the plugins are designed to create your entire "Case" library from a Excel sheet of box dimensions, no need to manually create symbols for all your cases! There are then a number of drafting tools to really speed up the planning of your packs!

For a deep dive into all the features check out this YouTube video:
https://www.youtube.com/watch?v=xxcpv5S3_q8

TruckPack is made up of a number of Commands whose function is briefly outlined below.

Create Box Symbol – Creates a single symbol to represent one type of Flight case. When you run the command, you are presented by a dialog where you can fill in all the necessary dimensions of said case. The Symbol Name Field is the actual name of the Symbol within the Resource Browser and, with all VW Symbols, this name must be a unique name.

Case Label is the Label that will be displayed on the box.

The Tipped Field Defines what Orientation the Case is in. Either Tipped or On It's Wheels. NOTE if you wish the case to be Tipped the Tipped Field MUST have the word "Yes" or "Tipped" in it, if anything else is entered into this field it will default to on it's wheels.

The Caster Checkbox specifies whether the case is drawn with casters or not.

Below is a screenshot showing how I have named each dimension this is consistent across ALL of the TruckPack commands. Note the Height is ALWAYS taken from the floor to the top of the box, so therefore INCLUDES caster height. (the Caster symbol used for my boxes is a simple generic caster Symbol. If you wish to use your own Caster Symbol simply make sure the symbol is located somewhere within the drawings symbol library, and then Go into *Prod Lx Preferences > TruckPack* and change the name in the Caster Symbol Name Field to the name of your custom Symbol.

TruckPack Case Dimensions Naming convention
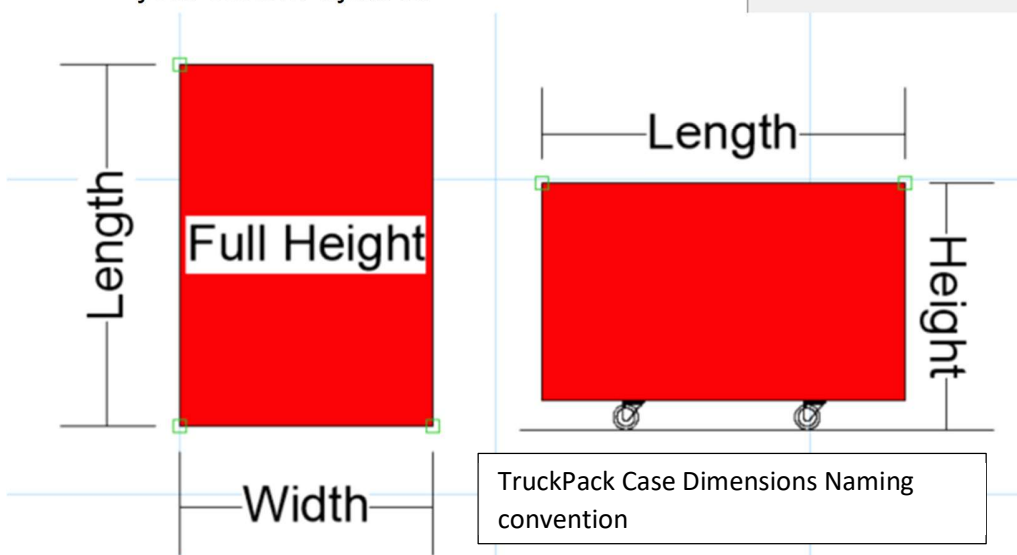
Create Boxes from CSV – This command takes a CSV file, and creates a case symbol for every row within the CSV.

| Symbol Name	Length	Width	Height	Weight	Case Label	Colour	Tipped	Casters	Department	Quantity
Aura 6 way	1200	600	750		Aura 6 way	Purple	Tipped	Yes	Movers	10
1/2 Height	1150	800	620		1/2 Height	Red	Tipped	Yes	Cable	4
1/4 Pack Red	1150	600	780		1/4 Pack Red	Red	Tipped	Yes	Cable	4
Full height	1150	800	780		Full height	Red	Tipped	Yes	Cable	4
Spiider 4 way	940	620	850		Spiider 4 way	Purple	Tipped	Yes	Movers	6
Mac Viper 2 Way	1220	620	1000		Mac Viper	Purple	Tipped	Yes	Movers	4
1T Motor EXE	700	590	590		1T Motor	Black	Tipped	Yes	Motors	6

The Column headers are all exactly the same as in the Create Box Command, and function in the same way, for instance the Tipped Field MUST say "Yes" or "Tipped" if you wish the box to be Tipped. The Weight field is not required and can be left blank if you wish.
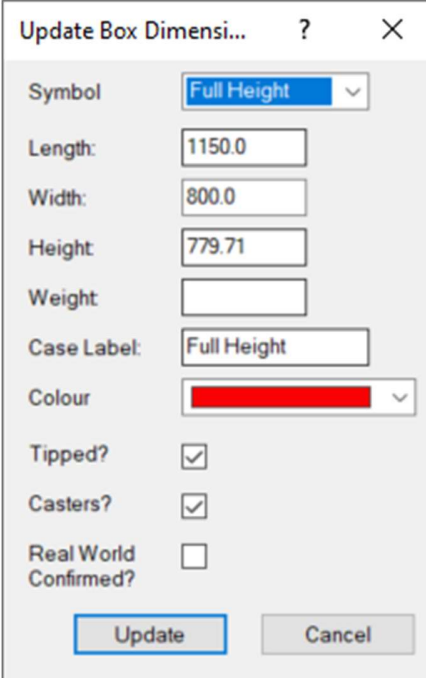
A word about units. When creating the cases TruckPack will use whatever Units you have your document set to. By Default I'd recommend working in mm as this is what TruckPack has been optimized for. HOWEVER if you want to use Imperial Measurements I recommend setting your drawing to Feet&Inches and then Specifying your dimensions in the format: 3'11" (3 foot 11 inches). If you are using mm or another metric measurement you shouldn't specify units within the dimension fields, just make sure your units match the units within VW!

NOTE –By default if a symbol with the name specified already exists that box will NOT be created. You can change this in Prod Lx Preferences so that it deletes any existing symbols.

The quantity field is optional. If you do decide to add quantities to cases, when you run the command you will be asked if you wish to insert the cases onto the drawing. If the user selects Yes then the number of case symbols specified in the CSV will be inserted onto the drawing.
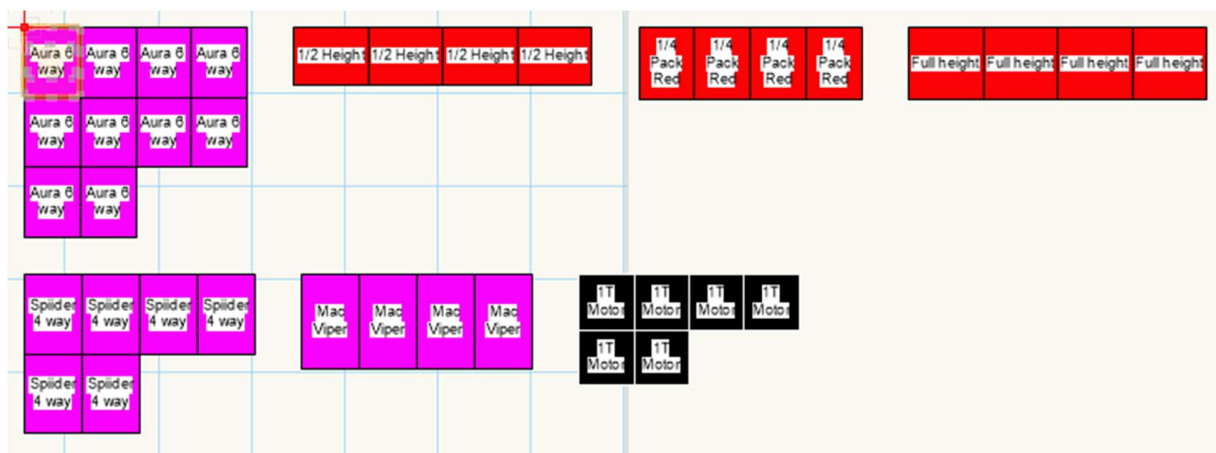
Update Box Dimensions – This dialog allows you to select a preexisting case and update it's attributes. You can also set the Real World Confirmed Checkbox here to mark off cases as having had their dimensions confirmed in real life.

Insert Box Row – Inserts **a** "Block" of the same Case. You can either specify the case type, Number of Cases in a Row, Number of Rows and Row Type (Top, Bottom or Double Stacked) either from the OIP or from the Object insertion Properties window, which will bring up a dialog for you to select the default insertion properties.
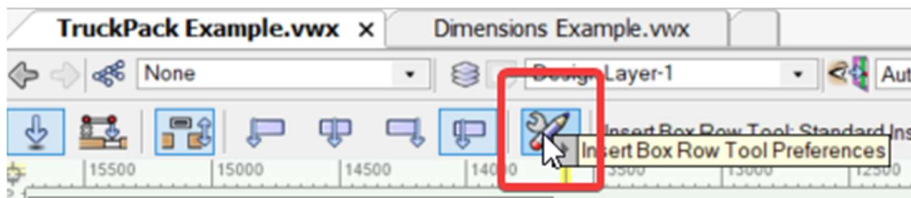
You can assign a Box Row object to a specific Truck using the Truck Field. If you insert a Box Row Object on top of a TruckBase object it will automatically populate this field with the Truck Name

NOTE – because this is a Plug In Object this will act as one object, so after you insert it, it will still be one object, not individual cases, if you want to insert cases as individual symbols, use the *Insert Boxes* MENU command
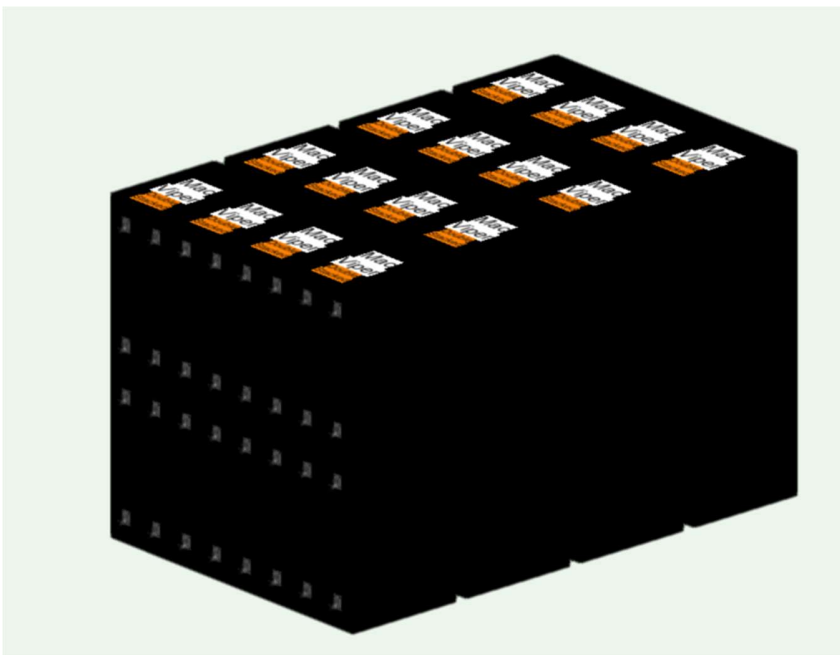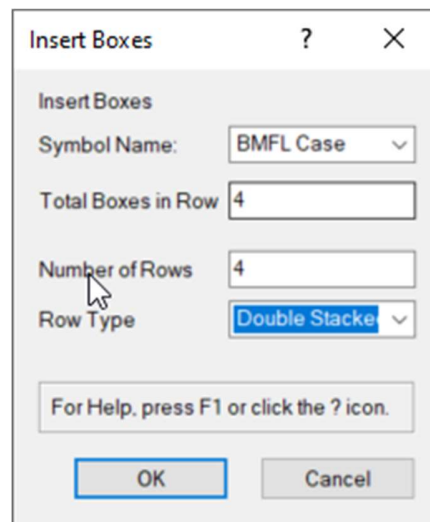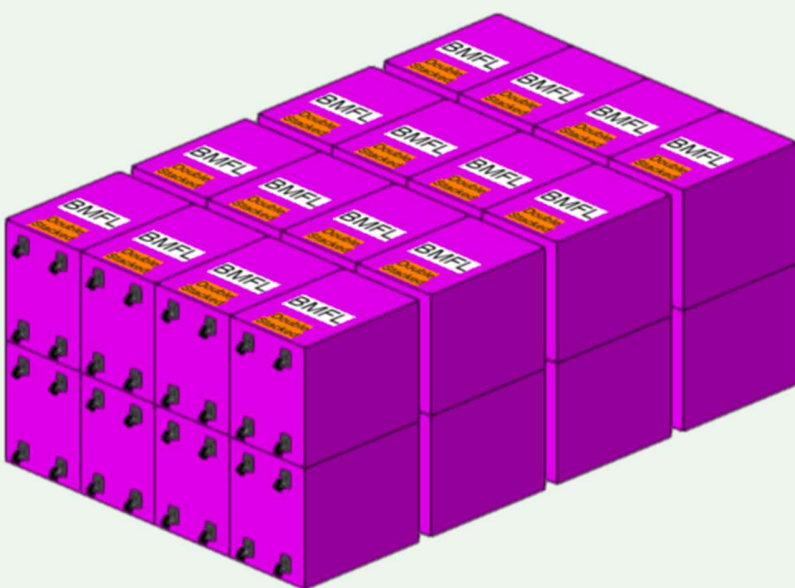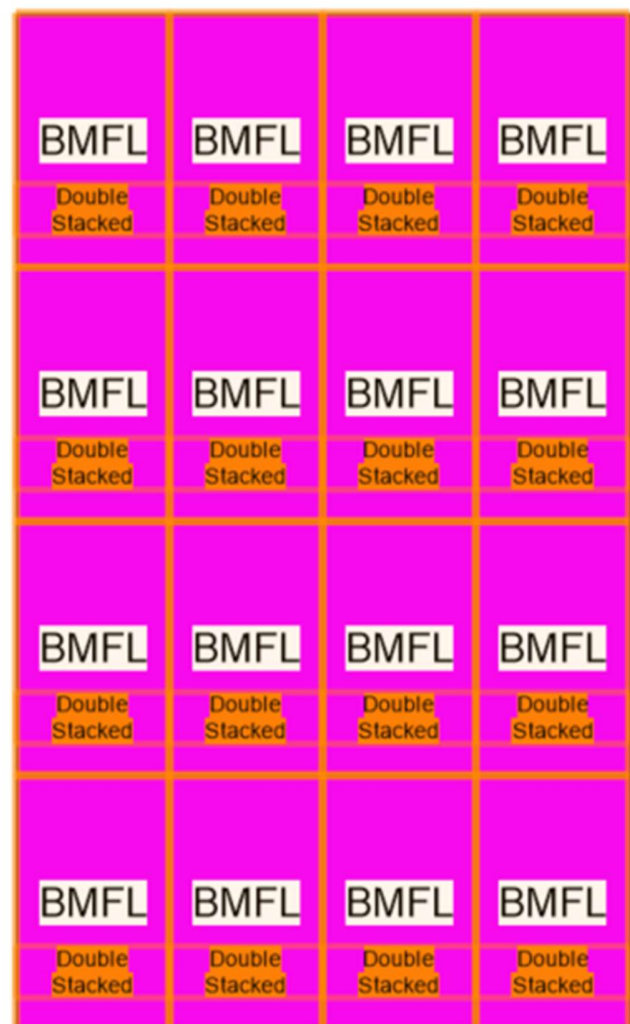
Insert Box - Works in a very similar way to *Insert Box Row* except instead of inserting all the cases as one Plug In Object it inserts them as individual symbols. When you run the Menu Command it will display a dialog where you can specify the Symbol you want to use, Total Boxes in the Row, Number of Rows and Row Type (Top, Bottom or Double Stacked)

TruckBase - This Object is used for displaying the outline of Trucks. You can specify the name of Truck and the Dimensions from the OIP. There is also a checkbox where you can turn on or off a dimension tape along the side of the Truck. You can also specify whether this tape should be in Feet or Meters.

A Note on the "look" of TruckBase: I have deliberately kept the 3d design very simplistic, to reduce unnecessary lines that slow what can be some quite big drawings.
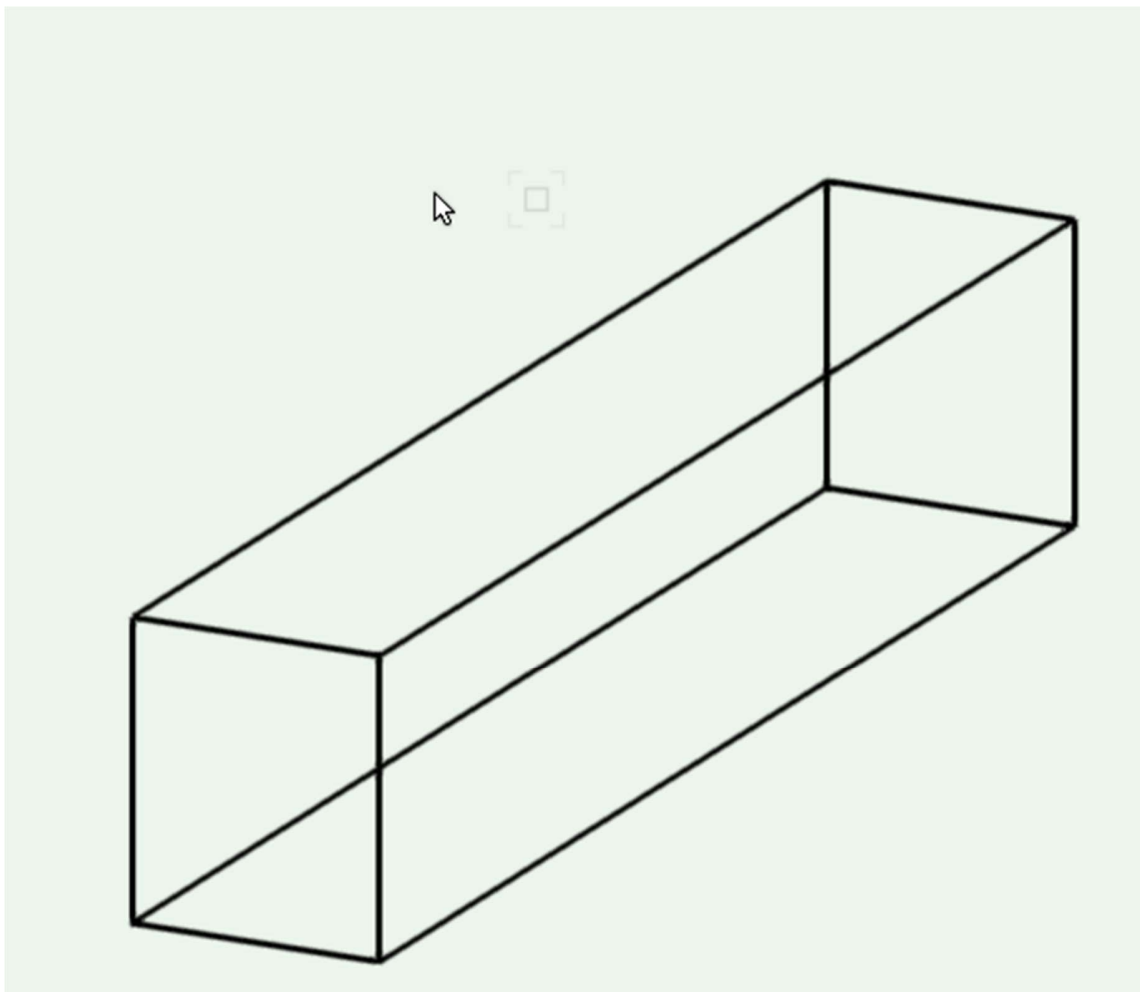
Menu Commands

Attribute Modifiers

Copy Attributes to object – Copies the user specified Attributes from currently selected fixture.

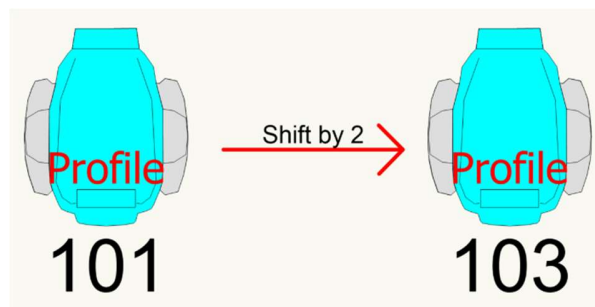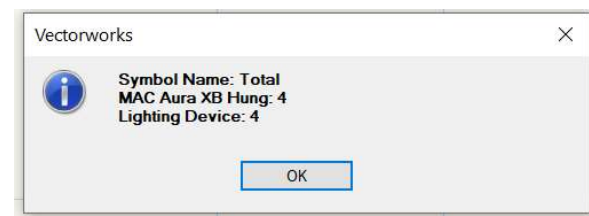**Shift Channel Num by X-** Shifts the channel number of the selected units by the specified amount. *Note: Decimals are not supported at this time, the channel number must be a whole number*

Count Objects Selected – Counts every Light/Truss/Plugin object/ Symbol you currently have selected, and summaries them in a pop up dialog.

Refresh Objects – Refreshes all objects on the drawing. This can be very helpful if you've changed something and things haven't updated.

DMX Parameters Per Truss – Creates a worksheet displaying the total DMX count Per Position, aswell as Minimum Universe count per truss. Note: So as not to include Generics in the count any Lighting Device with a DMX footprint of 0 or 1 will be ignored from the count. You can modify how many channels are in a universe (by default it's 512) within the Prod Lx Preferences Menu

	A	B	C
1	Position	DMX Count	Universe Count
2	Aud 1	60	1
3	Aud 2	60	1
4	Aud 3	60	1
5	Aud 4	60	1
6	Aud 5	30	1
7	Front Side SL	124	1
8	Front Side SR	124	1
9	Front Truss	266	1
10	Halo	282	1

Flip Units- Flips a lighting Device by 180 degrees. The exact Criteria of which Lighting Devices are affected can be changed from *Flip Units Preferences*.

Flip Units Preferences – Allows the user to select the criteria for which Lighting Devices are affected by the Flip Units command. The options are:

Flip by Symbol name: This will flip any Lighting Device, where the underlying symbol contains a certain phrase. e.g if I had several lights where the symbol name was "Mac Viper Performance (Floor)" and I set the Symbol Name to be (Floor) any fixtures containing that phrase would be flipped, so if I also had some Auras called "Mac Aura XD Floor" they would NOT be affected.
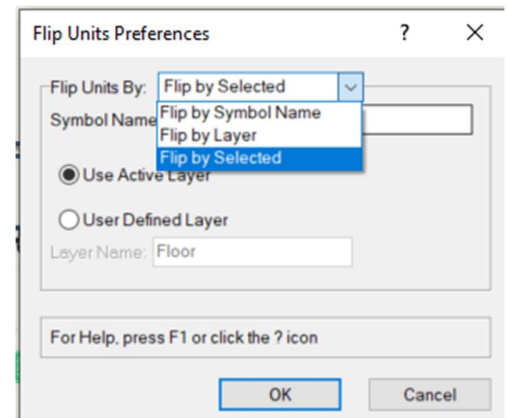
Flip by Layer: this either Flips all fixtures on the currently active Layer OR on a User Defined Layer. E.g If User Defined Layer Checkbox is selected, and the phrase I have entered is "Floor" every Lighting Device on the layer "Floor" will be flipped.

Flip By Selected: Does exactly what it says on the tin, Flips all currently Selected Lighting Devices.

Mains and DMX Requirements- Calculates the Total Power and Total DMX of all fixtures currently drawn in the active document. If the fixtures have a 'Supply' Field it will divide the fixtures by Supply. *Hint* if you want every fixture to be fed from the same supply use the 'Set All Fixtures To Supply' to quickly set all Supplies.

If you're fixtures don't have a Supply field you can go: File>Document Settings>Spotlight Preferences and then under Lighting Devices – Parameters tab you can add a custom field.

Set All Fixtures To Supply- If the Fixtures have a custom field called 'Supply' this script will set every fixture to whatever name the user defines. To add a custom 'Supply' field to your spotlight fixtures go to: File>Document Settings>Spotlight Preferences and then under Lighting Devices – Parameters tab you can add a custom field, name it to 'Supply' and make it a text field.
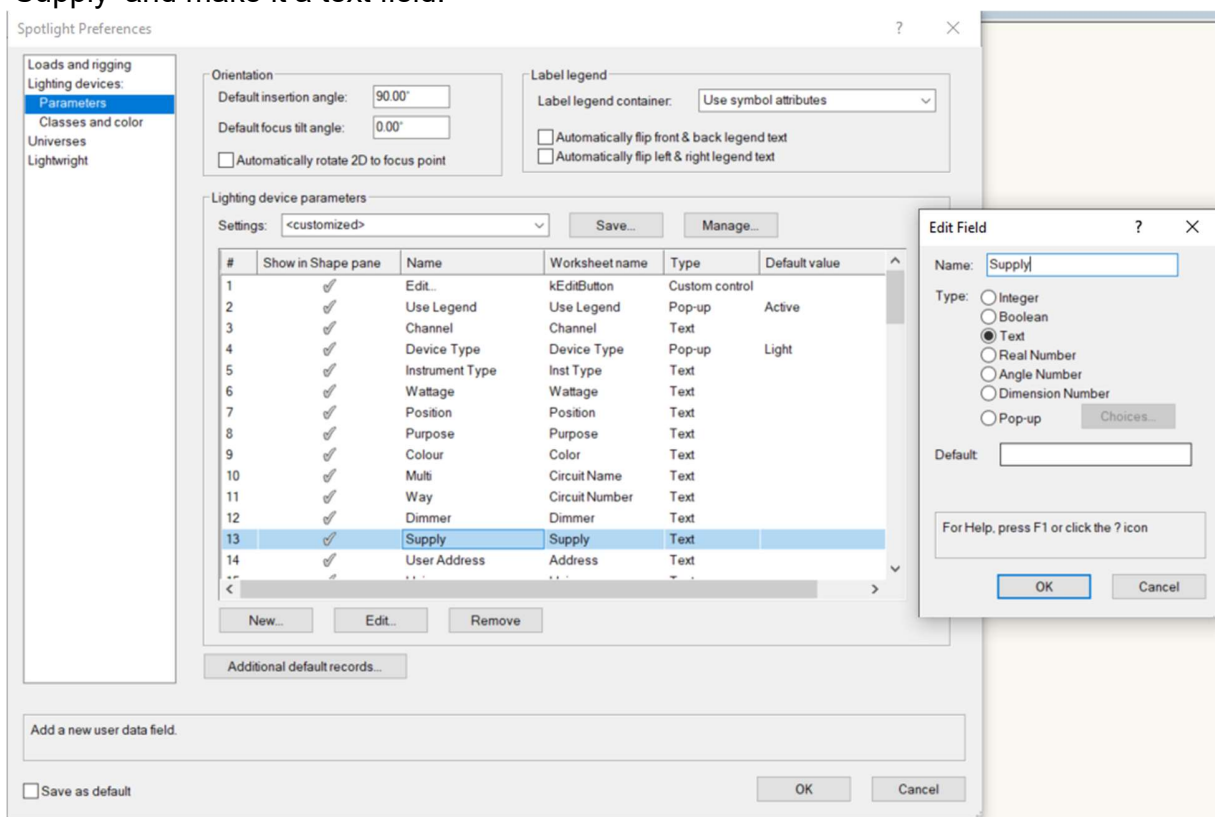

You can now change the name of the 'Supply' field within Prod Lx Preferences. So if you have named your Supply field 'Lx-Supply' rather than 'Supply' you can modify the name within Prod Lx Preferences to match the spotlight name.

Create Custom AP TT Symbols

This command is to be used in conjunction of with the AutoPlot Truss Tape Tools. What this command does is allows you to create a Custom Truss Tape Symbol for every Lighting Device in your active document. The base symbols from which the Truss Tapes are built are contained within the Vectorworks file "Prod Lx AP TT Base Symbols.vwx" which is located within the Prod Lx folder in the user Plug Ins folder.

When you run the command you are presented with a dialog where you can select which base symbol to use for each Lighting Device.
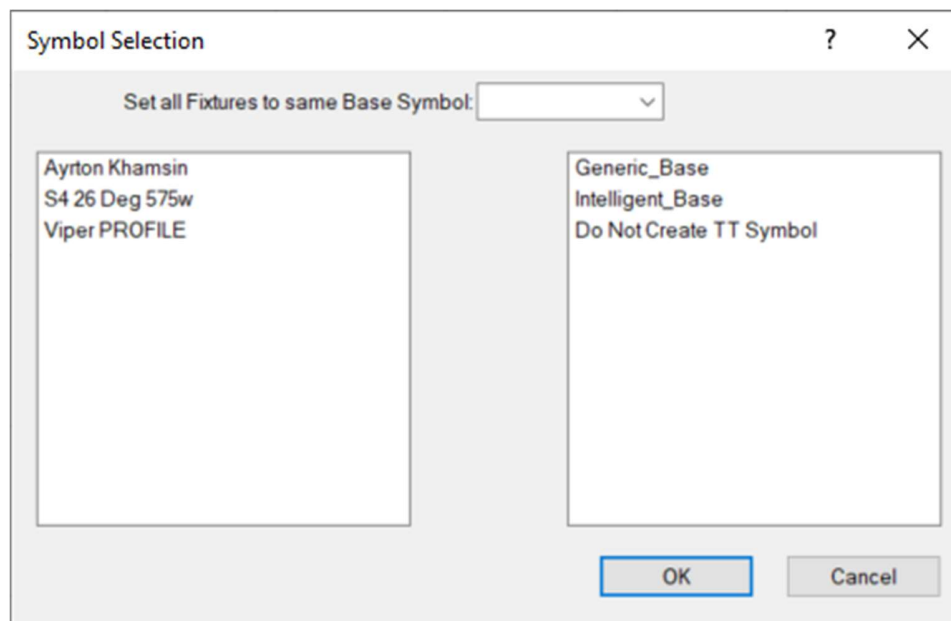
When you select a fixture in the left hand list it will display in the right, which base Symbol is currently selected. You can then select your preferred base Symbol or specify that you don't want any symbol to be created for that fixture.

You can also use the top dropdown to set all Lighting devices to use the same base Symbol.

When you hit ok you are given an option to write the fixtures to the AP Sheet. If you select Yes this will add a line for each Lighting device into the "Truss Tape Labels Fields" worksheet. Prod Lx will check and see if it exists. If it doesn't it will notify you, and you will have to re run the command after running the AutoPlot command "Edit Truss Tags Assign Wks".
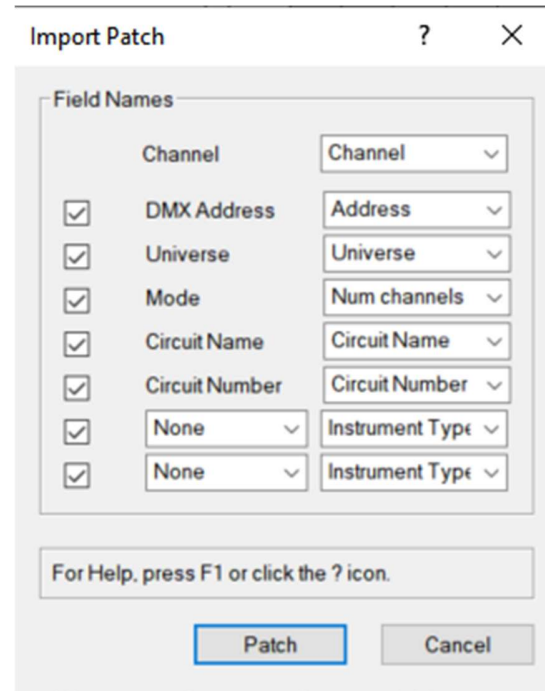
Patch

Patch Fixtures from CSV - Imports Patch from CSV file and patches all corresponding fixtures. The fixtures in VW must already have channel numbers assigned to allow patching. This plug in will set the Universe/ Address of the fixture aswell as the DMX Qty. When you run this command a dialog will popup allowing you to select which column to use for which field.

You can also use this tool to patch other attributes, such as Circuit Name and Number. You can also select up to two fields from any part of the spotlight Lighting Device record.

One thing to note is that currently the mode cannot set text based modes, for instance if in your CSV file the mode field for a fixture is set to 'ext'

Having this tool support text based modes is very much on my To Do List and will hopefully be coming in a future release soon!

Export Chamsys Patch- Exports a CSV of all fixture Patch and XYZ information for importing into Chamsys MagicQ Software Range. For information on importing this patch information into MagicQ please see here.
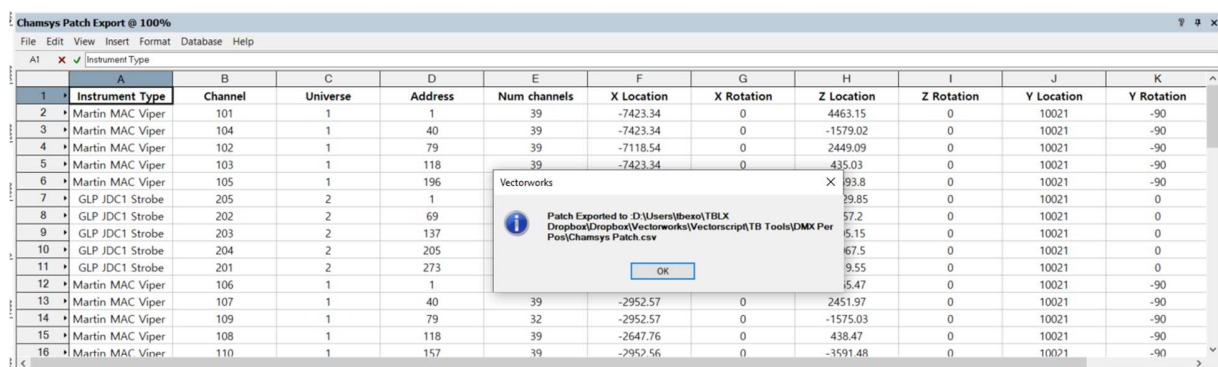
Export Patch- Exports a CSV of all patch sheet relevant information, for using with importing into Excel Patch Sheets. Includes 3 Users Fields, which are by default named Mode, Fixing and Rig Notes, however you can rename them by editing the worksheet. These relate to Spotlight User Fields. By Default they are:

Mode: User Field 1

Fixing: User Field 2

Rig Notes: User Field 4

In the next release there will be the option to edit which user field is assigned to which attribute, aswell as to rename these attributes.

PLX Export Patch Sheet @ 100%									
File Edit View Insert Format Database Help									
A1 ✗ ✓ Channel									
	A	B	C	D	E	F	G	H	I
1	Channel	Position	Instrument Type	Mode	Fixing	Rig Notes	DMX Qty	Universe	DMX#
2	91	89	92	90	90	0	2316	91	20434
2.1	1	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	1
2.2	2	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	26
2.3	3	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	51
2.4	4	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	76
2.5	5	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	101
2.6	6	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	126
2.7	7	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	151
2.8	8	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	176
2.9	9	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	201
2.10	10	Truss A	MAC Aura XB	Extended	Half Coupler		25	3	226
2.11	11	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	226
2.12	12	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	251
2.13	13	Truss A	MAC Aura XB	Extended	Half Coupler		25	1	276
2.14			MAC Aura XB	Extended	Half Coupler		25		0
2.15	14	Truss A	MAC Aura XB	Extended	Half Coupler		25	2	1
2.16	15	Truss A	MAC Aura XB	Extended	Half Coupler		25	2	26

Create POS Colours –Draws coloured rectangles over every Spotlight Hanging position with an associated POS Tag. It will set the larger rectangle colour to the "Colour 1" field in the POS Tag object, and the smaller rectangle to 'Colour 2'. All Position rectangles are drawn on a new class and layer the name of which can be specified within the Prod Lx Preferences Menu, under the 'Create POS Colour' Tab. You can also specify whether, by default, the New layer is inserted at the top or bottom of your drawing's layer stack. There is also an option to delete all current contents of the Position Colours Layer. By Default this is enabled and will delete EVERYTHING associated to the Position Colours Layer.
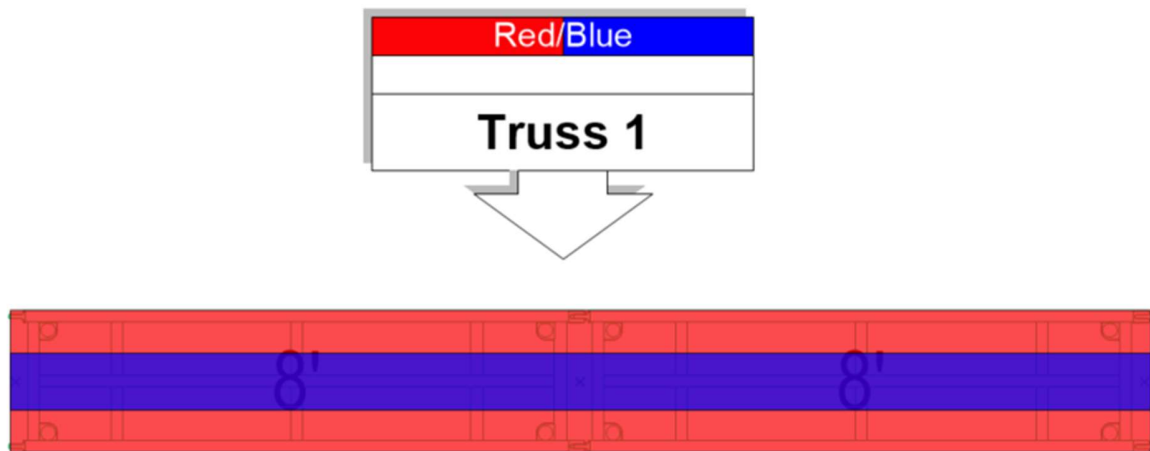
Create Lifting Group Cols–Draws coloured rectangles over every Spotlight Hanging Position that has a corresponding Lifting Group assigned to it within the Position Tag. You can Specify the Class and Layer name, along with Opacity within Prod Lx Preferences under the Lifting Group tab. You can also specify whether, by default, the New layer is inserted at the top or bottom of your drawing's layer stack. There is also an option to delete all current contents of the Position Colours Layer. By Default this is enabled and will delete EVERYTHING associated to the Position Colours Layer.
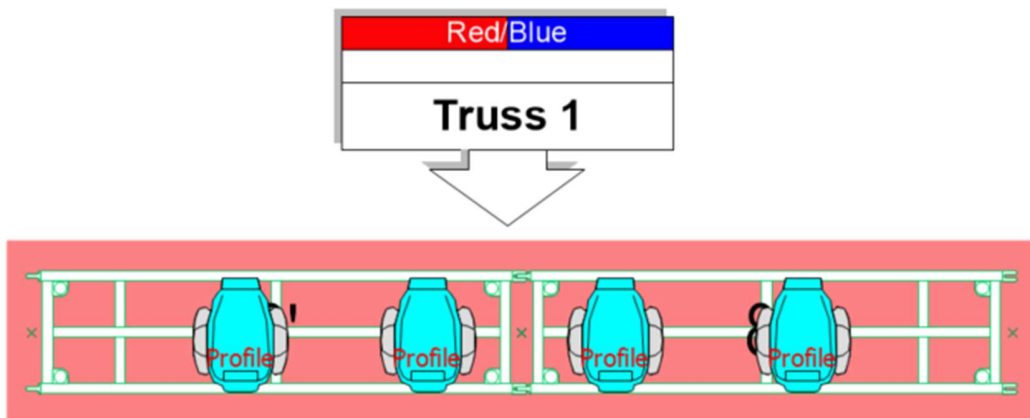
X Check

Cross Check is a series of commands for flagging any errors that may have been overlooked within your drawing.

Check Missing Spare Ways – This script will check for both unused spare ways, and incorrect spare ways within the drawing.

The first check will return a list of all the currently unused Multi Ways where at least 1 way of the multi has already been assigned to a lighting device.

Additionally if you have a spare way object/ lighting device (such as the one below) within your resource manager you will be given the option to insert a spare way object for each missing spare way above the corresponding Multi Fan Out object.

Secondly this command will check for any spare way objects already inserted on the plan and check if any of them are in fact actually in use. If any are in use a worksheet will be returned with a list of them.
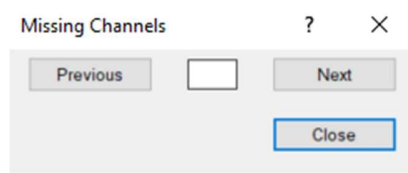
Every Fixture Has Channel– This Script will first check that every fixture has a Channel number assigned to it. If there are fixtures with a blank channel field, you will be presented by this dialog:

Click Next to cycle through any fixtures missing Channel numbers. The script will focus you're screen on each fixture as you cycle through. You can then Enter a new Channel number into the Center text box. Once you are done click Close. The script will then bring up a worksheet showing any potential errors in channel numbering. The criteria it's looking for are:

Potentially Skipped Channels in a run of numbers. For instance if you have some fixtures numbered 1 , 2 , 3, 5 , 6, 7, 8, 9, 10 The script will flag the fact you have potentially missed out Channel 4 putting the rest of you're numbers out of sequence. Something to note so as to stop the script throwing hundreds of potential wrong numbers it will only flag errors where the gap between ranges is less than 5 e.g 1-5 9-15 it would flag 6, 7, 8 are missing but 1-10 and 16-20 wouldn't raise any errors

Duplicate Channels. Any Channel numbers that have been used more than once.

Of course for all these criteria you may have quite deliberately wanted to have duplicate channel numbers for fixtures, or wanted to skip channel 4 so the script just highlights **potential** errors and you can then decide if they are actual problems or not!

Fixture Have POS- Checks if every Fixture has a position and creates a WS of any fixtures missing a position. *Note* this script has no way of knowing if a fixture has a **correct** position assigned to it, merely that it has **A** position of some description assigned to it

Do DMX and Soca match Looms- Check that the Labels within both Looms and Sneak Snakes match up for both Extension and Feeder Looms. To tell Prod Lx a loom is an extension or feeder loom select the loom object and you will find a dropdown field called 'useage'.

The Script also compares what DMX cables are in the Looms/ Sneak Snakes against DMX Notes to check that every DMX Note is contained within the Looms aswell as all DMX's assigned to looms have a DMX note somewhere on the plan. It also will cross check any Autoplot Multicables you may have drawn on the plan and makes sure they

are all contained within a loom somewhere. Obviously because the script can't know all you're intentions it may throw some things up as errors, such as maybe a Soca not being included in an extension loom, which you know not to be the case, but atleast you can then decide what might be genuine errors and what aren't!

Worksheets

Export XXX WS – Recalculates and Exports the specific worksheet to CSV. This will be saved in the same folder as the active drawing. If the Worksheet does not exist, this command will automatically make it. **Important note** – You must save your drawing somewhere before using these commands. Otherwise they will throw up an error stating access is denied!

ReCalculate all WS – Recalculates ALL Worksheets in the active document.