WireCAD v8 User Manual

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Getting Started with WireCAD v8

by Holbrook Enterprises, Inc. dba WireCAD

WireCAD v8 User Manual

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dba WireCAD

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And a very special thanks to all of you WireCAD users, and you know who you are, that help to make the program better!

Christian Holbrook
President

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Foreword

The manual is not an exhaustive study of WireCAD, but rather enough information to build a foundation upon. We maintain a wiki site with this and much more information. You can access up-to-the-minute documentation along with revision and hotfix information online at www.wirecad.com/wiki.

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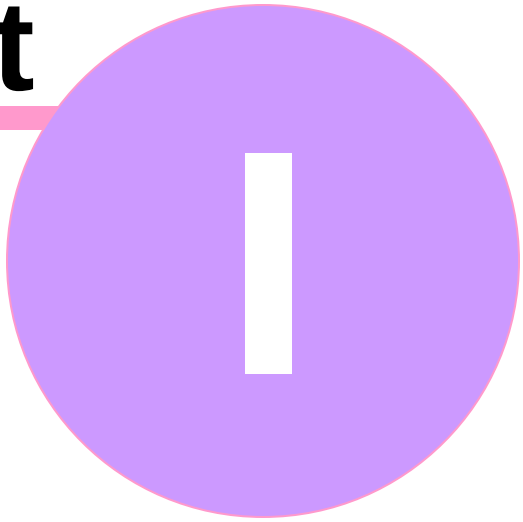
Part



1 Introduction

Welcome to WireCAD. WireCAD tools aim to decrease the frustration associated with creating accurate, detailed documentation. WireCAD produces DWG compatible drawings accompanied by either VISTADB or SQL Server databases containing all pertinent project data. WireCAD is a cable management and facility design tool that allows you to easily create AutoCAD™ drawings. WireCAD maintains a database of equipment, from which you can create equipment blocks for your drawings. Equipment blocks are created dynamically from information stored in the equipment database. Rather than maintaining a large library of equipment blocks or symbols, WireCAD stores this information in a database and then creates blocks from the equipment definitions contained therein. Equipment definitions are easily added to the database. In addition to equipment databases, WireCAD also provides drawing tools to rapidly create documentation, and database management tools to track:

- Projects
- Drawings
- Revisions
- Cable Types
- Signal Types
- Connectors

Things really start to fly when it is time to assign System Names (unique IDs) and Cable Numbers to the equipment in your drawing. All you do is double-click on the equipment pieces in the drawing to assign them a system name. Then double-click on the cable and assign it a cable number. All of the information regarding the selected cable is extracted from the drawing and placed in the project cables database and the drawing is updated with a new cable number.

Extensive reporting is available for the project databases including:

- Cable run sheets
- Cable labels
- Project drawings
- Equipment lists
- Bill of Materials
- Power consumption and heat load

In addition, a powerful report designer is included with WireCAD for creating your own reports and labels, or modifying existing report definition files.

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1.1 New in Version 8

The short list of feature additions and changes in the current release:

Headlines:

- Plan view tools
- Cloud storage
- Faster drawing engine
- Faster data access
- Support for Splice Points and Adapters

New Features

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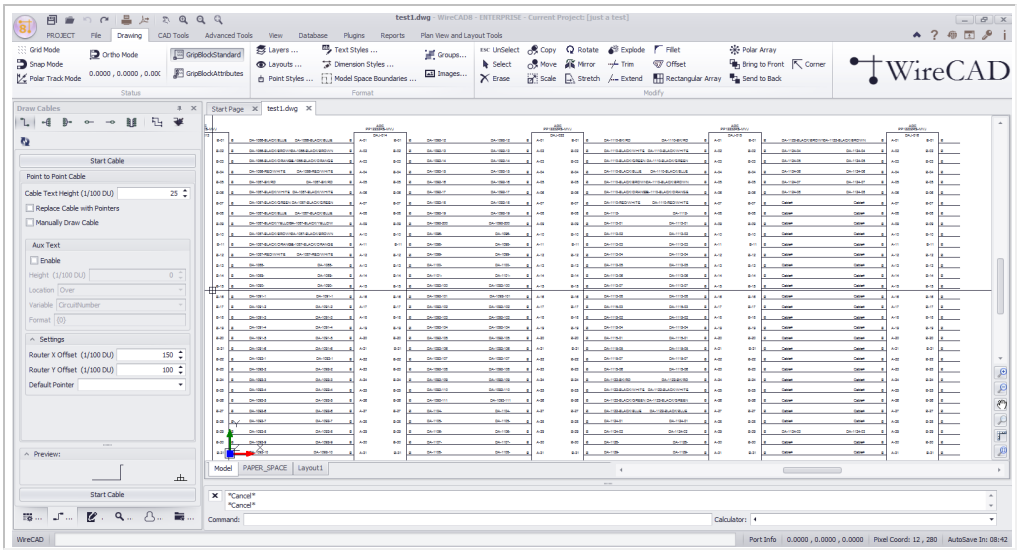
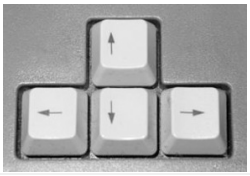
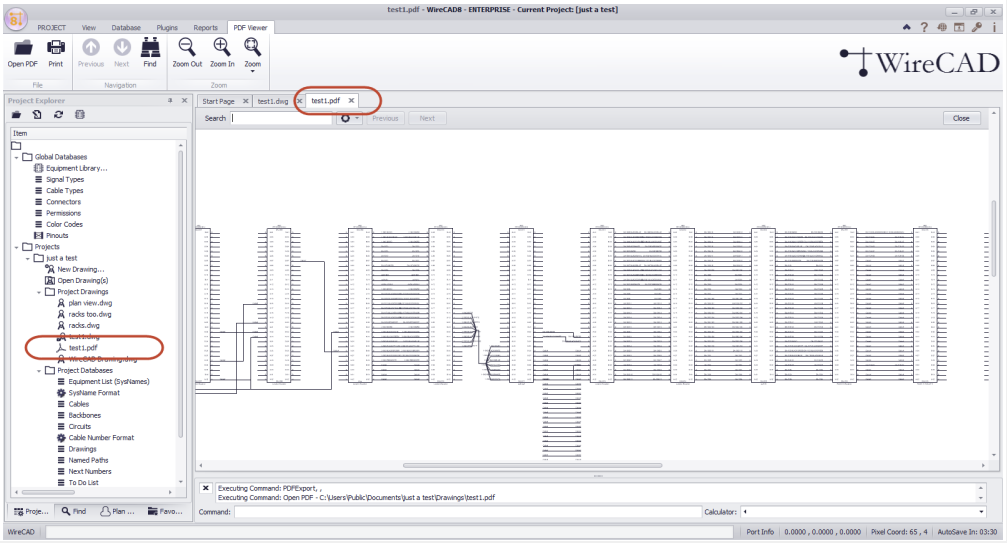
• **Ribbon interface. We have enhanced the user experience with the addition of the ribbon menu and gallery controls.**	
• **Support for DWG 2015.**	We now support dwg 2000-2015
• **Groups in drawings.**	Now you can group ungroup entities.
• **Nudge position command.**	Use the Up/Down/Left/Right arrows to move entities in the drawing. 
• **Built-in PDF viewer. Now pdf files are enumerated in the project drawings folder. Double-clicking them now invokes the built-in pdf viewer.**	

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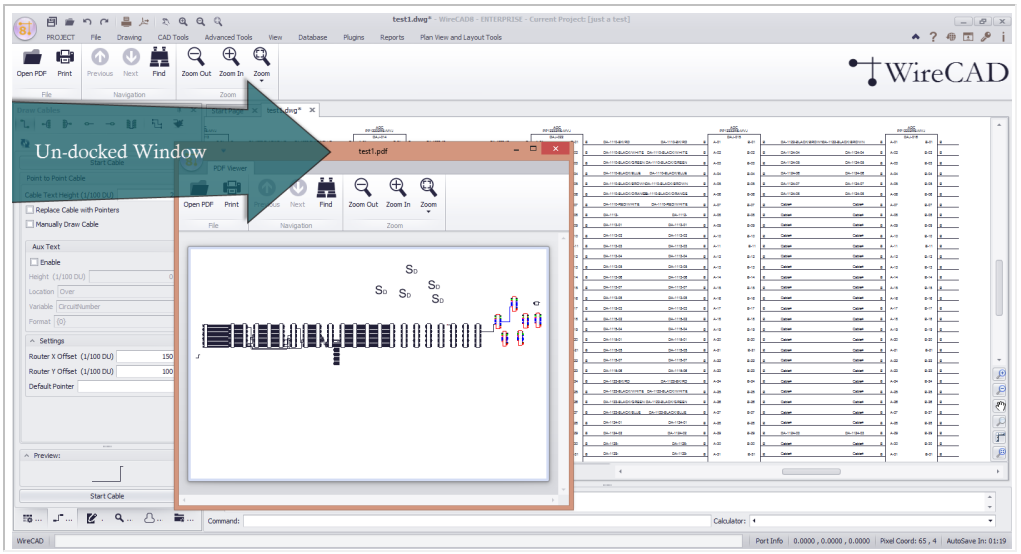
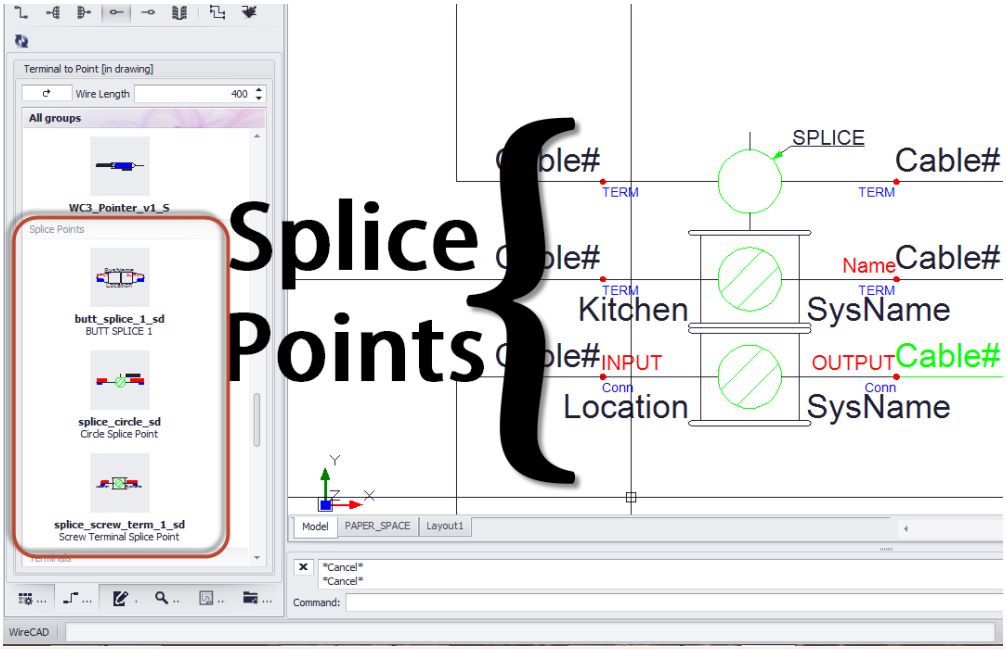
- **Better docking. You can now tear away a drawing or any other window and place it on your other monitor.**



- **Splice Points**

We have added support for Splice Points. Splice Points are a means by which to terminate cables. Splice Points are not tracked in the Equipment List.



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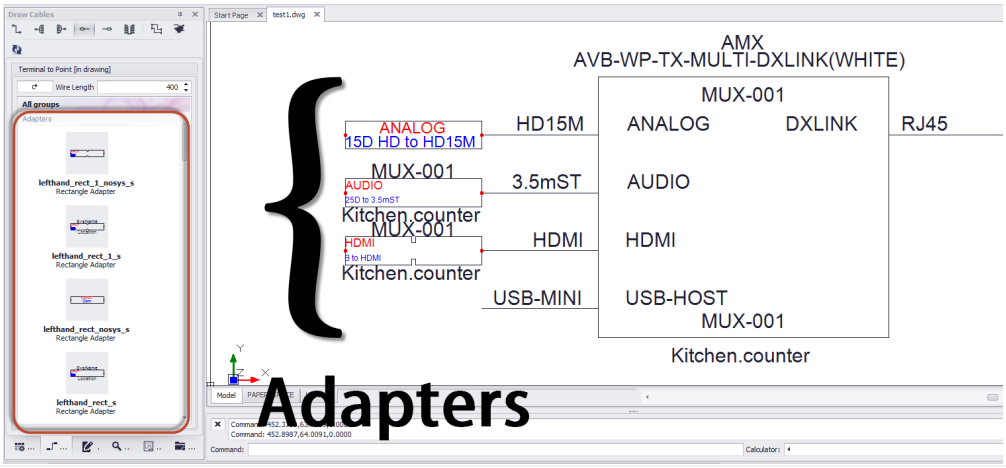
• **Adapters**	Adapters are placed directly on functional block ports and inherit the port name and SysName from the device on which they are placed. 

Details

- We have modified the project database to store the drawing file as binary data in the database and to sync with files on difference machines.
- We have modified the drawings table to work with relative paths in support of the previous item.
- We have added plan view fields to the Equipment Library.

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1.2 Conventions and Terminology

This manual attempts to follow these conventions. We use the word attempts because we are human and therefore fallible.

Topic Header

Menu: **Databases>Projects** Default command line shortcut: None Function: A description of the function goes here.	**Applies To:** All product levels **Related Settings:** None

Chapter Heading

Menu: **Databases>Projects**
Default command line shortcut: None

Function:

A description of the function goes here.

Noteworthy Changes

New Stuff

Items or functions that are significantly different from previous versions will be flagged with this symbol

Normal Paragraph Text

Normal paragraph text appears like this.

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Text You Must Type or Enter

In the event that you are required to enter text the instruction will be formatted as follows:

Please enter the `path to the project` in the textbox.

How To Topics

How to do something

1 You must do something..

2. Then something else.

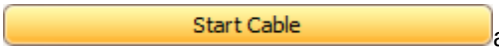
Notes

Please Note: Notes will look like this.

Text That Identifies or Explains a Graphic

This is the Command Line Interface

Button Presses

When you are Instructed to press a button 

and the button graphic is not shown the text will be formatted as in the following example:

Press the **[Start Cable]** button to continue.

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Menu Button Presses

Menu button presses will be formatted using the **>** symbol to indicate subsequent menu levels. If you are required to select a specific function or tab the **~** character will be used to indicate a selection to make once the form, dialog, or function executes.

Example: Click **Tools>Inserts>Insert... ~ <OK>** Then follow the directions...

Field Names or Other Program Labels

Field Names and Labels.

Warnings

In the event that we feel something is important or could possibly damage a project or drawing we will issue warnings as follows:

Please do not press this **[button]**. Bad things will happen!

Tips

Tips are displayed as follows:

Try pressing this **[button]**. It might be good!

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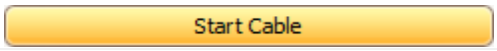
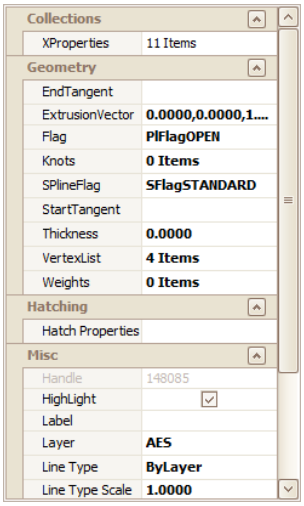
What we Call Things

Item	Image
Button	
Text Box, textbox, text edit or entry field.	
Combo box or dropdown: Clicking the arrow on the right will drop a scrollable list.	
Tabs or tab collection: When prompted to select a tab the caption text will appear as follows: Select the **Find Equipment** tab.	
Property List: Information about the active property is displayed at the bottom of the list. Highlighting a property causes it to enter edit mode. You can then enter data in the field on the right. Please Note: the field on the right-hand side of the property list may be referred to as a textbox, combo or dropdown	

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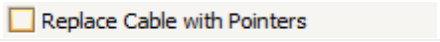
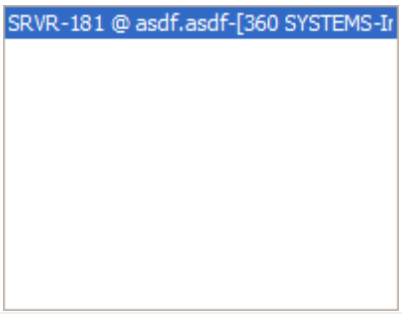
depending on its type and function.	
Ellipsis button: Pressing this button in what ever the current context will bring up a context sensitive dialog.	
Checkbox	
Listbox	

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1.3 Software Activation

WireCAD v8 offers 4 program levels:

XL FREE, XLT, PRO, and ENTerprise. XLT, PRO and ENTerprise require authorization keys in order to activate that level of the software. An activation key is all that is required to change program levels. If you have questions about the licensing scheme click here 23.

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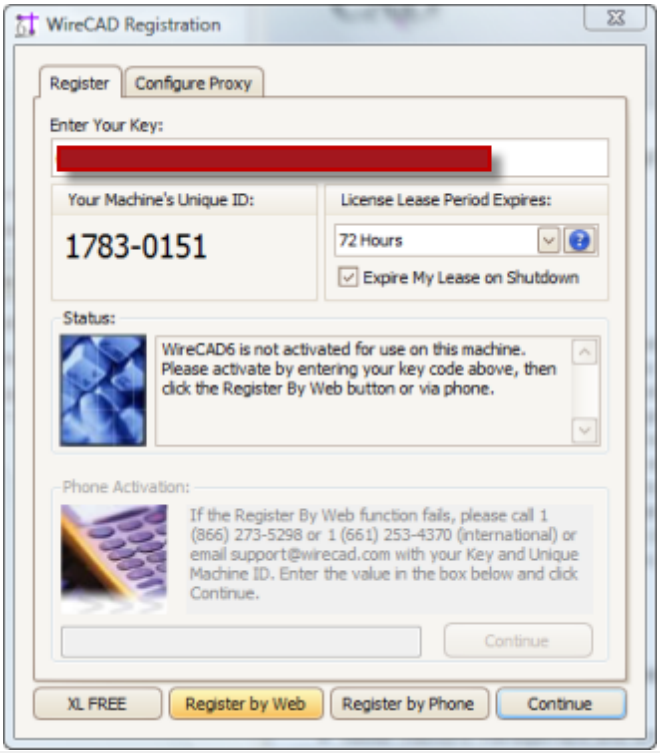
Activation

Integral to WireCAD is the ability to have a single authorization key activate multiple concurrent machines if your organization has paid for more than one seat. By default, when you purchase a seat of WireCAD your license count for your key will be set to 1 (one). operational.



This will allow 1 (one) machine to be active at a time. You may install WireCAD on any number of machines throughout your organization; However, only one (or your license count) machine will be active at any given time.

Floating License Lease

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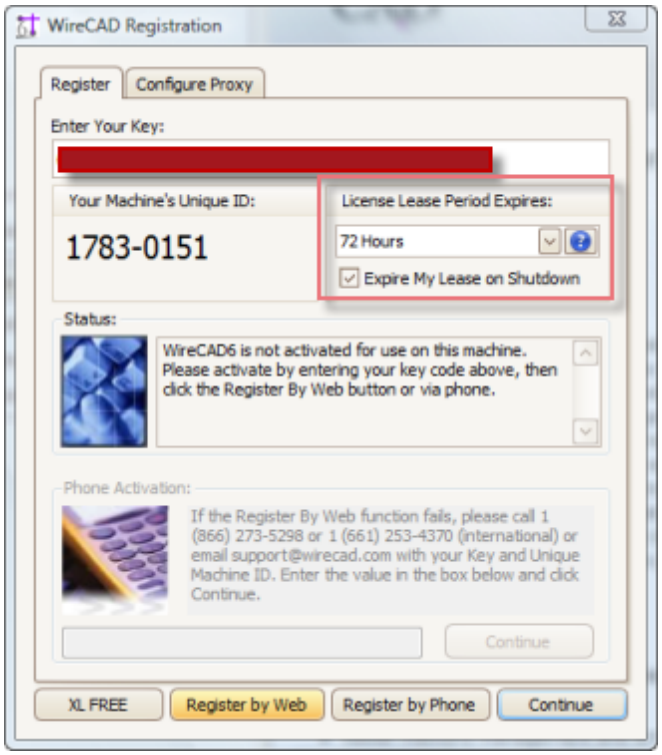
Activation

The mechanism by which we float licenses is the license lease. Leases have expiration periods of 24, 48, 72, 168 hours and Never. During the activation of your software you will be prompted to pick a lease period. The lease period is period during which the software will run while being disconnected from the web. When you activate the software you are prompted for a lease length.



Once activated the application will run for the lease period. If you close the application while connected to the internet you will expire the lease; thus making it available to another machine. Upon application startup the license is validated and a lease is acquired automatically if web connected. If you cannot connect to the web you will need to phone WireCAD support at:

1 661.253.4370 international.

1 866.273.5298 US and Canada toll free.

How To: Activate WireCAD

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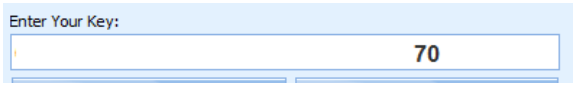
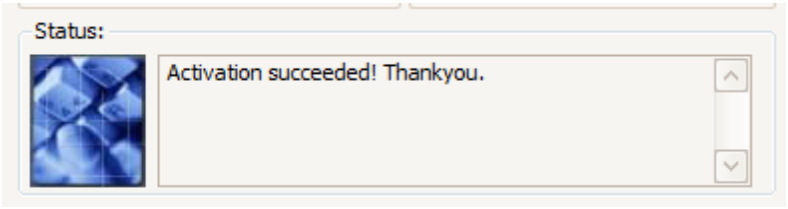
Activation

Enter your authorization key (it's the really long one that ends in 70. If you fail to enter the key correctly you will not be able to proceed.	• 
If you are web connected click the **[Register By Web]** button. If everything goes well you will see this message in the **Status** window.	
If you are not web connected you will need to call us at: 1 661.253.4370 international. 1 866.273.5298 US and Canada toll free. Click the **[Register by Phone]** button.	

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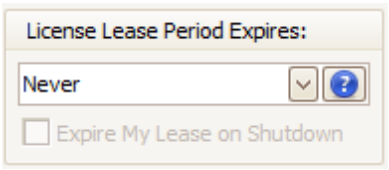
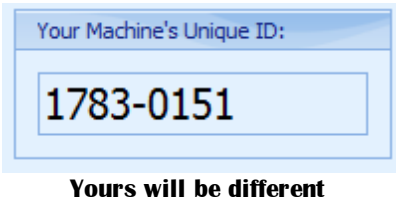
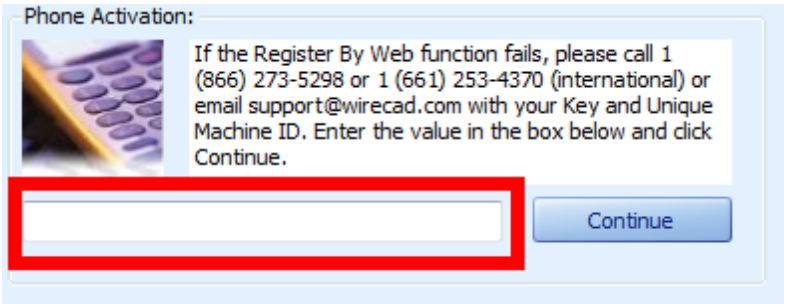
Activation

You will be prompted by the WireCAD technician to set **Lease Period** to Never.	
The WireCAD technician will ask for your authorization key (it's the long one) **and** your **Machine ID**.	 **Yours will be different**
The WireCAD technician will then read a series of numbers to you. Enter these in the Register by Phone text box. Next click the **[Continue]** button. You will receive a message box indicating the success of the activation.	

Troubleshooting Activation

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Activation

The following are a few reasons your activation by web will fail:

1. Not connected
2. Lease already in use by another machine
3. Authorization key abuse
4. Authorization key not found in the database
5. Your machine Date/Time is more than twenty four hours out of sync with our web server (UTC).

If you wish to avoid the floating license scheme simply select Never as the lease length during activation. You will then lock the authorization key to that machine.

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1.4 License Agreement

License Agreement

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LIMITED WARRANTY

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1.5 Licensing FAQ

The following are some frequently asked questions about the WireCAD licensing scheme.

Q: Does WireCAD support floating licenses

A: Yes, if you choose to use the function it is built in to both XLT, PRO and ENT. You may disable this feature by selecting the Never expire option on the License Lease Period dropdown at activation time. Choosing to do so limits that Authorization Key to that machine only.

Q: How many machines can I install WireCAD on?

A: You may install WireCAD on any number of machines. You will only be able to launch WireCAD on as many machines as your license count supports. The default license count is 1. If you wish to purchase additional licenses you may want to consult with your WireCAD sales professional who will help you decide the best course of action.

Q: I have a laptop and a desktop WireCAD used to let me install on both. How come I have to choose?

A: You don't. WireCAD will still install on both. It will only run on one at a time.

Q: What happens if my machine dies?

A: If your machine dies and you are using the floating license scheme, one of two things will happen:

1. **Install WireCAD on the new machine an wait for your lease to expire in what ever lease expiration period you selected (not optimum, but serviceable).**
2. **Call the WireCAD sales team. They can manually expire the lease for you. You will need your authorization key and company name, as well as the machine name of the machine that died.**

Q: I am not connected to the internet very often, can I still use the floating license scheme?

A: We recommend that you use the floating license scheme only if you are regularly connected to the web

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Q: I am going on-site. How to I ensure that my copy of WireCAD will stay active while I am disconnected from the web?

A: If you are using the floating license scheme and you know that you will need to be occasionally connected for a short period of time (one week or less). Click Application Menu > Settings[Application Settings] set the Release License on Shutdown to false. This will ensure that only your machine has the license for up to the lease period. If you are not sure how long you will be gone, follow this procedure:

1. **Click Help>Control Software Activation.**
2. **Click [De-activate this Copy of WireCAD]. You need to be web connected. Make sure that the server responds that the license has been successfully released.**
3. **Set the License Lease Period dropdown to Never.**
4. **Click [Register by Web].**

WireCAD will not require a web connection to start.

Q: What are the benefits of the Assurance Subscription?

A: A current Assurance subscription gives you the following premium benefits :

- **Free major and minor version upgrades and hotfixes.**
- **Priority technical support.**
- **New samples, tips and how-to topics from time-to-time.**
- **Discounts on training.**
- **Access to beta products.**
- **Assurance Price Lock guarantees that your annual Assurance rate will not increase year-to-year as long as you remain current.**

Q: Does the license expire if the Assurance Subscription expires?

A: No. Your licence does not expire even if your Assurance expires. You can use the products indefinitely even after the Assurance subscription expires.

Q: How long does my Assurance Subscription remain valid?

A:Your subscription duration is for 1 year from date of purchase or renewal.

Q: My Assurance Subscription is about to expire. What should I do?

A:You must renew your subscription to continue to receive the latest versions for free along

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with all the other benefits of the subscription. To renew your Assurance, contact sales@wirecad.com.

Note that you may or may not receive notifications from Holbrook Enterprises, Inc. dba WireCAD about the pending expiration of your subscription. It is your responsibility to renew your subscription when it is about to expire. You can renew your subscription as early as you want or opt for a monthly credit card payment.

Q: When can I renew my subscription?

A:You must renew your subscription before the expiration of your current subscription You can renew your subscription anytime before your current subscription has expired; you will not lose any days as the new subscription will come into effect on the day your current subscription ends. In effect, your current subscription will be extended by 1 year.

If you do not renew your subscription before the expiry of your current subscription, your subscription is considered as lapsed and you will not be eligible for free upgrades and other benefits anymore.

Q: My Assurance subscription has lapsed. How can I get the latest version?

A:Maintaining your Assurance subscription and renewing your subscription each year to keep it current is the best and the most cost-effective way to receive all new major and minor versions as they are released. In case your subscription has lapsed and you want to upgrade to the latest version you may simply renew your Assurance subscription at the current rates.

Q: Do you offer academic discounts?

A: We do have academic discounts if WireCAD will be used for education/research purposes. Please contact sales@wirecad.com for more information.

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Part II

2 WireCAD XL, XLT, PRO

2.1 Getting Started

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Assigning Cable Numbers 65
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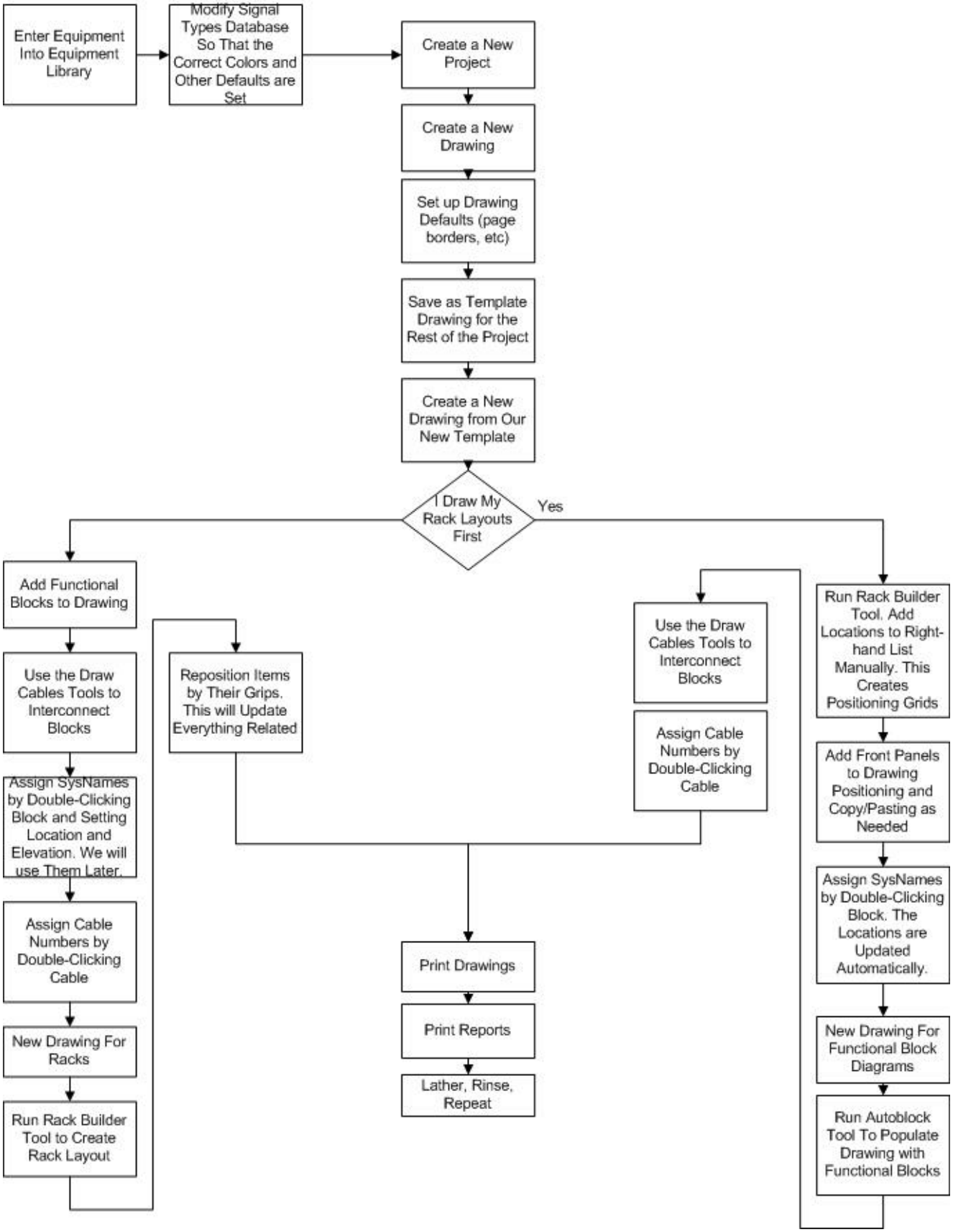

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2.1.1 Setting Up Your Global Data

Menu: **Several**

Default command line shortcut: **le**

WireCAD maintains a global database with tables representing Manufacturers, Equipment, Signal Types, Connectors, Etc.

Getting started with WireCAD entails setting up the global databases to fit your needs. While the database is populated with data you may find that it suits your needs to purge the data and start fresh. If this is the case we can provide empty databases. At the very least you will want to set up the Signal Types grid with your defaults.

Next you will customize the Equipment Library with the products and IO that you use. In order to do this, you may either download existing products from the WireCAD Community Server or enter your own 34.

Applies To:

All product levels

Related Settings:

None

Manufacturers - The topmost table in the heirarchy
- **Equipment** - The Equipment description
  - **Inputs** - inputs of a device
  - **Outputs** - outputs of a device

Signal Types - signal types and a bunch of defaults.
Connectors - connector types.
Pinouts - pin out definitions (data).
Color Codes - color code lookup. Used by Cable Types.
Cable Types - cable type information.
- **Cable Cores** - cores or conductor data for a cable type.

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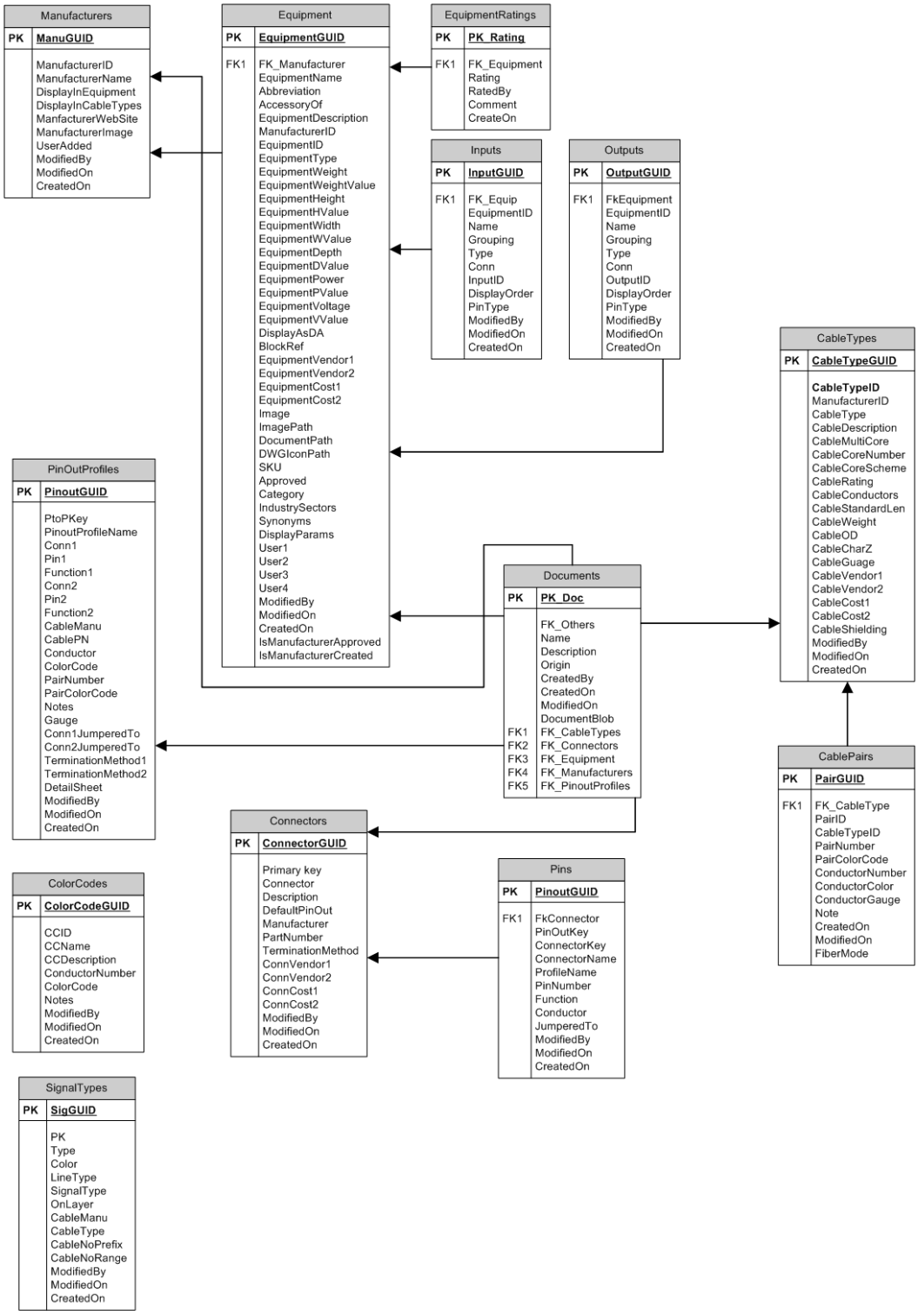

Global Equipment Library Schema (abrv)

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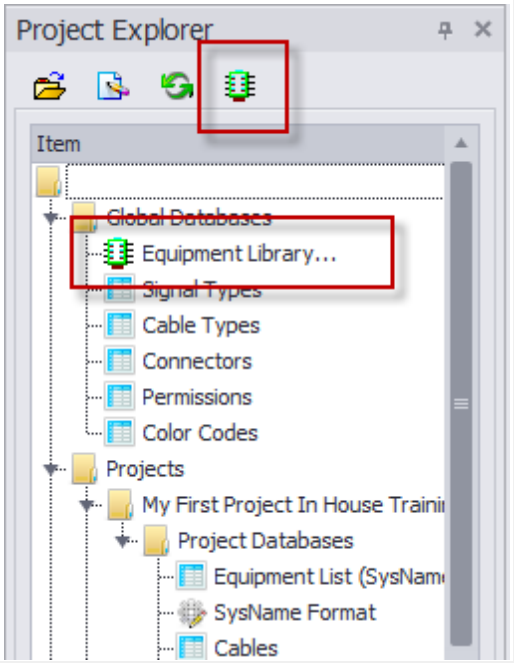
How to Access the Equipment Library

Equipment Library Access

The Project Explorer The Project Explorer allows access to some of the global data grids. You can also access all of the these grids from the **Database** menu.	
Database>Equipment Library	Opens the Equipment Library where you will do most of your work.
With an active drawing the Equipment Library can also be opened from: **Advanced Tools>Equipment Library**	

2.1.2 Equipment Library

Menu: **Database>Equipment Library** Menu: **Advanced Tools>Equipment Library** Default command line shortcut: **LE**	**Applies To:** All product levels **Related Settings:** None

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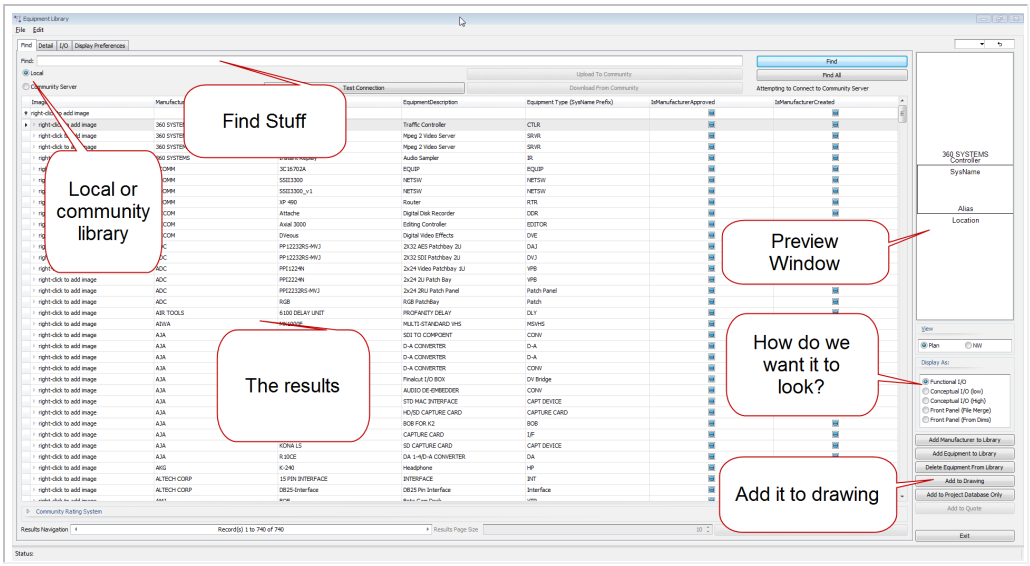
The WireCAD Equipment Library is where you will spend a fair amount of time as you get define equipment that you will use in your designs. This is also where we come to create CAD blocks in our drawings. There are many settings here that let you customize appearance. This chapter is the basics.

Equipment Library

Find Tab

Find equipment definitions in the global database or the Community Server.

Preview the block before adding 43 to drawing.



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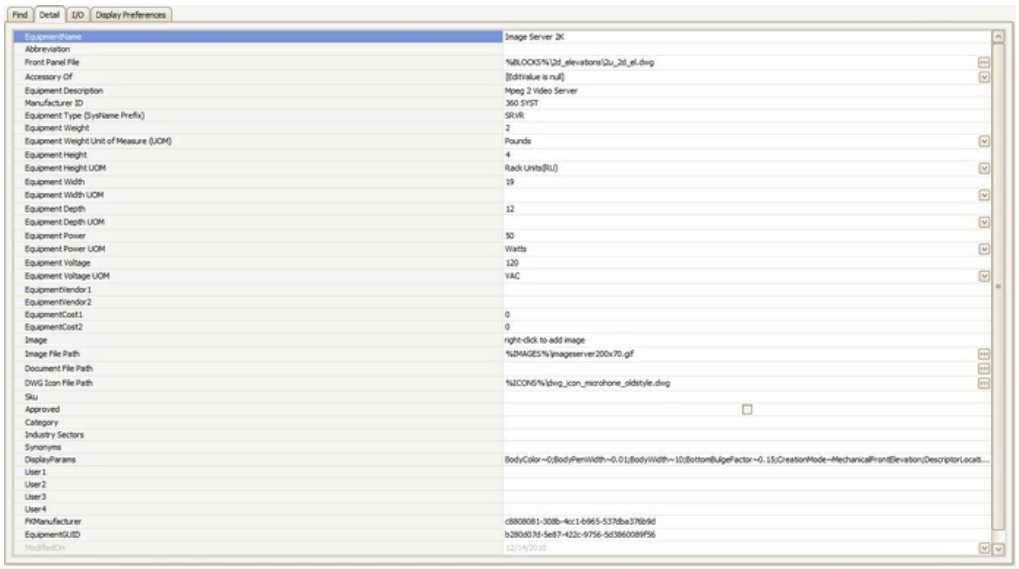
Equipment Library

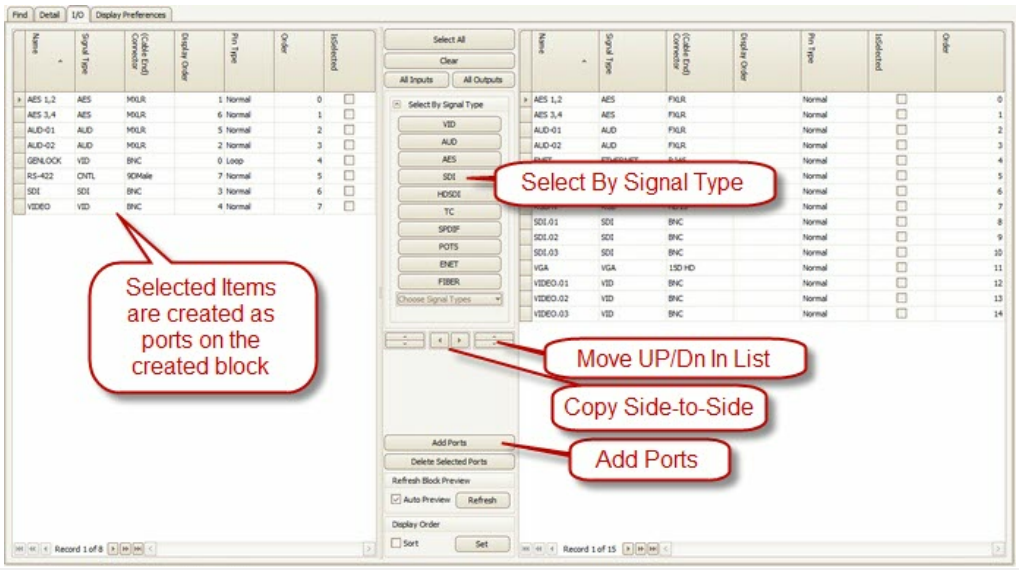
Detail Tab

Edit details. Associate with external files.



IO Tab

Add 37, edit, select IO to display in created block.



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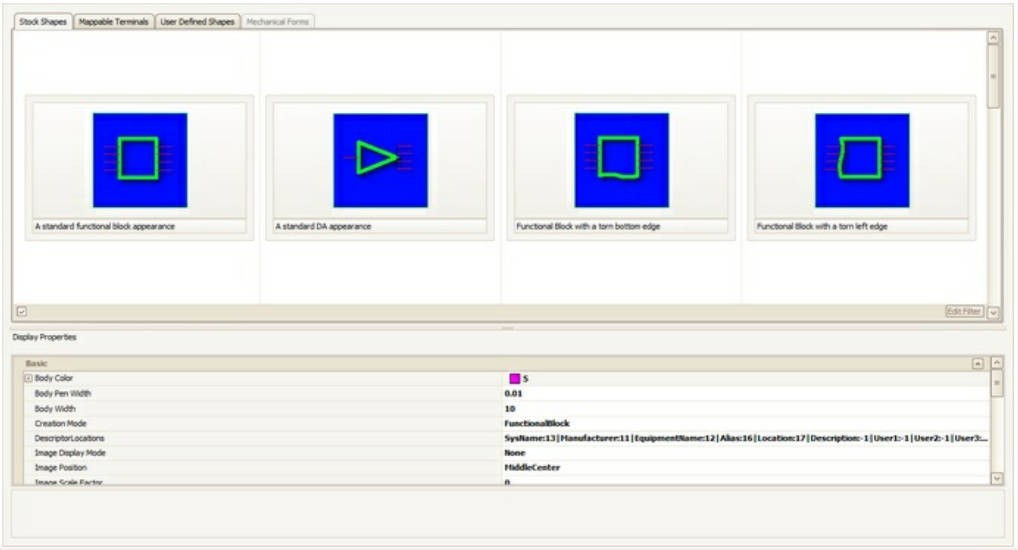
Equipment Library

Display Preferences

Controls the appearance of the created block.



2.1.3 Creating a New Equipment Definition

Menu: **Database>Equipment Library[Add Equipment to Library]**

Default command line shortcut: **le**

Create a new equipment definition from which to create functional blocks, rack panels, etc.

Applies To:

All product levels

Related Settings:

None

How To: Add Equipment to the Library

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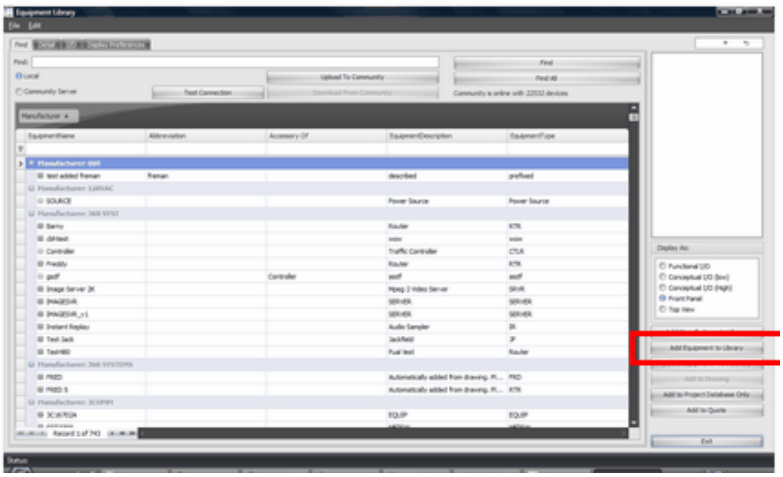
Add Equipment to Library

Click **Database>Equipment Library**

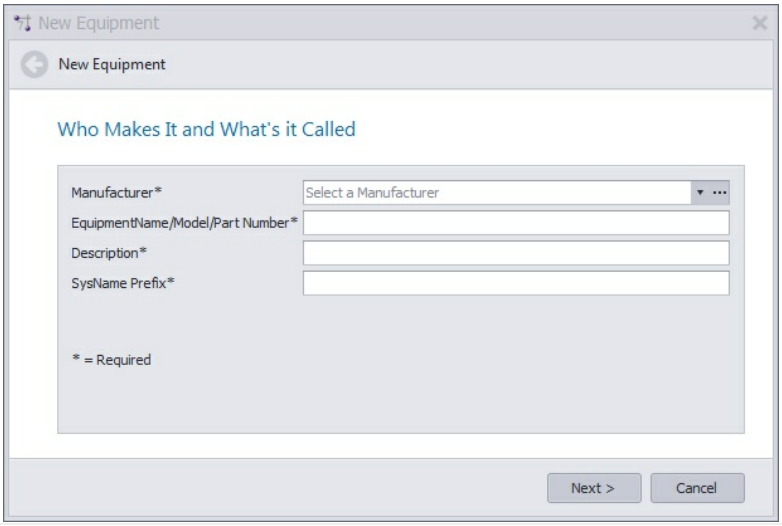
Click **[Add Equipment to Library]**



Select or add a **Manufacturer**.

Enter **model/pn/ name**, **description**, etc.

Click **[Next >]**



There is always some confusion about the **SysName Prefix** (Equipment Type) field. Consider the following:

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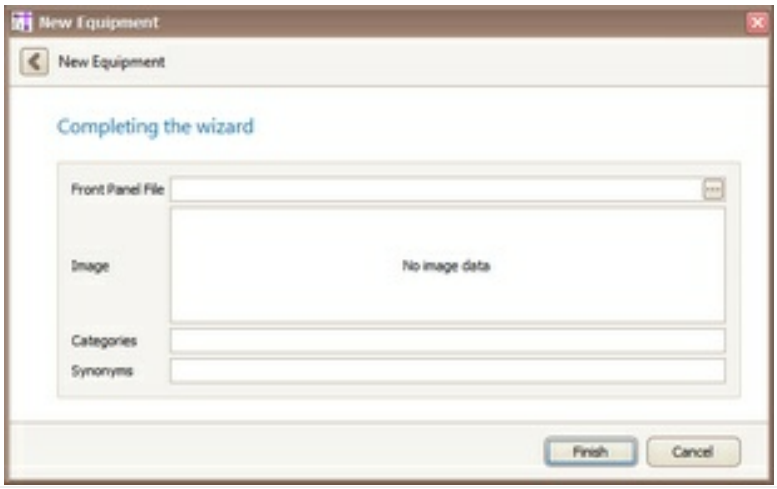
Add Equipment to Library

We have two types of video server -model A and model B - that use similar wiring. We may consider using the **SysName Prefix** - SRVR. Anytime we create an instance of one of these we they will be SRVR-01, SRVR-02, and SRVR-0n. Now consider that model A is not available to use and that we have to install model b instead. No problem. Because they "harness" is named SRVR-n we can interchange Make and Model as needed.

This page is optional, but we recommend filling in the **Front Panel File** field

Click **[Next >]** to add the new definition



Filling in the Front Panel File field will make the Rack Builder tool work. Leave it empty and you may be frustrated later.

Next we will add some Inputs and Outputs

Add the I/O by selecting the I/O tab

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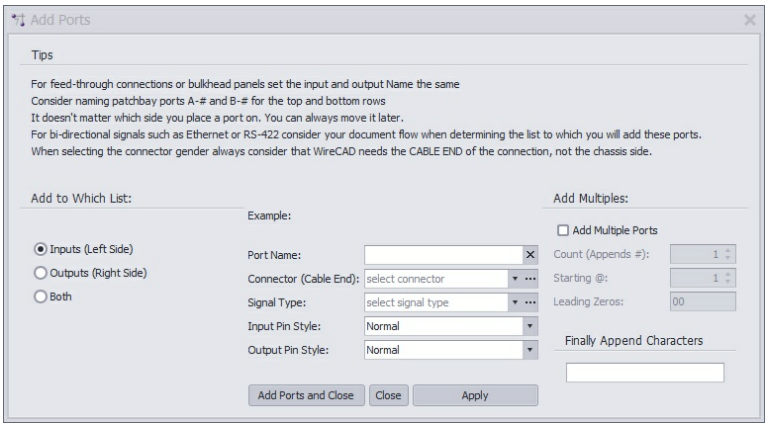
Add Equipment to Library

Click **[Add Ports]**. The Add Ports dialog will appear.

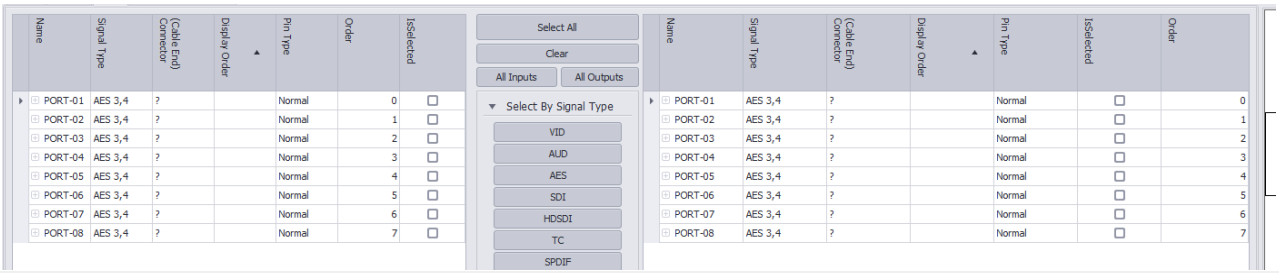
Enter a port name, connector, signal type

Select **Inputs**, **Outputs** table or **Both**

Click **[Add Ports and Close]** or **[Apply]** (if you want to leave the form open).



Try adding multiple ports. Enter "PORT-" (leave off the quotes). Select any Connector and Signal Type. Select the **BOTH** radio button to add to both lists. Now Check the **Add Multiple Ports** box and enter a **Count** of 8. Click **[Add Ports and Close]**. See below.



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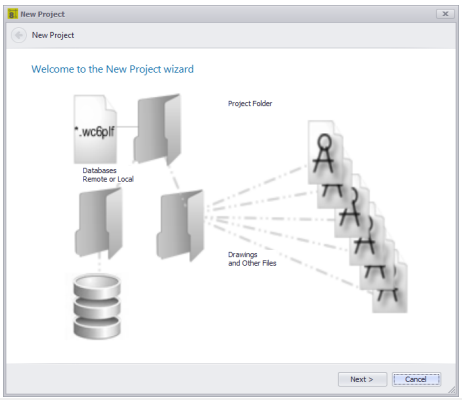
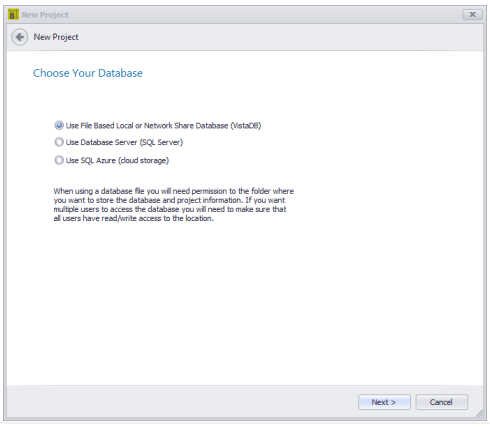
2.1.4 Creating a New Project

Menu: **Application Menu > New Project** Default command line shortcut: **np** Create a new WireCAD Project structure. This involves folder structures on your operating system as well as databases and support files.	**Applies To:** All product levels **Related Settings:** None

WireCAD can create projects with a number of different database formats. You may choose to create a new project using file based databases for their zero admin capabilities, or SQL Server for an enterprise installation.

How To: Create a New Project

Create a New Project

Click **Application Menu > New Project** Click **[Next >]**	
Select the type of database you wish to use and Click **[Next >]**	

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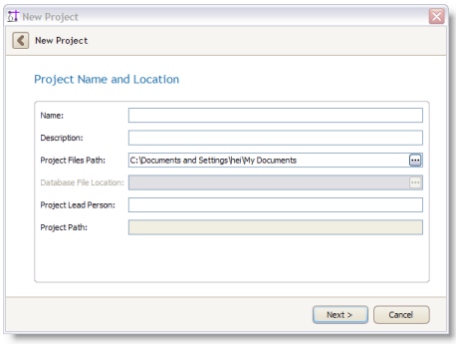
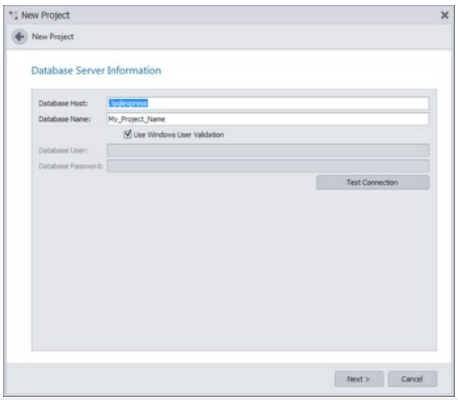
Create a New Project

Enter the Name for the new project. This must follow file naming conventions because we are going to make a folder out of the name and in the Project Path that you choose. Click **[Next >]**



NOTE: We recommend NOT using the possessive **'** ie Bob's Project. The ' character is the SQL escape character and though we rarely use it in WireCAD it can cause some queries to fail.

If using SQL databases enter the host information. Click **[Next >]**



NOTE: SQL project names cannot begin with a numeral.

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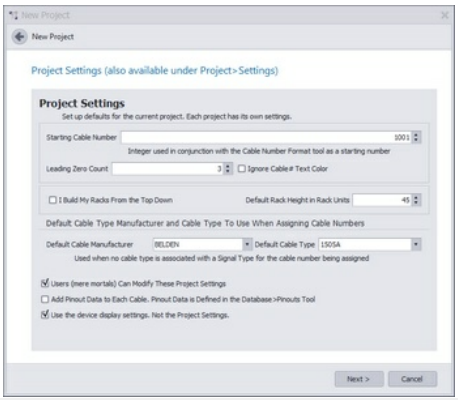
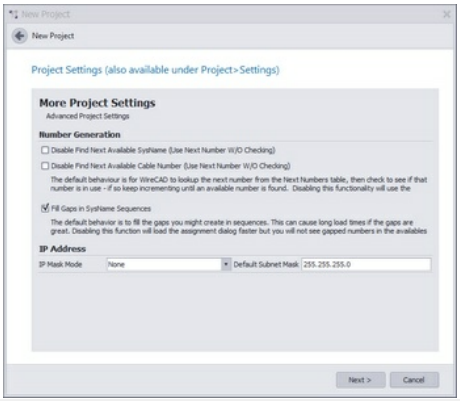
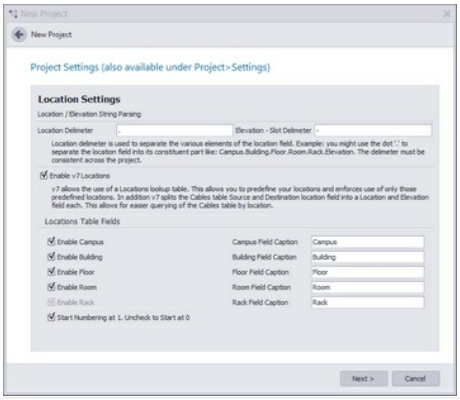
Create a New Project

Define some of your project preferences. Here you set your base Starting Cable Number for all sequences. Click **[Next >]**	
By default the Next Numbers table will suggest and test the next number. If that number is in use, the **Next Numbers** table is incremented and tested until an available number is found. This behaviour can be overridden to force the usage of the number in the Next Numbers table without testing for existence. To do this Check the **Disable Find Next Available .....**Click **[Next >]**	
Enabling Locations Lookup causes a subtle change in the SysName Assignment process. You will no longer be able to just type a location but rather will select your predefined locations from a drop-down list. If you wish to work as you have in previous versions of WireCAD disable **Locations Locations Lookup**.Click **[Next >]**	
Click **[Next >].** Review and click **[Finish]**	

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2.1.5 Creating a New Drawing

Menu: **File>New Drawing, Project Explorer\Current Project\New Drawing**

Default command line shortcut: **nd**
Create a new drawing based on a drawing template, with or without model space boundaries.

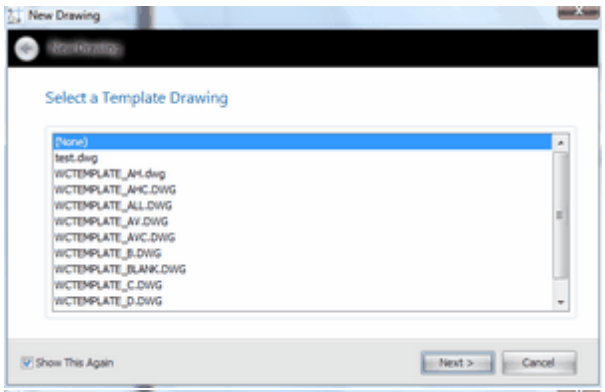
Applies To:
All product levels

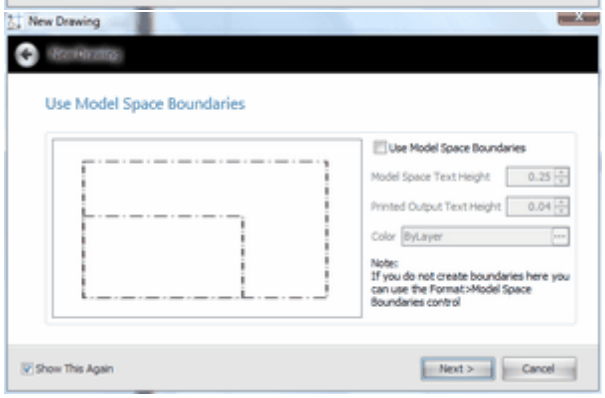
Related Settings:
Show New Drawing Wizard = true

How To: Create a new drawing using the wizard

New Drawing Wizard

1. Click **File>New Drawing**
2. Select a template drawing from which to start
3. Click **[Next >]**
4. Select boundary settings
5. Click **[Next >]** to finish





Template drawings are drawings that have been saved in the template drawings folder and already have entities such as page borders, layouts and viewports added to them.

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New Drawing Wizard

Create Model Space Boundaries. The Model Space Boundaries function takes two arguments, the **Model Space Text Height** and the desired **Printed Output Text Height.** Using these two variables in conjunction with the size of the Viewports in each Layout to create boundary rectangles in the Model space. Each boundary is accompanied by a text description that describes the Viewport and to which the boundary applies as well as the **text heights** and **scale factor.**

Note: You can add **Model Space Boundaries** later using the **Format>Boundaries** function

The final step is to name the drawing.

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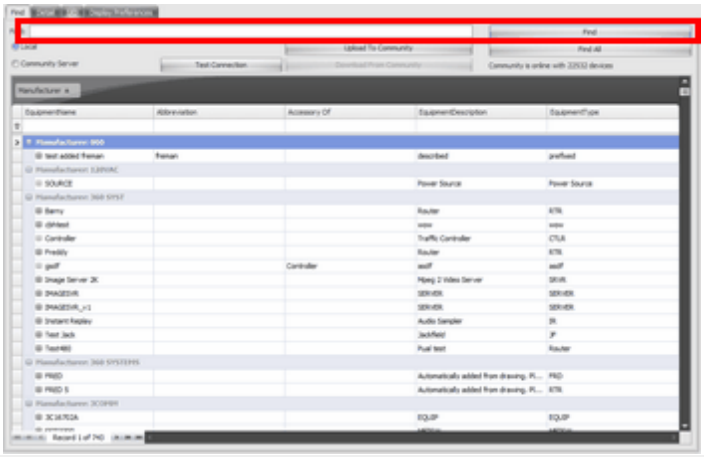
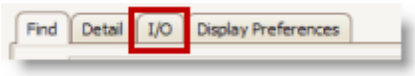
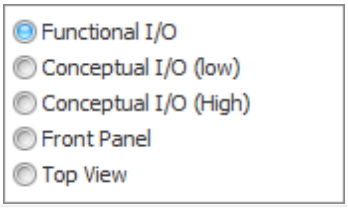
2.1.6 Adding Equipment to Drawings

Menu: **Database>Equipment Library [Add to Drawing]** Default command line shortcut: **Ie** Create a new equipment block from the library and add it to the current drawing.	**Applies To:** All product levels **Related Settings:** None

How To: Add Equipment to Drawings

Adding Equipment to the Drawing

Find and select the equipment definition from the Equipment Library.	
Select the IO you want to display in the drawing	
Select the Display mode	

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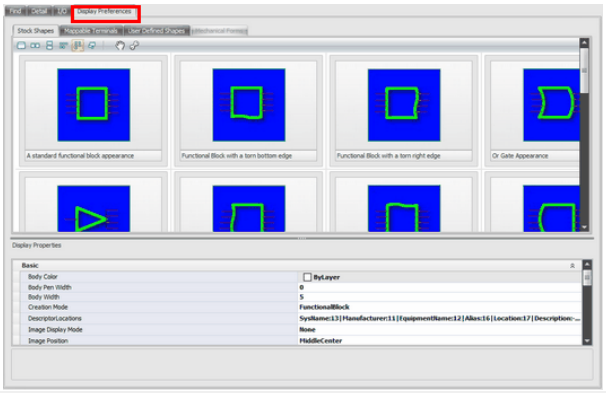
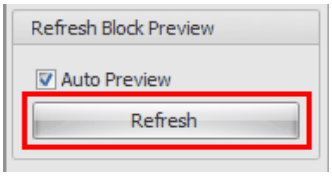
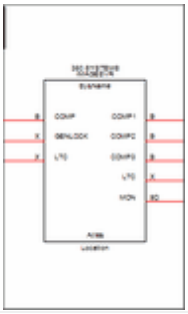
Adding Equipment to the Drawing

Select the Display Preferences. Everything is parametric. There are settings for Body Width, Pin Spacing, Color, etc.	
If the **Auto Preview** function is not set, you may wish to click the Refresh button (either above the preview window or on the **IO** tab).	**or** 
Click **[Add to Drawing]** (requires an active drawing).	
Place the newly created block in the drawing.	

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2.1.7 Drawing Cables

WireCAD provides a series of tools to draw cables. The only rule that this version of WireCAD imposes is that you must draw from one WireCAD device to another. You cannot draw a cable representing a spare that connects to nothing.

WireCAD provides a cable auto-routing tool that automatically routes the cable around other devices and, if selected, avoids other cables. The auto-router will always find a path for the cable, even if it means that the cable is drawn through another device or must overlay another cable. If you do not like the way a cable is routed, you have two choices; first: manually drawing the cable by selecting Manual Draw, second: select the cable and grab a grip on the cable and move it around.

If you manually draw cables or otherwise put them where you want them and them move a device, the auto-router will be invoked and re-route all your changes.

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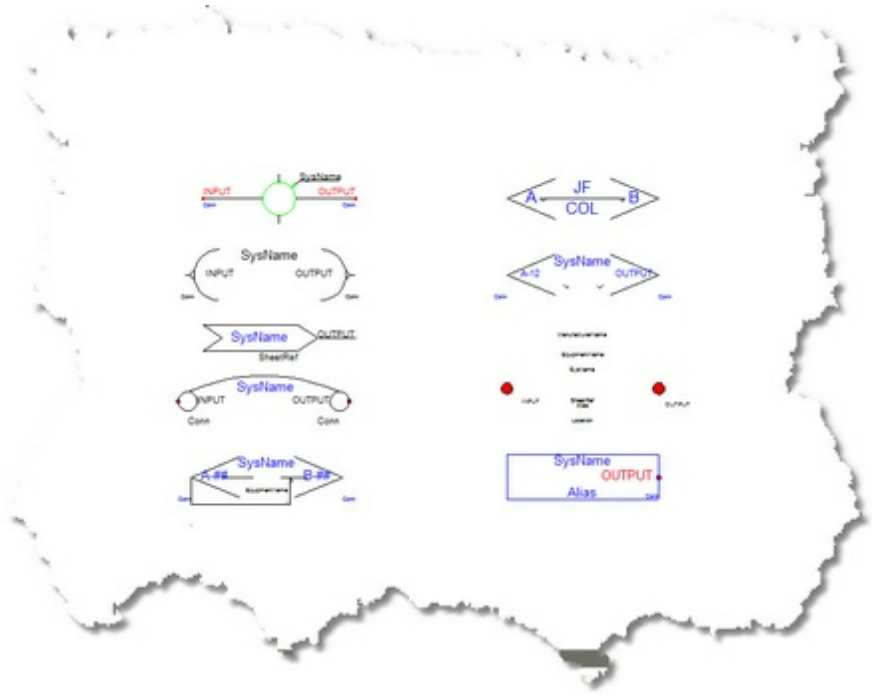
WireCAD Cable Terminology

Devices have inputs and outputs, Cables have sources and destinations.

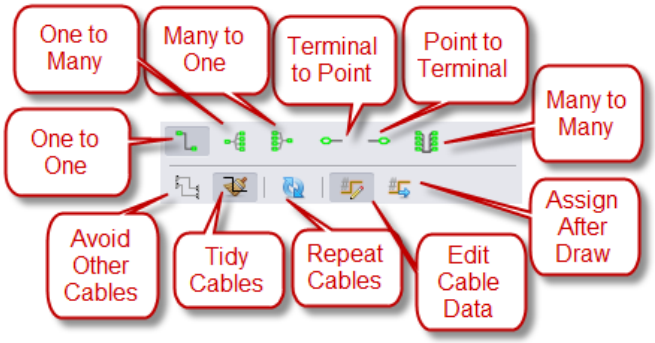
For purposes of this manual we will refer to Jacks, Junction Boxes, Router Crosspoints, Bulkhead connectors, and On-Sheet/Off-Sheet Pointers collectively as terminals

Terminals:



Terminals

Draw Cables Control Descriptions

Item	Description
Draw Cable Toolbar	
	

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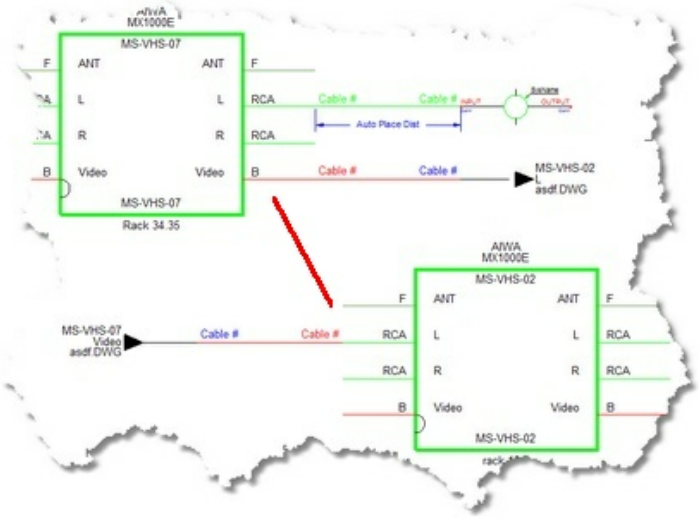
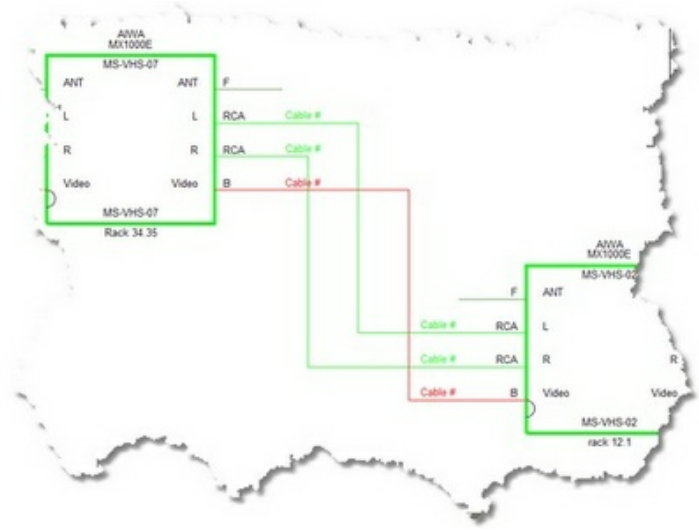
Item	Description
One-to-One Cable	Used to draw from one output to one input
Cable Text Height	The Cable# text entity height in 100/DU.
Replace Cable with Pointers checkbox	Automatically draw Pointers instead of cables. 
Manual Draw checkbox	Draw every point in the cable.
Avoid Other Cables checkbox	Allows cables to overlay each other. **True =** 

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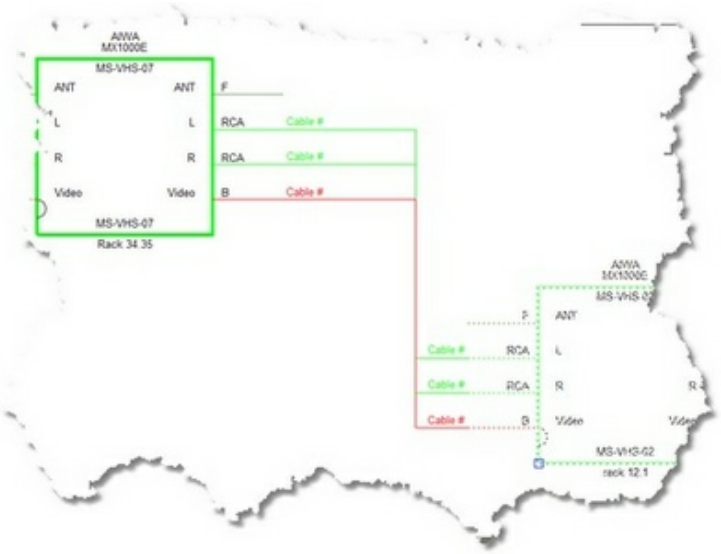
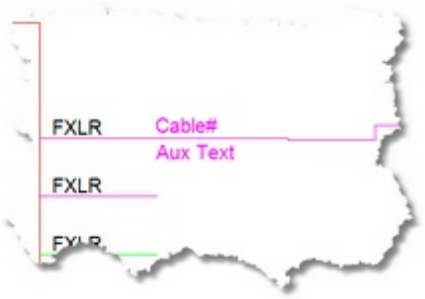
Item	Description
	False = 
Aux Text Enable	Enable the placement of Aux Text.
Aux Text Height	The height in 100/DU of the Aux Text.
Location	The position of the Aux Text relative to the cable polyline. **Over** - positioned over the cable polyline. **Under** - positioned under the cable polyline. **Bubble** - Not yet supported. 

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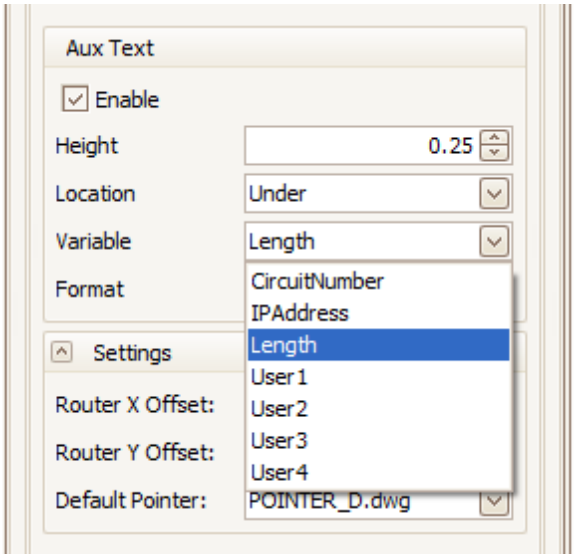
Item	Description
Variable	You may choose to populate the Aux Text with the following variables:  **CircuitNumber** - The Circuit Number as entered in the Cable Edit Dialog. **IPAddreess** - Not yet implemented. **Length** - The Length field as entered in the Cable Edit Dialog. **User1** - The User1 as entered in the Cable Edit Dialog. **User2** - The User2 as entered in the Cable Edit Dialog. **User3** - The User3 as entered in the Cable Edit Dialog. **User4** - The User4 as entered in the Cable Edit Dialog.
Format	**{0}** represents the data from the selected variable. Example: the incoming data from the selected variable is 300 and you want to format it to represent meters to the reader. Your format field would be {0}m. The output would be formatted as 300m.

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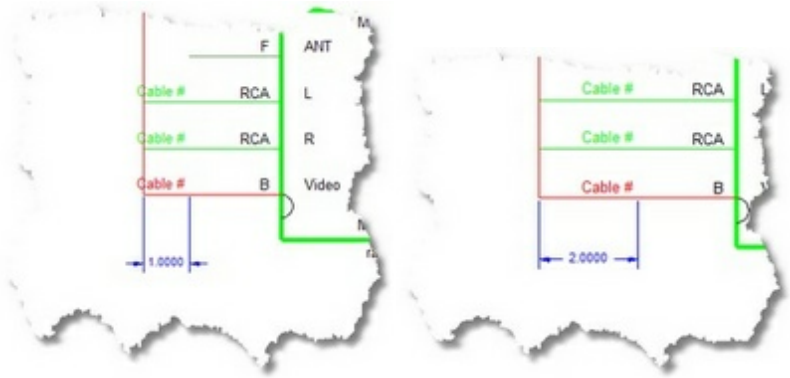
Item	Description
X Offset	Horizontal auto-router offset. When drawing cables, WireCAD uses an auto-routine algorithm. The X Offset determines how far away horizontally from other equipment and cables a new cable will rout. 
Y Offset	Vertical auto-router offset. When drawing cables, WireCAD uses an auto-routine algorithm. The Y Offset determines how far away Vertically from other equipment and cables a new cable will rout.
Default Pointer	Select the pointer to use when replacing cable with pointers
One-to-Many Cable	
Explanation	Used to indicate one output to many inputs

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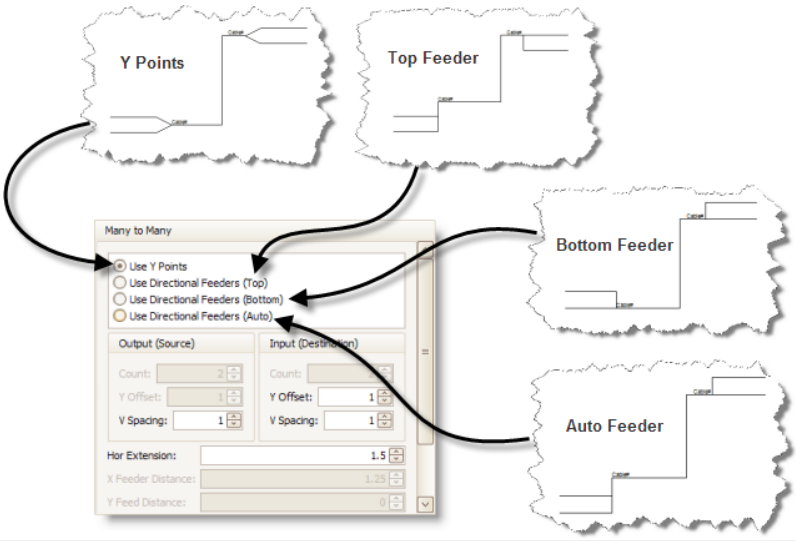
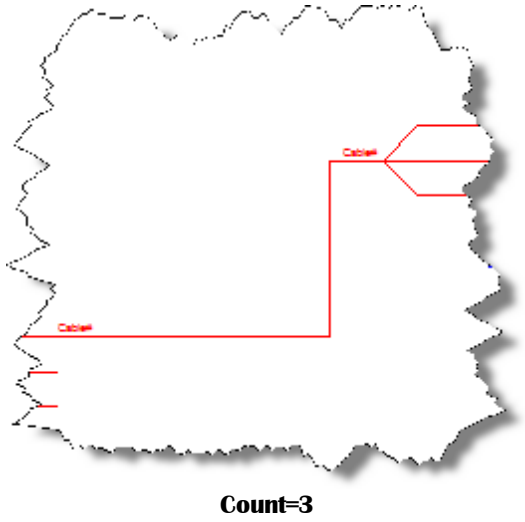
Item	Description
Feeder selection	
Count	Destination count 

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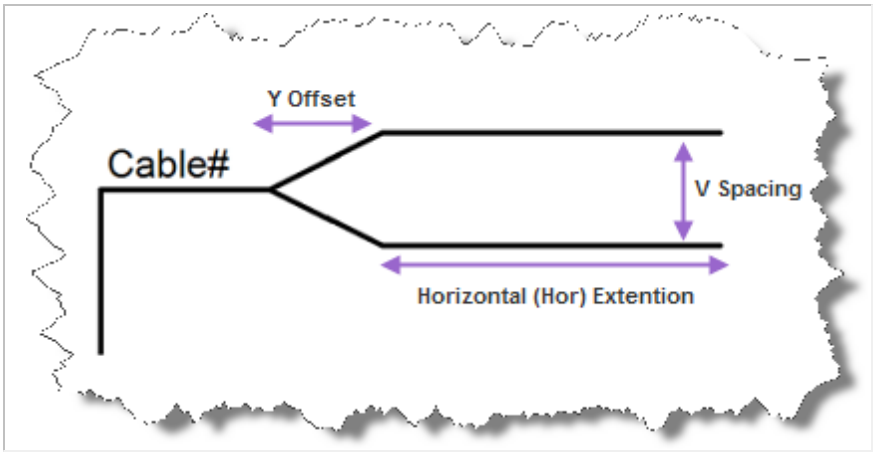
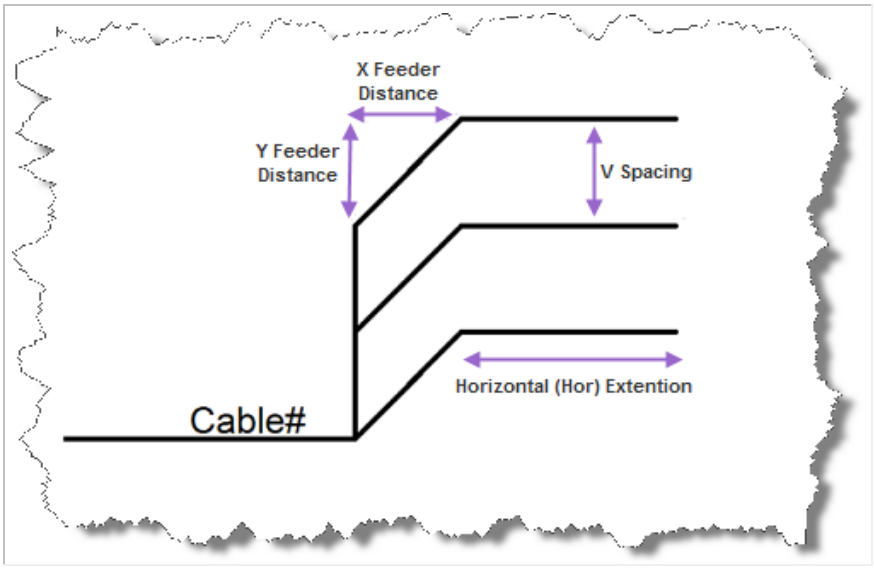
Item	Description
Y offset, Y Spacing, Hor Extension in 100/DU	
Feeder distances in 100/DU	
One Cable Database Entry	Adds a single entry in the cables database and one Cable# text entity at the Y point.

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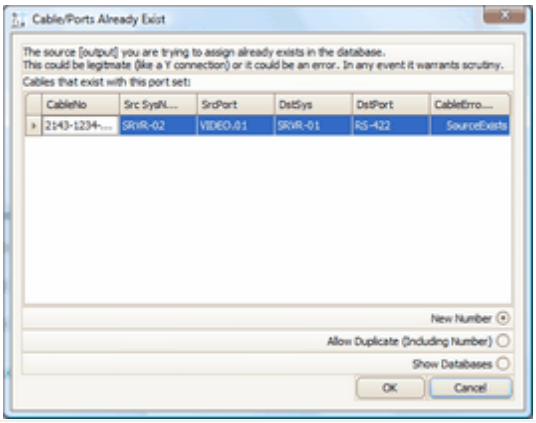
Item	Description
Many Cable Database Entries	Adds a many entries in the cables database and many Cable# text entity at the connection points. Note: One-to-Many and Many-to-One cables set to Many Cable Database Entries will assign the connection point closest to the cursor when the cable is double-clicked. The first assignment on the cable will enter the database as expected, subsequent assignments will display the Existing Ports dialog prompting you to decide how to number the cables. 
Many-to-One Cable	
Explanation	Multiple outputs to one input

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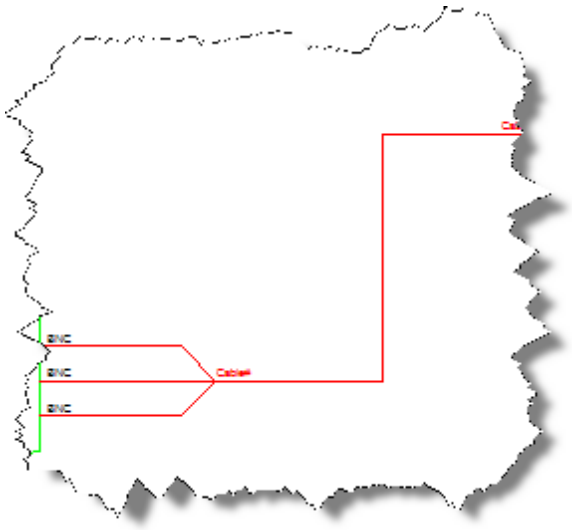
Item	Description
Count	Source count  **count=3**
More information	See above for a description of other settings
Many-to-Many Cable	
Explanation	Many-to-Many cables behave like a buss. They are a collection of one-to-one cable drawn as a single polyline. When assigning cable numbers the connection point closest to the cursor is used. See the above descriptions for more information about settings.
Count	Source and destination count

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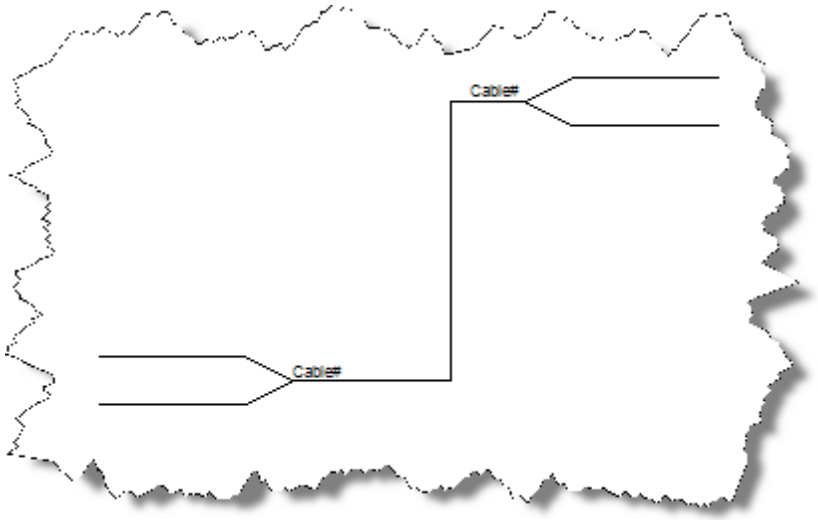
Item	Description
	 **Count = 2** **Y feeder**
Terminal as Source Window	

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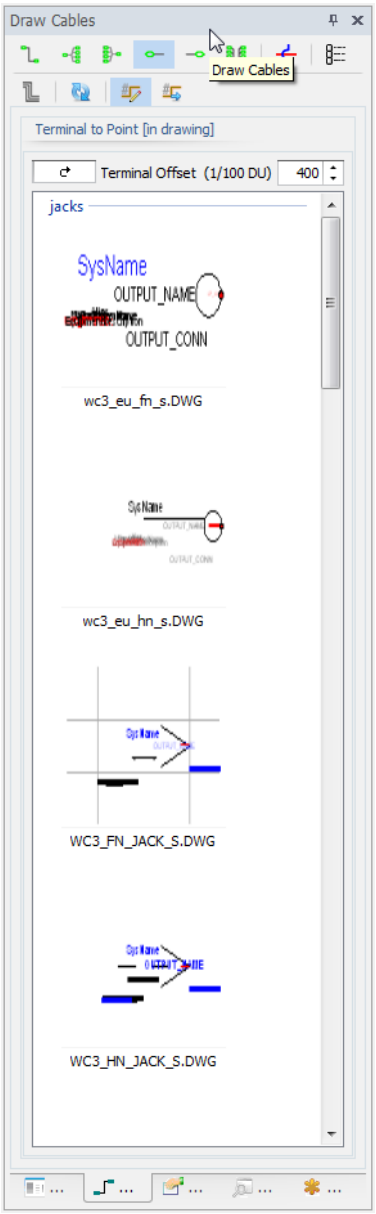
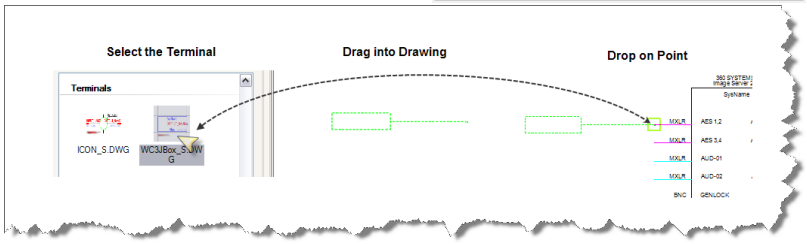
Item	Description
Displays the available Terminals sorted by Terminal style (Jack, Terminal, Pointer). Note: Terminal file suffixes determine whether the file will be displayed in this window. Files having a _SD.DWG, or _S.DWG suffix will appear in this view.	 

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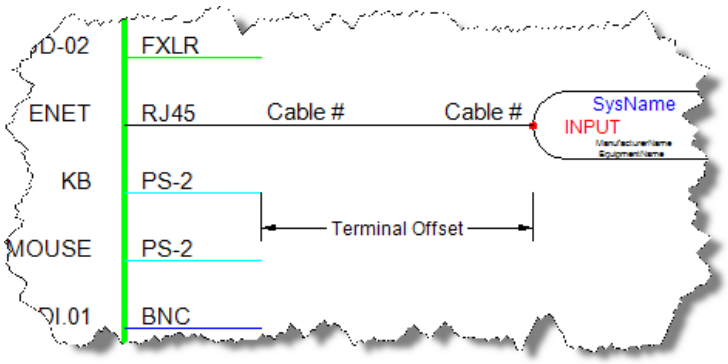
Item	Description
Terminal Offset	Sets the distance between the connection point and the terminal basepoint 
Terminal as Destination Window	

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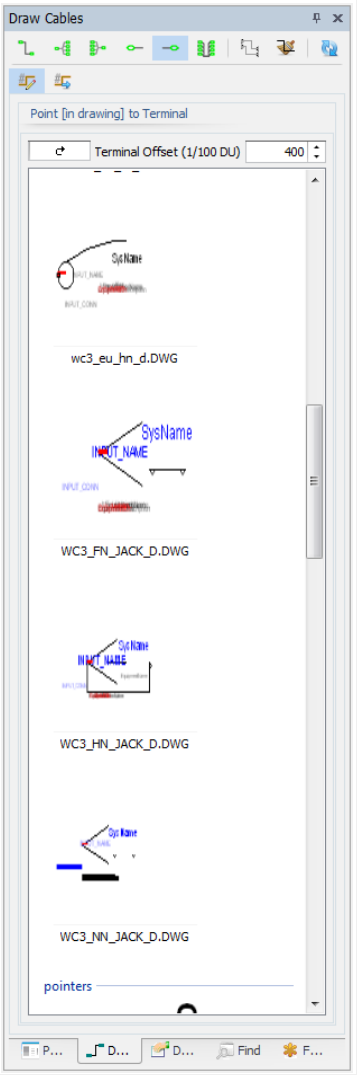
Item	Description
Displays the available Terminals sorted by Terminal style (Jack, Terminal, Pointer). Note: Terminal file suffixes determine whether the file will be displayed in this window. Files having a _SD.DWG, or _D.DWG suffix will appear in this view.	
Terminal Offset	see above
Avoid Other Calbles	instructs the cable auto-router to avoid other cables.

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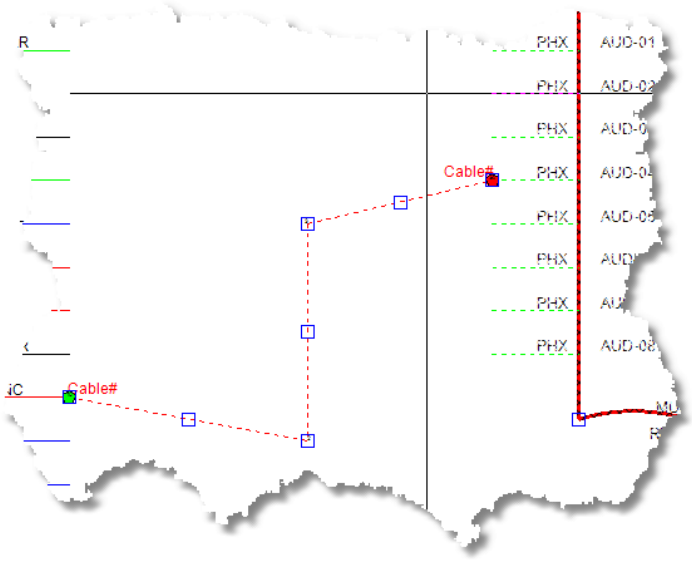
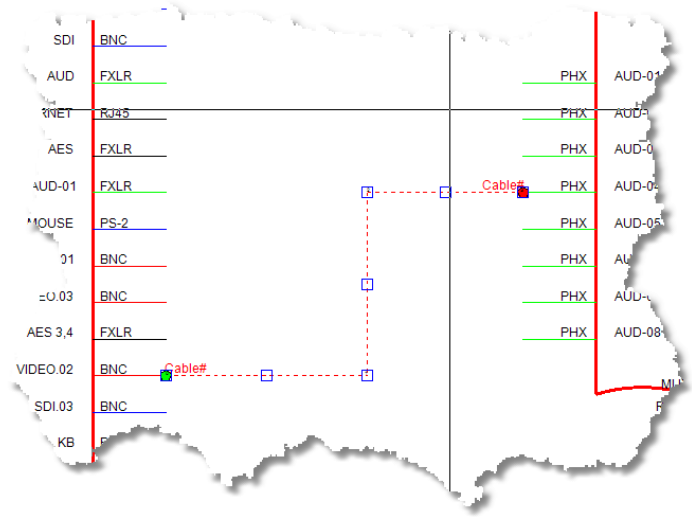
Item	Description
Tidy Cables	After moving a grip on a cable the cable is forced ortho.  **Before Tidy**  **Tidy After**

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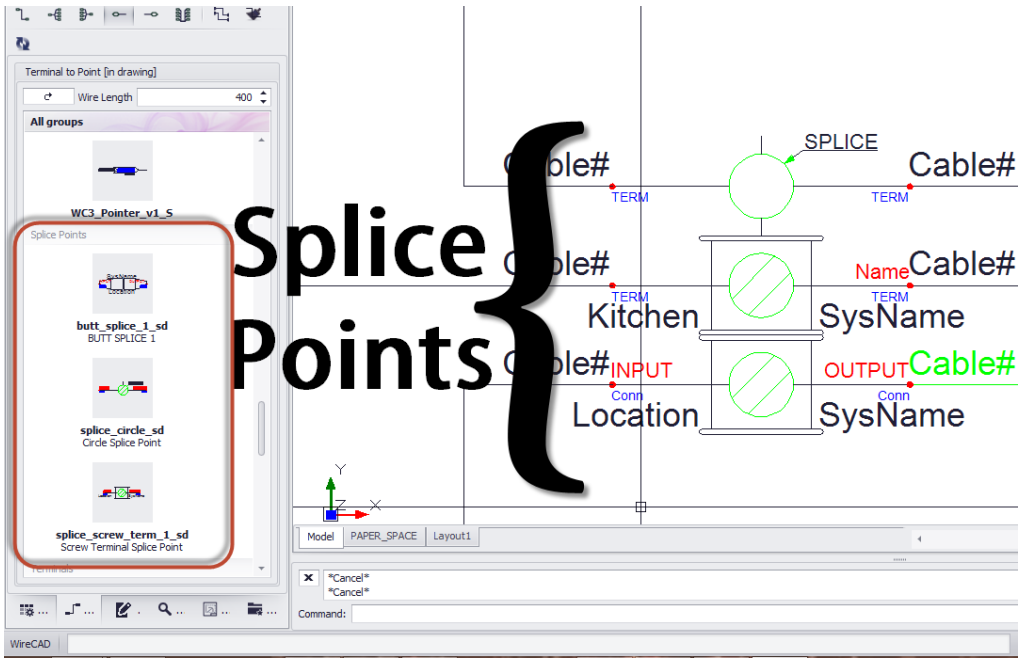
Splice Points

Explanation

Item	Description
WireCAD supports splice points. If you need a junction in the cable/wire/ fiber then use a Splice Point. Splice Points can be found in the Terminals tool panels and are placed like any other Terminal. To Assign a Splice Point you just double-click it and fill in the data.	

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NOTE: if the SysName contains the text SPLICE then the duplicate checks and other validations against the Cables and Equipment Lists are ignored. This allows you to have any number of Splice Points all with the same name.	

Adapters

Explanation

WireCAD supports the use of **Adapters**. **Adapters** are typically used to convert from one connector to another and may also involve the conversion of signal type. **Adapters** are found in the **Terminals** tool panels and are placed similar to other terminals. The difference is that instead of a wire being placed between the port and the terminal the **Adapter** is placed directly on the port. Once placed, the adapter reads the block to which it is being attached and gets the **SysName** and Port information. It then asks you for the connector new connector type. Finally it populates the **Adapter** with the extracted information.

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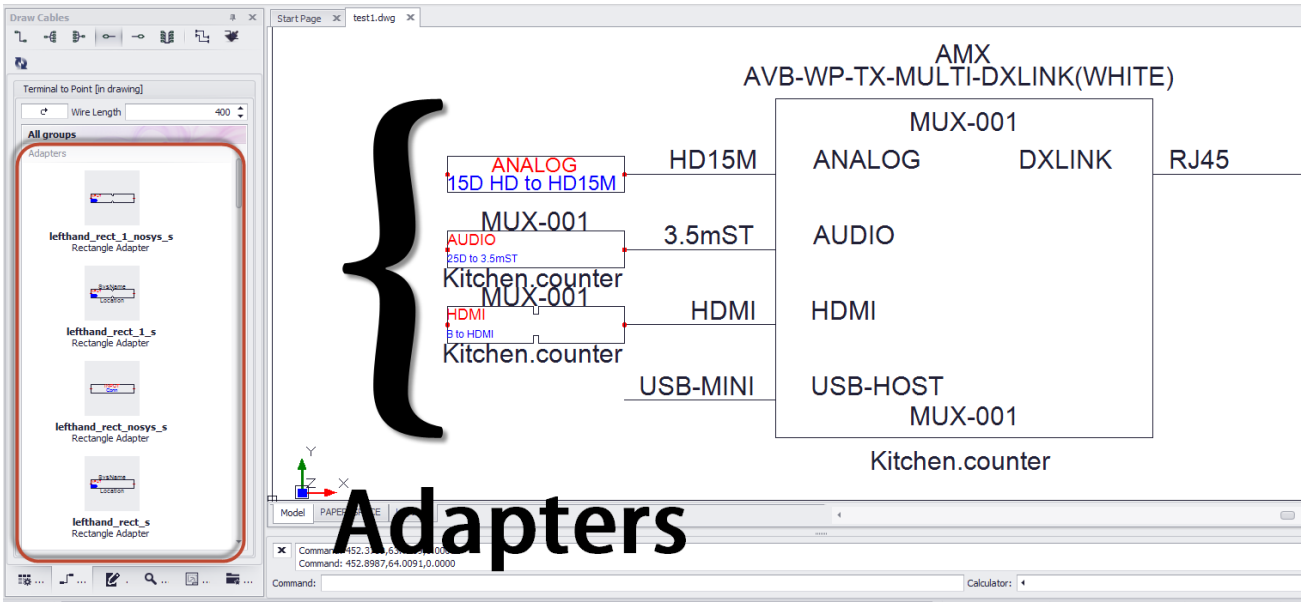

NOTE: if the functional block to which you are attaching the adapter is not yet assigned a **SysName** you will be prompted that the operation cannot complete until you have assigned a **SysName** to the device. You will then need to double-click each attached adapter to get the information into the adapter.

2.1.8 Defining Locations

Menu: **Project Explorer>Project Databases>Locations** Default command line shortcut: **none** Define locations for use in assigning SysNames	**Applies To:** All Product Levels **Related Settings:** Enable Locations Lookup Table

Explanation

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You can enable the **Locations Lookup** table. Here you can predefine your locations; thus maintaining referential integrity across all of your locations. In order to use this function you must set Application Menu **> Settings > Project [Locations] Enable Locations Lookup** = true. If this setting is false, WireCAD behaves as it did in previous versions allowing you to type any value in the **Location** field of the **SysName Assignment** dialog.

When using the **Locations Lookup** setting you will need to add locations before you can make use of them in the **SysName Assignment** dialog.

There is one other ramification of using the **Locations Lookup**: in the **Cables** table are two new fields **SRCEL** and **DESTEL** (Source Elevation, Destination Elevation). These are now populated as you assign cables. This provides an additional level of control as you create reports.

HOW TO: Add a New Location

Step	Description
Click **Project Explorer>Project Databases>Locations**	This opens the Locations table
Click **File>New**	
Enter your data and click **[Add]**	

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2.1.9 Assigning Unique IDs (SysNames)

Menu: **Advanced Tools>Equipment Functions>Assign SysName**

Default command line shortcut: **as**
Alternately: double-click the equipment block in the drawing.

Assign a unique ID to blocks in a drawing.

Applies To:
- All Product Levels

Related Settings:
- SysName Format
- Leading Zeros
- Next Numbers Database

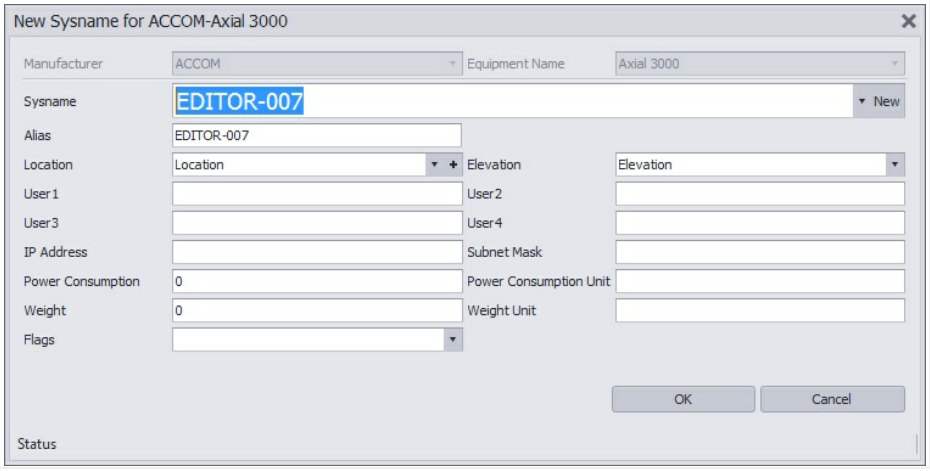
This function performs the following steps:
1. Gets the next number in the sequence (based on the SysName Format) from the Next Numbers table.
2. Prompts the user for input.
3. Updates the drawing
4. Updates the project systems database.

Note: if the project contains related projects, you will be notified of duplicate SysNames in related projects

Edit SysNames Dialog

SysName

If you manually enter a SysName it must follow the format defined in the SysName Format tool. The SysName textbox will be masked to help you follow the format



Alias

Alias is functional name for the device. Think of it like the friendly name. The SysName is the unique ID the Alias can be duplicated if desired.

Example: If the device is a distribution amp and its SysName is DA-120 and it is fed by SVR-01, you may choose to alias it as its source SVR-01.

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Edit SysNames Dialog	
Location / Elevation	We recommend that you enter a **Location** and **Elevation**. Take your best guess. The **Rack Builder** tool will use your guesses to create a preliminary rack layout that can easily be modified to suit your final design
User 1 - 4	For you
IP Address / Subnet Mask	For the IP stuff if any
Power Consumption / Weight	Pre populated from the Global Equipment database if exists
Flags	Various flags to help you sort the equipment in your Systems table.

2.1.10 Assigning Cable Numbers

Menu: **Advanced Tools>Cable Functions>Assign Cable Number**

Default command line shortcut: **ac**
Alternately: Double-click the cable in the drawing

Assumes that the devices on both sides of the cable have first been assigned SysNames.

To assign multiple cables at once, create a selection of cables. The order the cables are added to the select set is the order that they will be assigned numbers. Once you have created a selection of cables, click: **Advanced Tools>Cable Functions>Assign Cable Number**, or type **ac** into the command line followed by the **[Enter]** key.

Applies To:

All product levels

Related Settings:

Cable Number Format

Project Settings

This function performs the following steps:
1. Gets the next number in the sequence (based on the Cable Number Format)
2. Prompts the user for input
3. Updates the drawing
4. Updates the project systems database

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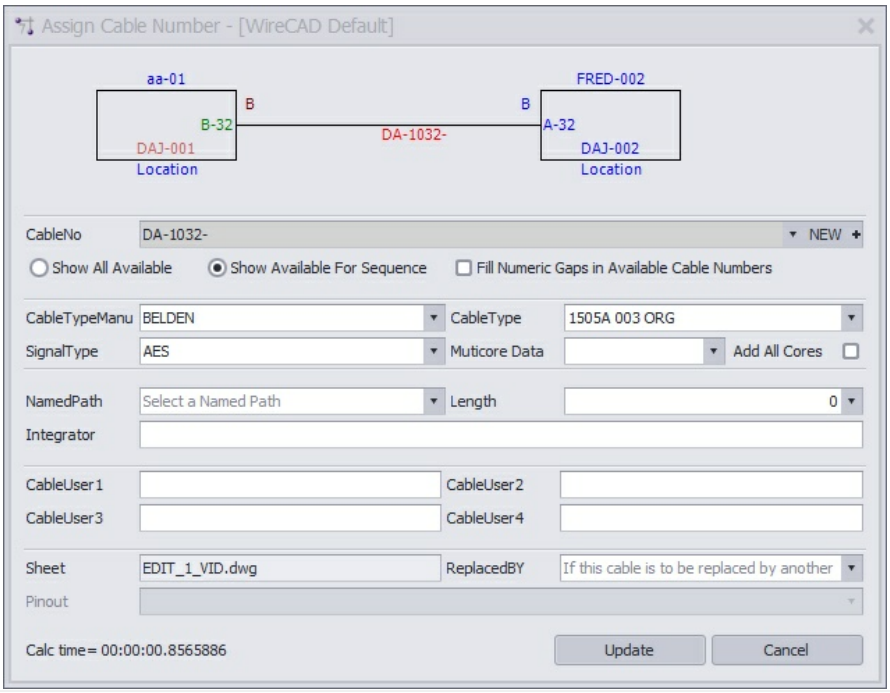
Note: if the project contains related projects, you will be notified of duplicate Cable numbers in related projects

Edit Cable Numbers Dialog

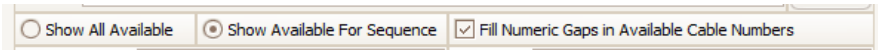
CableNo

If you manually enter a Cable Number it must follow the format defined in the Cable Number Format tool. The CableNo textbox will be masked to help you follow the format



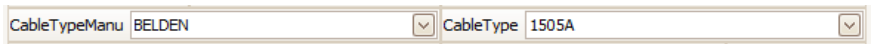
CableNo, New +

CableNo is a direct entry field as well as a dropdown that displays all available, available cables within the current sequence, filling gaps if so desired.



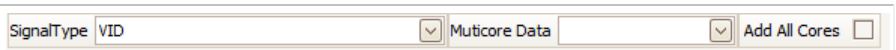
When double-clicking an assigned cable, the form will be shown in edit mode. The **[New +]** button will allow the cable number to be fully edited. This requires some caution. Be sure to check the database to be sure that the edits and deletions have been committed.

CableTypeManu, CableType



Select the **Cable Type Manufacturer** and **Cable Type**.

SignalType,Multicore Data, Add All Cores



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Edit Cable Numbers Dialog	
	Select the **Signal Type.** If you have selected a multicore cable from the **CableType** dropdown, the core data will be shown. If you are assigning a single core in the core structure, select that core. If you wish to assign all cores and have selected enough cables to apply all core number to, select the **Add All Cores** checkbox.
Source and Destination info	

2.1.11 Assigning Terminals

Menu: **Advanced Tools>Equipment Functions>Assign Terminals** Default command line shortcut: **ats** Alternately: Double-click the terminal in the drawing Assumes that at least one SysName 64 has been assigned. To assign multiple terminals at once, create a selection of like terminals. The order the terminals are added to the selection set is the order that they will be assigned numbers. Once you have created a selection of terminals, click: **Advanced Tools>Equipment Functions>Assign Terminal(s)**, or type **ats** into the command line followed by the **[Enter]** key.	**Applies To:** All product levels **Related Settings:** None

This function performs the following steps:
1. Opens a port selection dialog based on SysName.
2. Prompts the user to select the SysName and the port or ports to display(or range of ports of multiple terminals are selected).
3. Updates the terminal(s) in the drawing.

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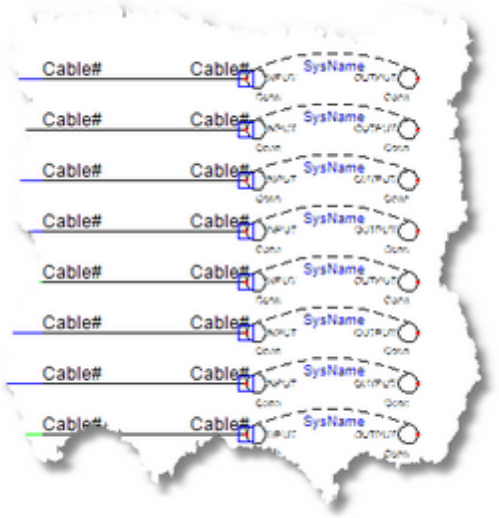
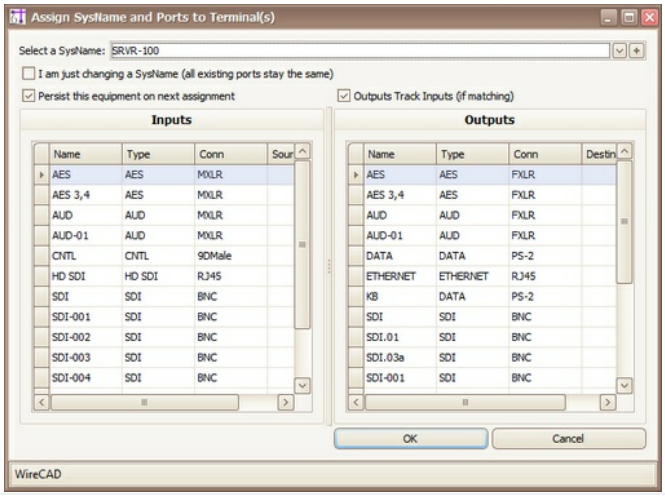
Assign Terminal(s) Dialog

SysName Select the **SysName** or press the **[+]** button to add a new **SysName**	 
I am Just Changing a SysName	Leaves all port data as currently displayed on a terminal, just changes the SysName. This is useful for modifying existing terminal assignments.
Remember this equipment	Remembers the selected SysName and returns to it on the next terminal assignment
Outputs track inputs	When you select an input that has a corresponding output of the exact same name, that output will also be selected.
Inputs grid	Active only if the selected terminal(s) have input connection points

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Assign Terminal(s) Dialog	
Outputs grid	Active only if the selected terminal(s) have output connection points

2.1.12 Rack Builder Tool

Menu: **Advanced Tools>Rack Functions>Rack Builder**

Default command line shortcut: **rb**

The Rack Builder tool is not available in XL Free mode

The Rack Builder tool utilizes information in the Project Systems table and the global equipment library to place and populate rack elevation views. This process may be run repeatedly as the project progresses.

Applies To:

XLT PRO

Related Settings:

Default Rack Height

Top Down Racks

Topics

How it Works 70
Controls 72

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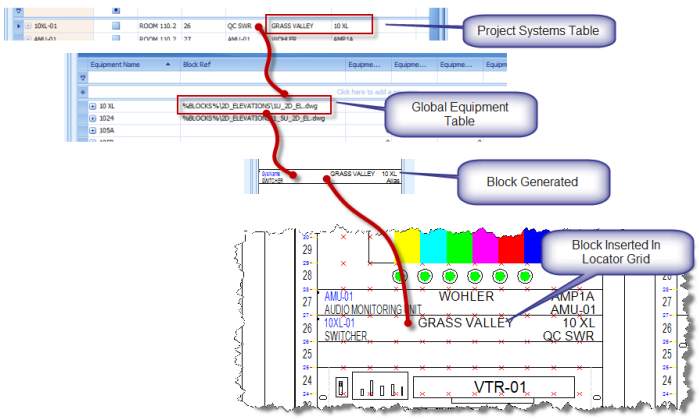
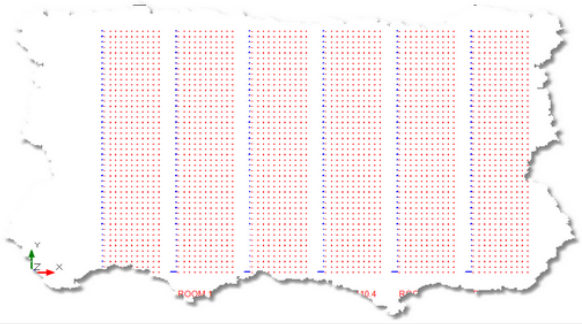
How it Works

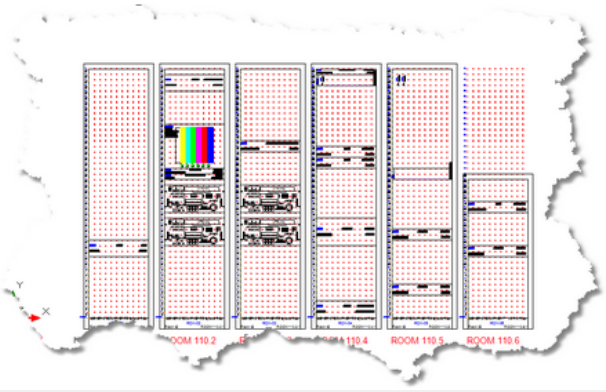
The Rack Builder tool relies on three key pieces of information. First we need the SysName of the device to add to the rack. From the SysName we retrieve the equipment manufacturer and model. Second, using the equipment manufacturer and model, we get the global equipment definition from the global equipment database. If the global equipment definition is complete it will contain either a reference to a front panel dwg file (BlockRef) or dimensional data. If either of these are missing the Rack Builder tool will flag that equipment definition as requiring more information. The Rack Builder tool will perform a preflight check of all data and let you know what you are missing.



Assuming all of the data fiddly-bits are in the right place, the Rack Builder tool will populate the drawing with one locator grid per location selected. A locator grid is an array of point entities that are spaced horizontally and vertically based upon your selection in the preferences.



Next the Rack Builder tool, based on the Mechanical View Rule, will place either the front panel file or a block created from the dimensional data at the location point defined in the Project System entry.



The locator grids facilitate location aware movement of the devices placed on the grid

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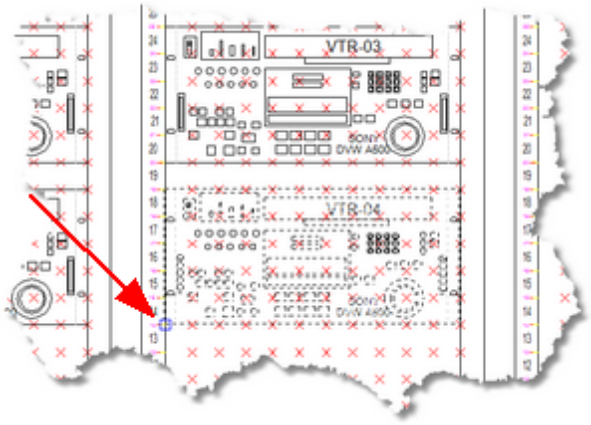
How it Works

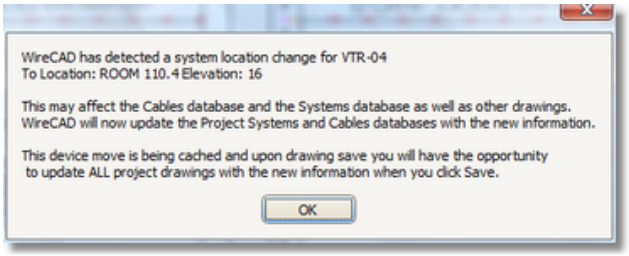
You may manually place devices created from the equipment library in **Front Panel** mode on the locator grids

To move a device within the rack elevations, select the device, grab it by its grip and move it to the desired location.

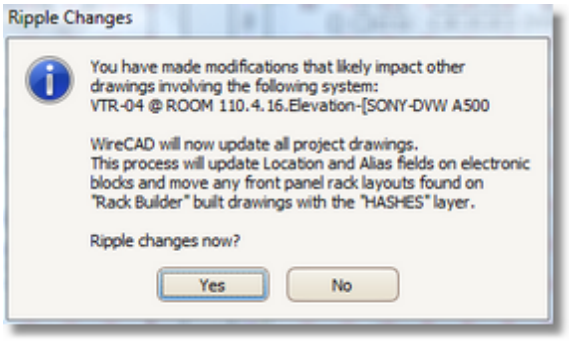
Note: It is desirable to turn on End Point snap and possibly Node Snap while moving devices



WireCAD will notify you of the location change and update the databases immediately to reflect the change.



It will not update the remainder of the drawing set until you click save.



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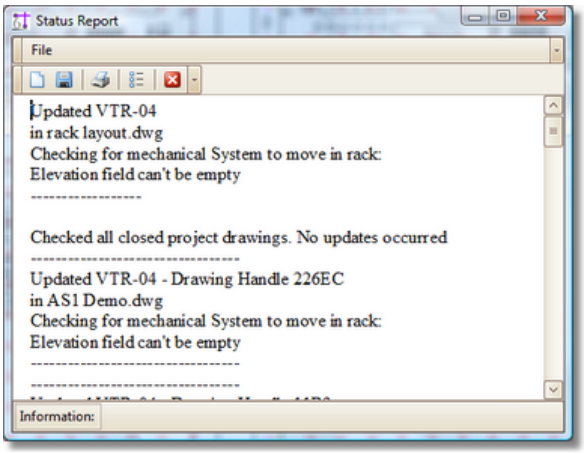
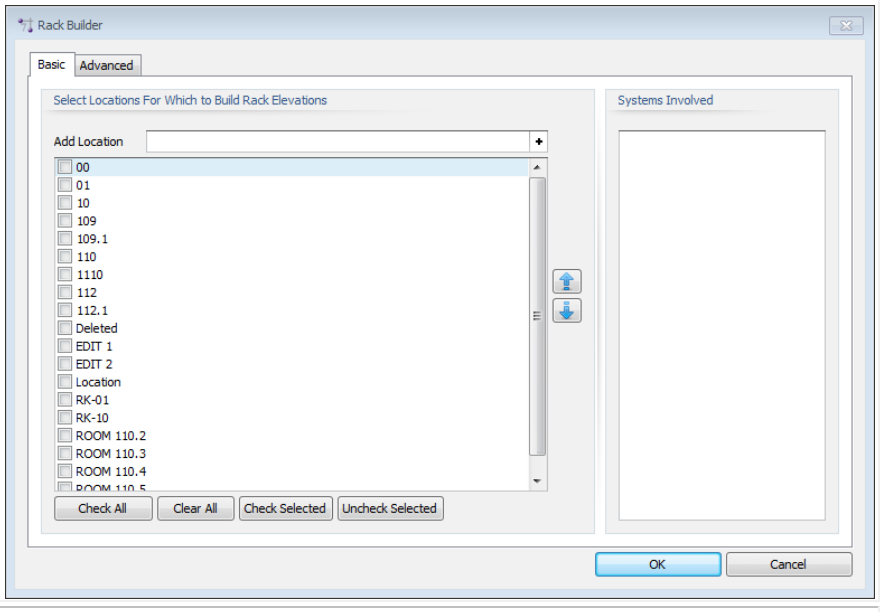
How it Works

Once changes are made across the drawing set you will be notified of the changed drawings



Controls

The **[Basic]** tab allows you to select the locations to include in the Rack Building function. As you select each location, the Systems Involved list will populate.



Systems Involved list	Displays a list of all the systems that will be placed in the created drawing.

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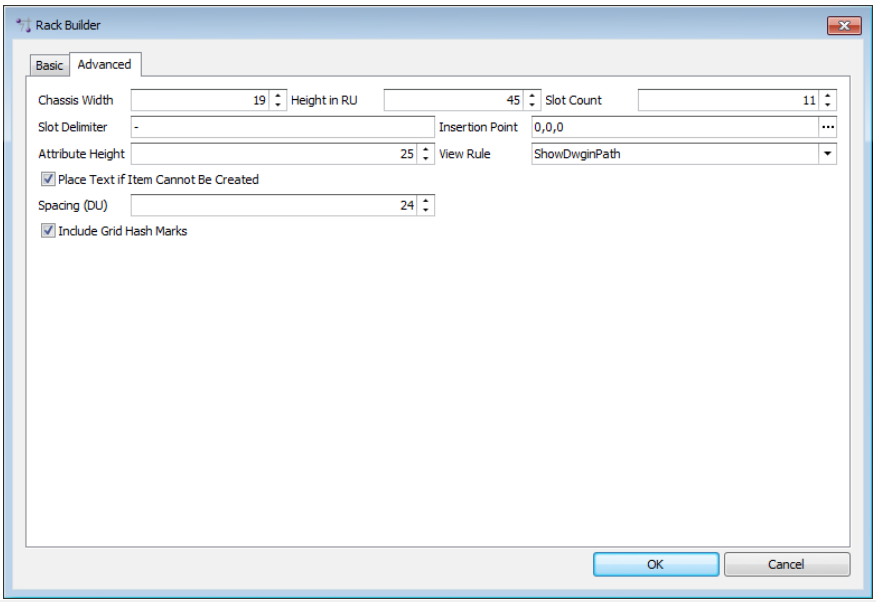
Controls

The **[Advanced]** tab exposes properties that control the behavior of the utility.



Chassis Width	Sets the width of the chassis in DU
Height in RU	Sets the height of the locator grid in Rack Units (RU = 1.75 inches or 4.445cm)
Slot Count	Sets the number of slots per locator grid. This is used to position items that may not be located at the insertion point of the rack unit.
Slot Delimiter	WireCAD searches the Elevation field for numeric values first then for the slot delimiter if found it parses the the data into two values the elevation and the slot, or in other words how far up in the rack and how far over.
Insertion Point	Where to start the whole process
Attribute Height	If view rule is not ShowDWGInPath, sets the attribute height of the displayed text.
View Rule	**ShowDWGInPath** = use the dwg file found in the equipment definition **BlockRef (Front Panel File)**. **CreateFromDimensions** = use the dimension data from the equipment definition to create a 3D rack block. **CreateFromDimensionsIfNotFound** = Use dimension data if the **BlockRef** is not found.
Place Text If Item Cannot Be Created	If the item cannot be created due to lacking data, place a text marker in the drawing at the location.
Include hashes	This will normally be checked unless you are rebuilding a drawing that already has the locator grids.

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Controls	
Spacing DU	Sets the location grid spacing in Drawing Units

2.1.13 Equipment List Visualizer

Menu: **Database>Project Systems>Equipment List (SysNames)**

Default command line shortcut: **sys**

The Equipment List Visualization tool utilizes information in the Project Systems table and the Global Equipment Library and the Project Cables database to create a view of all cables attached to the selected item.

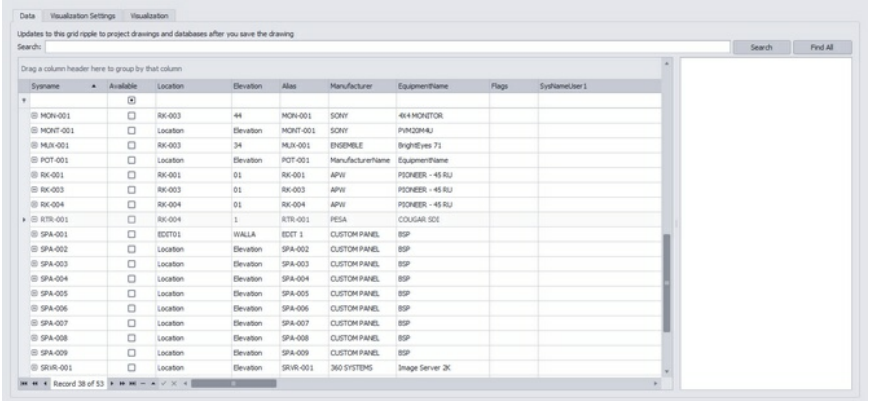
These details are useful for error checking and in the field as an installation aid.

Applies To:

PRO, ENT

Related Settings:

See the Settings Tab

Controls	
The Equipment List with RTR-01 selected	
Settings Tab	Control the output of the Visualizer.

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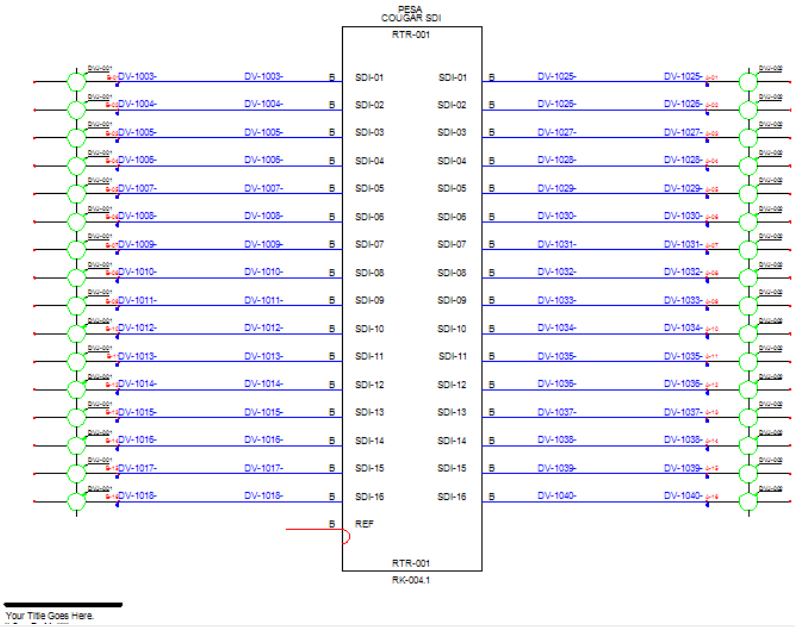
Controls

Use Last Display Order if Set	Sorts the ports of the block based on the saved display order if any.
Terminal	The terminal to display
Use Last Saved Appearance	If there are device level setting saved, use them.
Body Width and Pin Spacing	Appearance settings in 100/DU
Port Data Source	• Pull the port data from the Equipment Library. This will show ALL ports associated with this device definition. • Pull the port data from the Cables table. This will show only those ports to which cables have been attached and assigned.
Title Block	Describes the visualization. Salt to taste.
Visualization tab	Does it. 

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2.1.14 Cables Visualizer

Menu: **Database>Project Cables>Project Cables Grid**

Default command line shortcut: **cg**

The Cables Visualization tool creates a layered digraph showing the Locations (vertically) and the cables between them (horizontally).

Use this output for:

- Pre-wires
- Spare inventory
- General overview
- Enlighten and amaze your friends

Applies To:

PRO, ENT

Related Settings:

See the Settings tab

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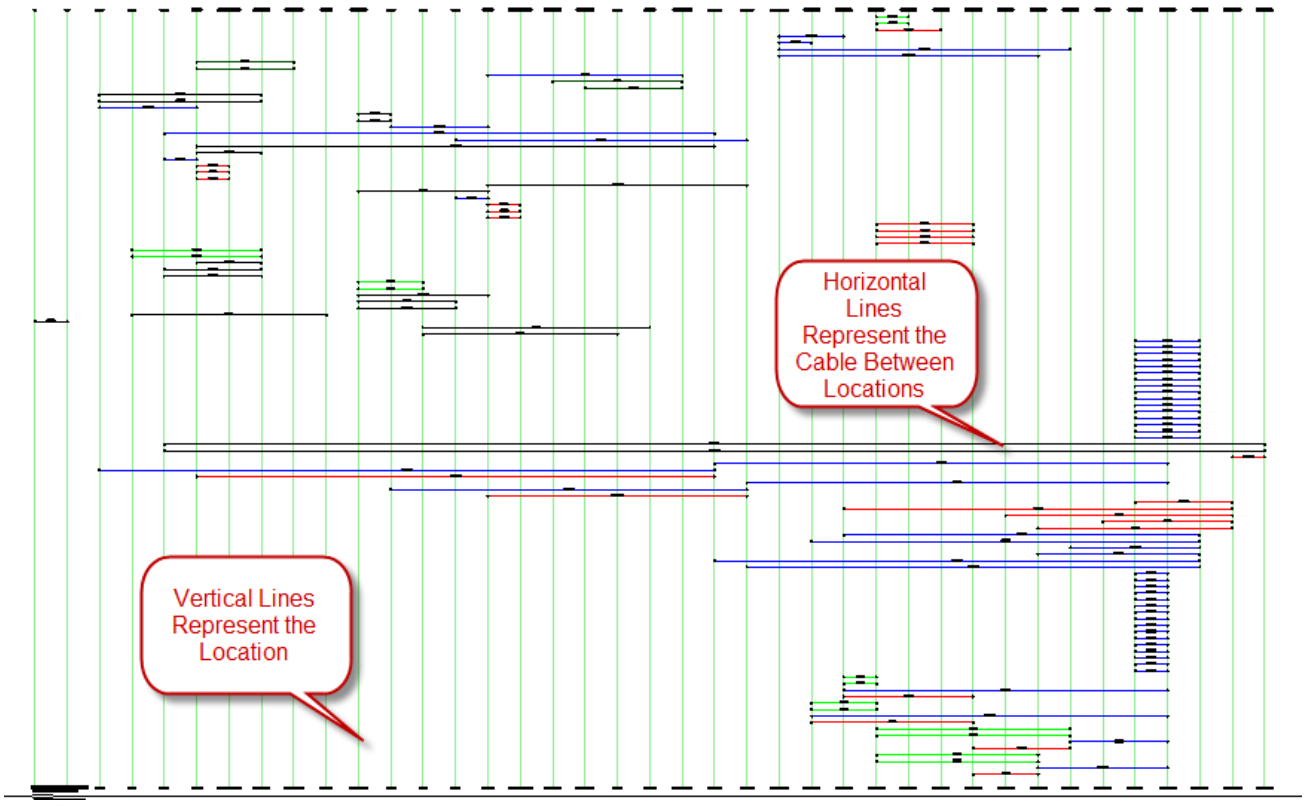

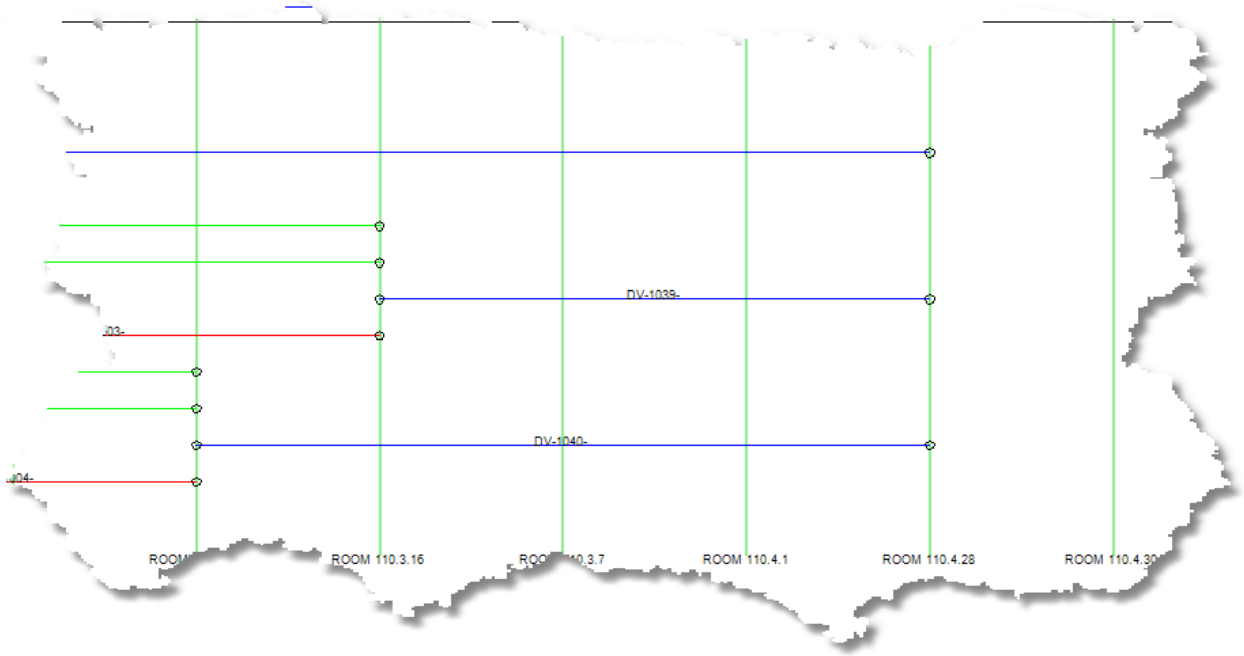

Visualization without SysNames

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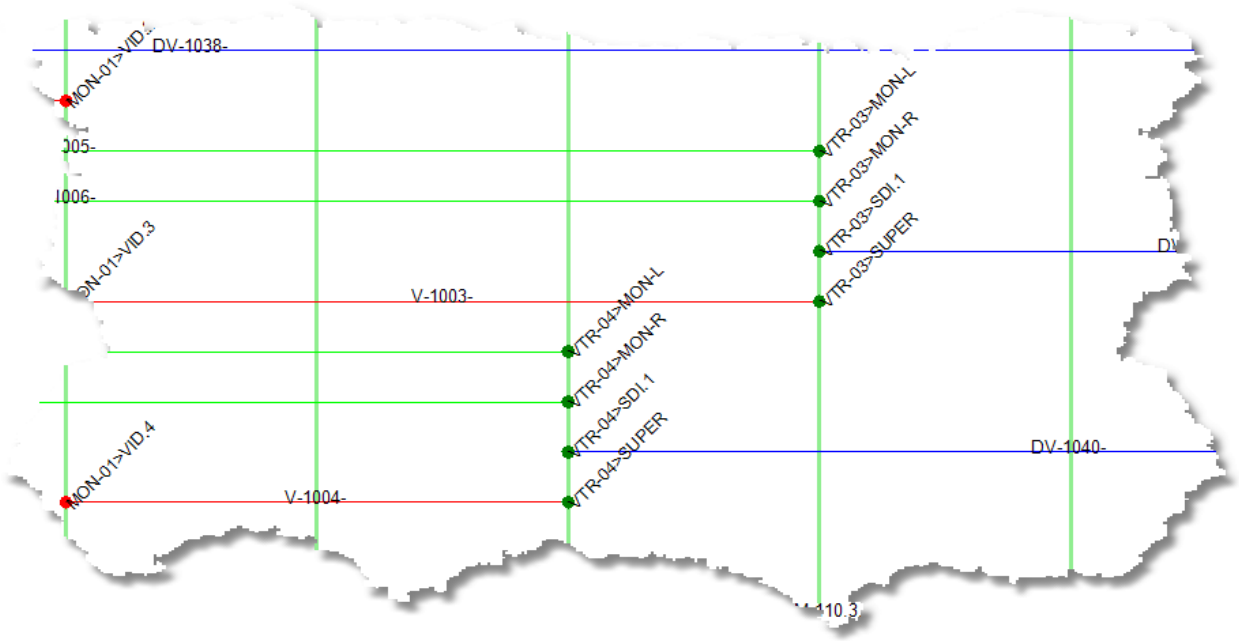

Visualization with SysNames

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2.1.15 Grid Basics

Menu: **various**

Default command line shortcut: **various**

WireCAD displays data from the various databases in grid form. WireCAD grids support the following:

- Searching
- Sorting
- Column re-ordering
- Column hiding/showing
- Column grouping
- Column resizing
- Column filtering
- Copy Selection Down
- Increment Selection Down
- Hierarchical display
- Export to PDF, EXCEL, TXT, HTML, XML and more

In addition, several grids support WireCAD Visualization Tools mentioned earlier in this text.

Applies To:

ALL

Related Settings:

Various

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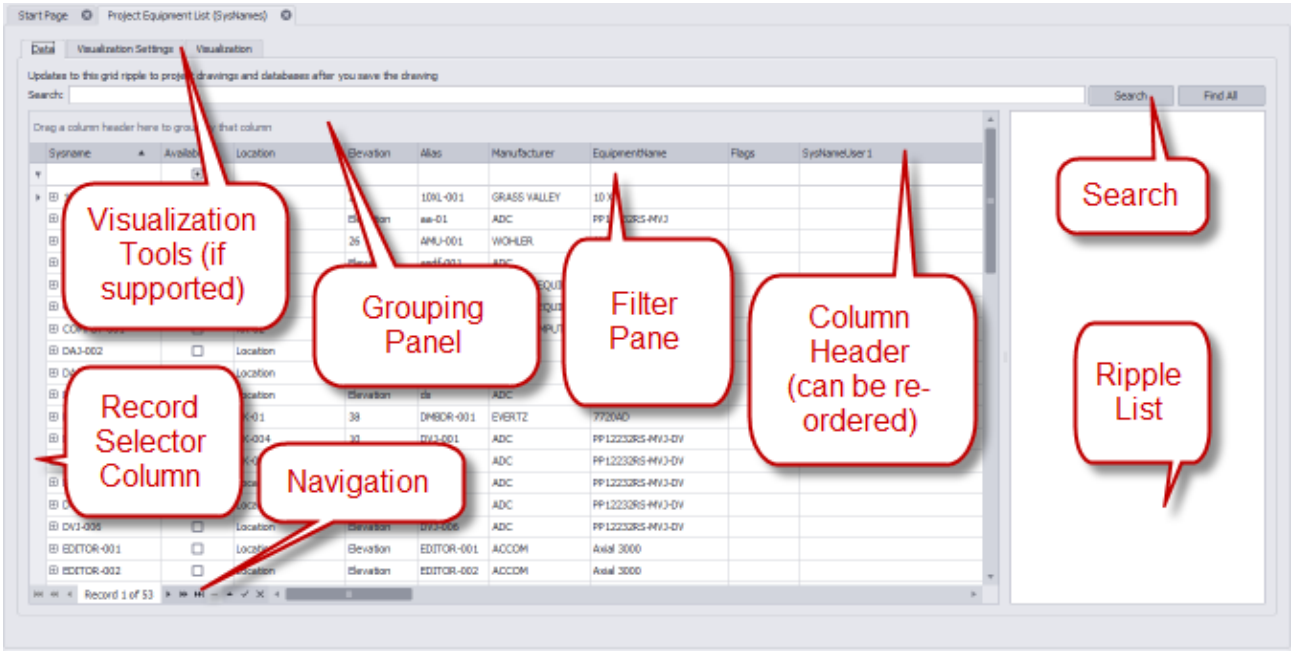

Grid Parts

How To

Search	Enter your search text in the **Search** box and click **[Search]**. WireCAD will search all fields in the table for the search term. These are wildcard searches.
Sort	Clicking on a column header will cause a sort. Clicking it again will reverse the sort order.
Column re-ordering/ resizing	Drag a column from its center to initiate a move. Drop it where you want it to display. To resize a column, drag its edge left or right.

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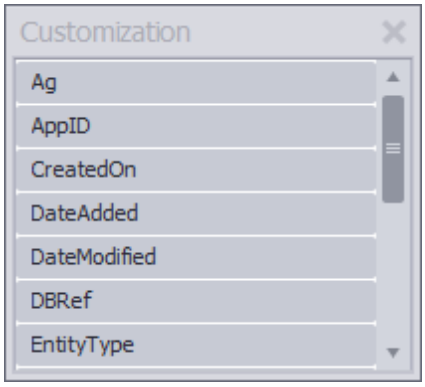
How To

Column hiding/ showing

To hide a column: right-click the column header and choose **[Remove this Column]** from the context menu.

To show a column:

1. Right-click any column header
2. Click the **[Column Chooser]** context menu item

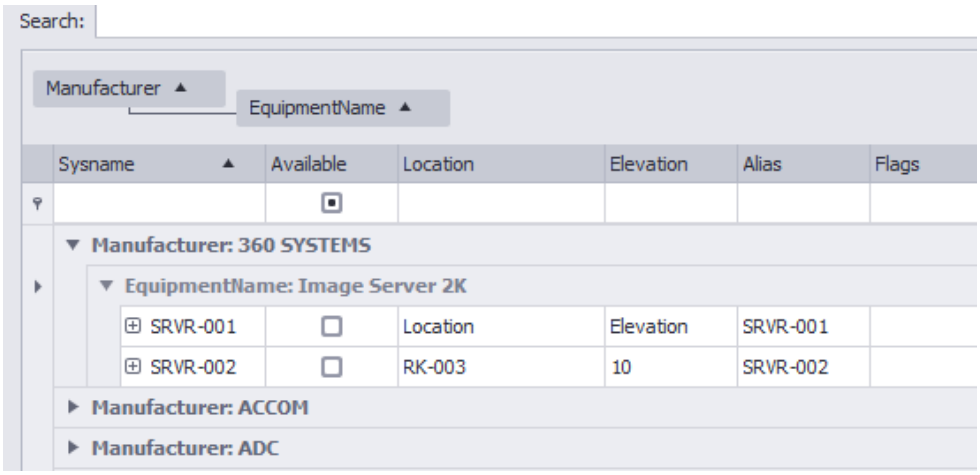


The Customization form displays hidden column headers

3. Drag the column header you wish to display and drop it on the header bar with the other column headers.

Column grouping

If the grid supports grouping the grid will display a GroupBy panel at the top indicating that column headers may be dropped there to group.



Grid grouped by Manufacturer and EquipmentName fields

To un-group simply drag the column header back to the header bar.

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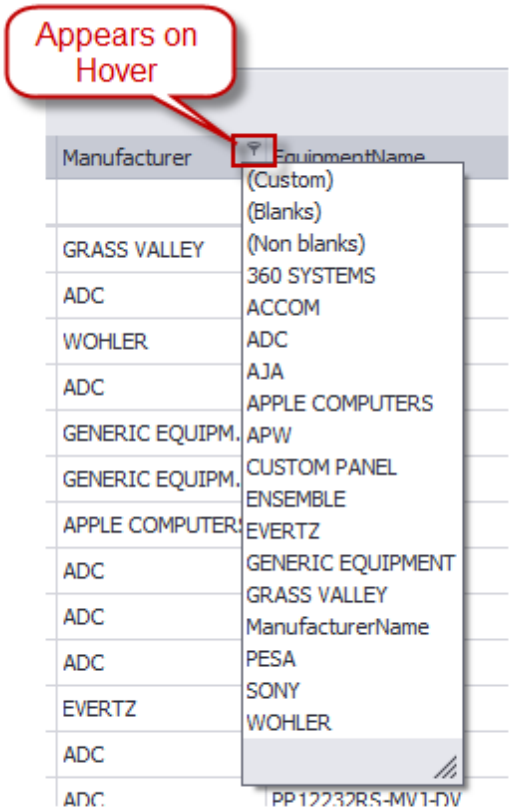
How To

Column filtering

Columns may be filtered in one of three ways:

1. Click the column header filter icon on the column header. You will be presented with a list of unique values found in that column.



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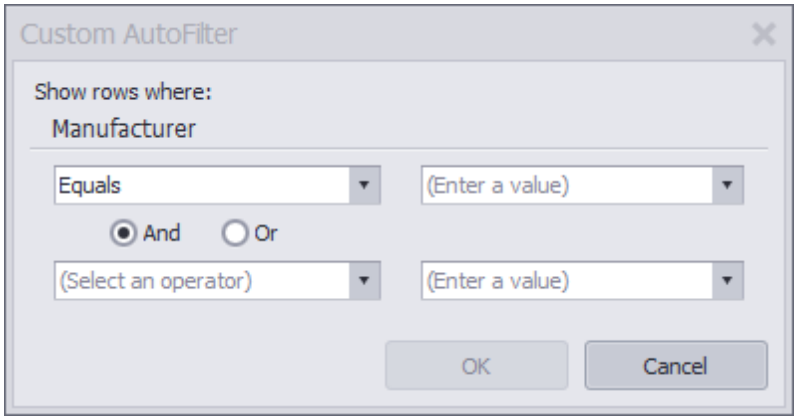
How To

2. Click the (Custom) menu item presented in the column filter list.



3. If the grid supports it a filter pane will appear as the top row of the grid. It is symbolized by . Entering filter criteria in the desired column will cause filtering.

NOTE: Filters will persist across closing a grid and re-opening. Don't panic. Simply clear the filter criteria as explained below.

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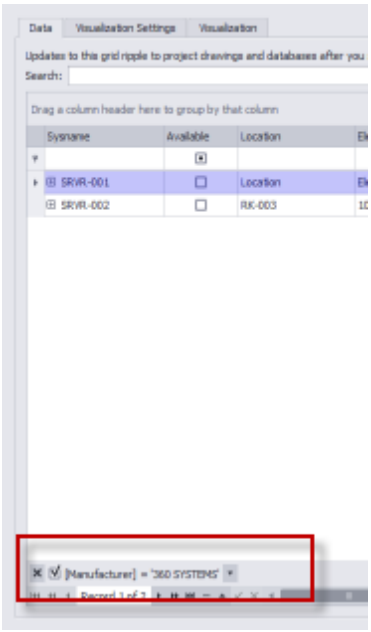
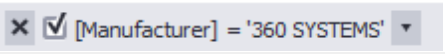
How To

Clearing Filter Criteria	If a filter has been applied to a grid, a filter panel will display on the grid in the lower left hand corner.  You may clear the filter by closing **[X]** the filter panel. 
Copy Selection Down	If the grid supports it you will be able to copy the top item in a selection down into all of the selected cells below it. Follow these steps: 1. Create your selection 2. Click **Edit>Copy Selection Down** or press **[Ctrl]+[D]** on your keyboard. 3. Be sure to click **File>Save** to commit your changes to the database.
Increment Selection Down	If the grid supports it you will be able to increment the top item in a selection down into all of the selected cells below it. Follow these steps: 1. Create your selection 2. Click **Edit>Increment Selection Down** or press **[Ctrl]+[I]** on your keyboard. 3. Be sure to click **File>Save** to commit your changes to the database.
Deleting Cell Data	To delete the contents of the selected cells simply click the **[Del]** key on your keyboard.

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How To

Deleting Selected Rows	To remove the rows from the grid: 1. Select the rows to delete by click on the Record Selector (left-most column without data). 2. Click **Edit>Delete Selected Rows** or click **[Ctrl]+[Del]** on your keyboard. 3. Be sure to click **File>Save** to commit your changes to the database.

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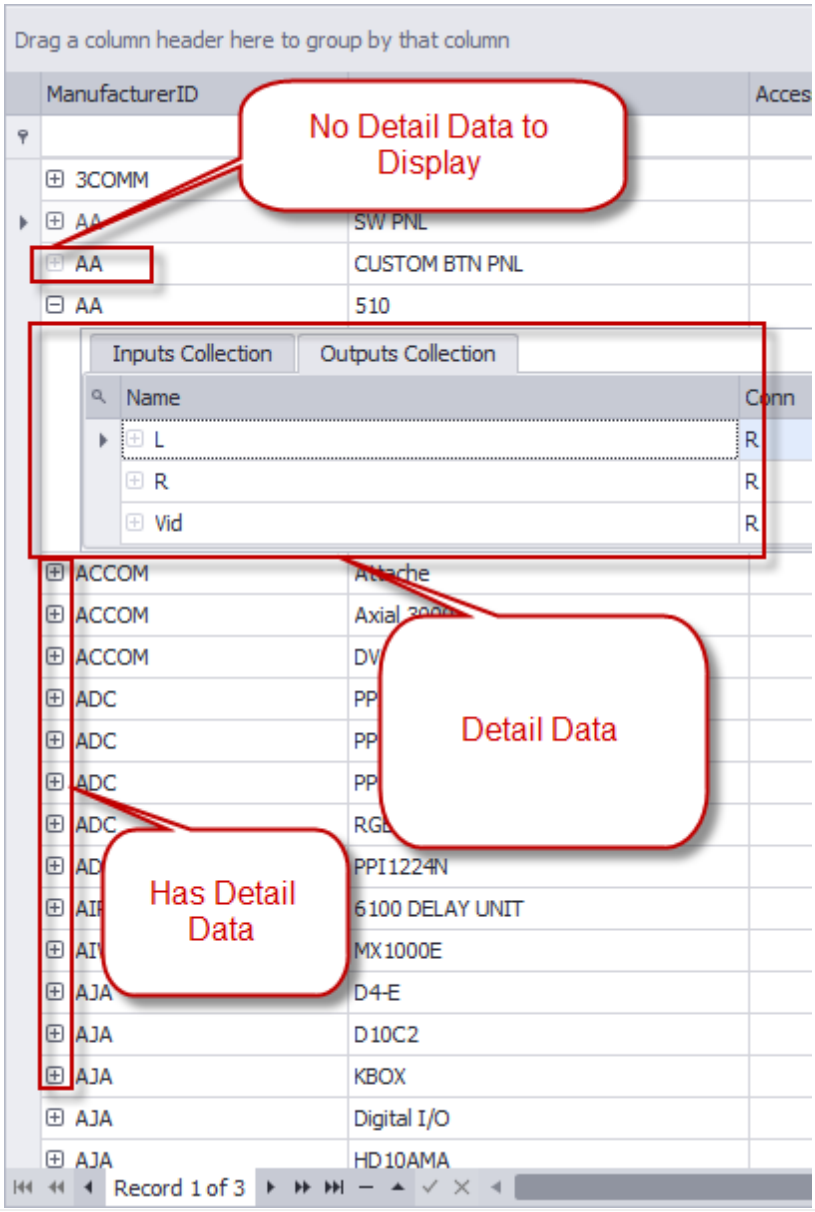
How To

Display Hierarchical Detail Data	If the grid supports it and there is detail data to display you can click the **[+]** button in the left-most row. 
Export	Click **File>Export>[File Type]**. WireCAD will then export the data with your current grouping, sorting, and filtering applied to the selected format.

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2.2 Personalizing WireCAD

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Template Drawings 87

2.2.1 Template Drawings

Menu: **File>Save As Template Drawing**

Menu: **File>Open Drawing**

Default command line shortcut: **fo (File Open)**

Applies To:

All

Related Settings:

Show New Drawing Wizard

Template Drawings Support Path

Template drawings are drawings that are preset with items that you don't want to add every time, such as page borders (titleblocks) and viewports. It is not uncommon to create a template for each project by starting with an existing drawing and adding your titleblock data etc. Some WireCAD users go so far as to create templates for their frequently used designs.

Template drawings are saved in the Template Drawings Support Path. You can pick template drawings from the New Drawing Wizard.

Creating Template Drawings

Create the base template drawing	Customize your drawing to include the desired title blocks, layouts, text, logos, etc.You may go so far as to fill in title blocks with specific project data such as client name and draftsmen.

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Save it to the **Template Drawings** support path	This is normally c:\users\public\documents\WireCAD\WireCAD[#]\TemplateDrawings\. Note: this will be different if you are installed and working on a network with others. To check your %TemplateDrawings% support path, click **Application Menu > Settings~Application[Support Paths]** and check the path entered in the **Template Drawings** field.
Usage	
Create a new drawing	Click File>New Drawing. If your default settings have not changed you will be presented with the New Drawing Wizard. The first window should now display your shiny new template drawing. Select it and continue through the wizard.

2.3 Reporting

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Creating Reports 93

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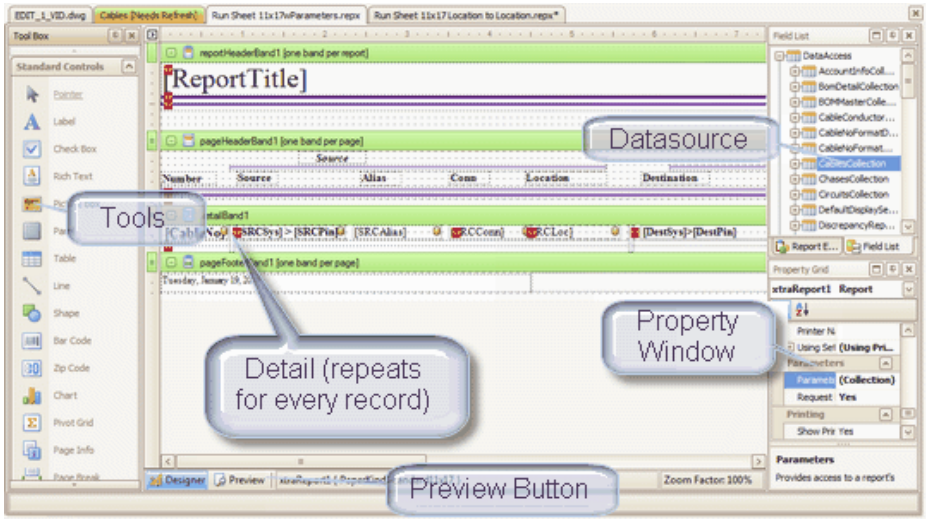
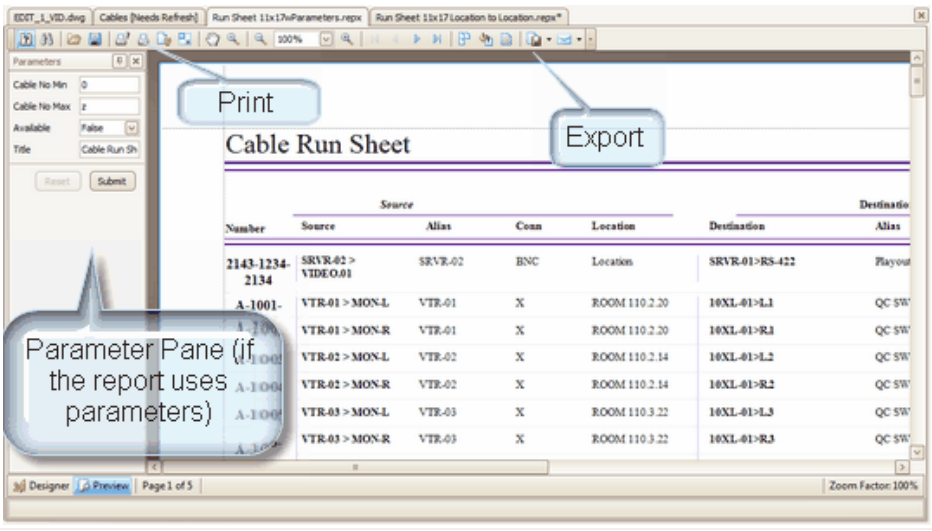
2.3.1 Printing Reports

Menu: double-click the report in the **Project Explorer** Default command line shortcut: none Opens a report for preview, printing or export	**Applies To:** XLT PRO ENT **Related Settings:** None

Printing Reports	
Reports display in design view by default (XL mode excepted).	
Clicking the **[Preview]** button renders the report unless the report defines parameters that the user must enter followed by the **[Submit]** button on the parameter pane.	

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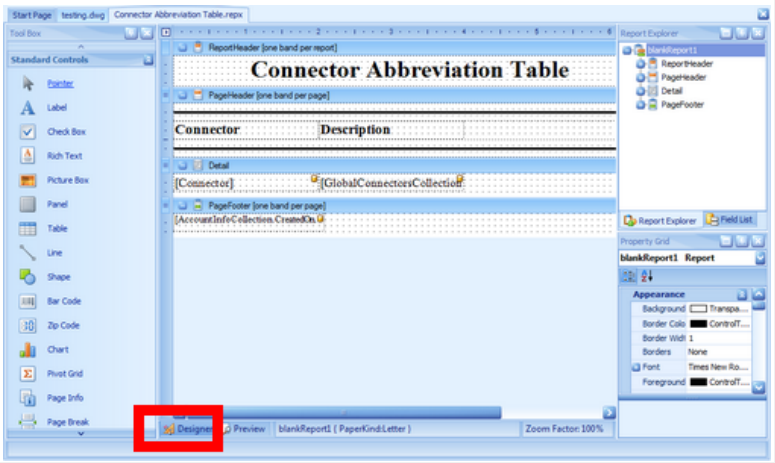
2.3.2 Filtering Reports

Menu: double-click the report in the **Project Explorer** Default command line shortcut: none Report filtering is not available in XL free mode.	**Applies To:** XLT PRO **Related Settings:** None

Filtering Reports	
In order to filter a report the report must be in design mode	
Make sure that the Property window is displayed. If not click: **View>Windows>Property Grid**	
From the Property grid object selector, select XRReport1	

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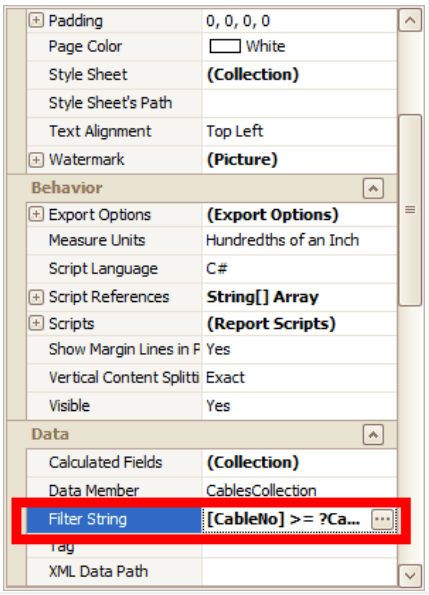
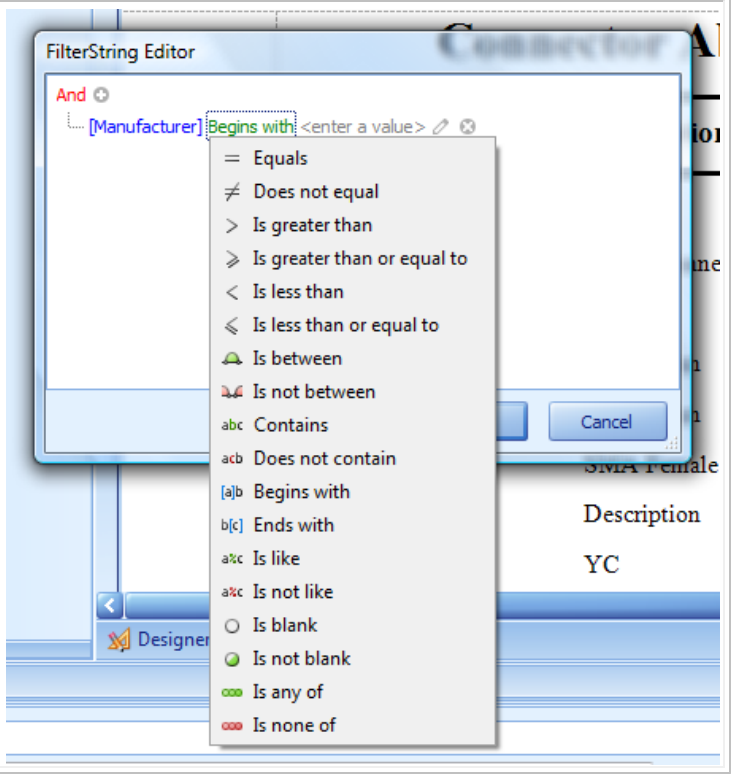
Filtering Reports

From the Property grid select the Filter String ... ellipsis button



This opens the filter dialog from which you may select a number of different filters



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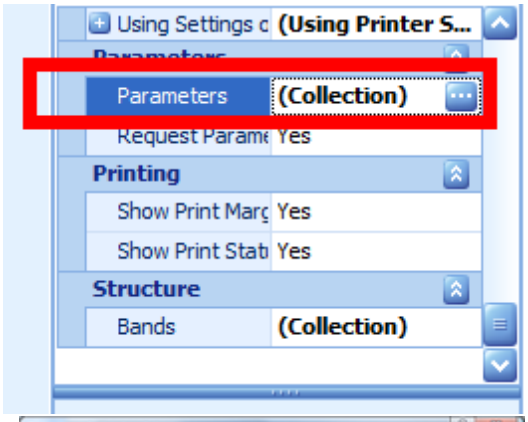
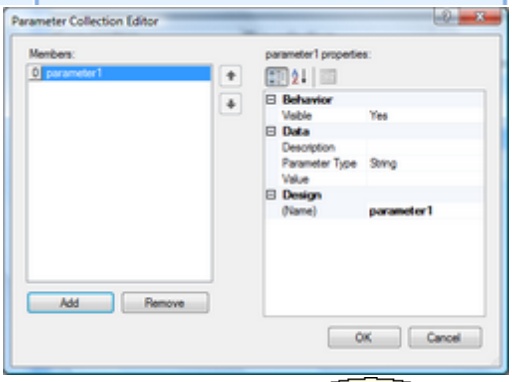
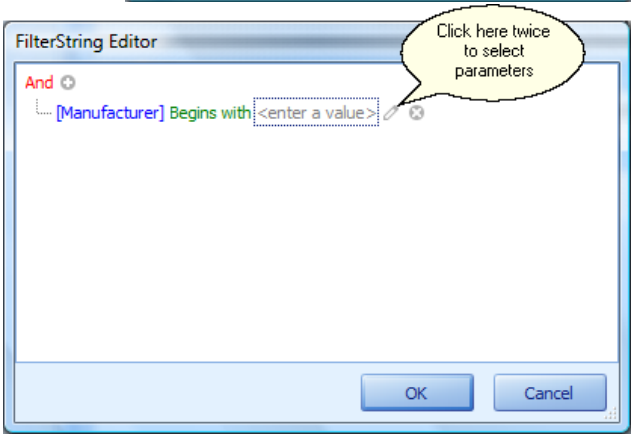
Filtering Reports

Filters may also contain parameters that the user must enter before the report is generated. In order to make use of this function you must follow these steps:

1. Add a parameter to the report while in Design view. Click the **Parameters** (...) ellipsis button to view the Parameters collection.
2. Click the **[Add]** button to add a parameter to the collection.
3. Enter description and default value information.
4. Open the filter editor (see above)
5. Add a condition and edit the comparison, then click on the icon to the right of the field to select parameters.
6. Click **[Preview]** to preview the report. You will see a Parameters pane on the left hand side with a submit button.
7. Enter a value and click **[Submit]**.







Step 5.

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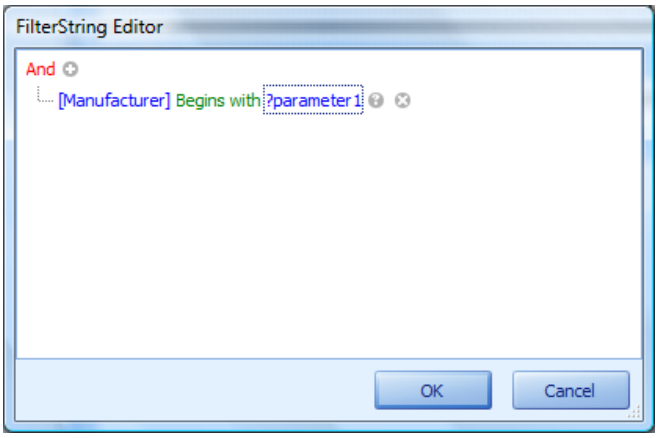
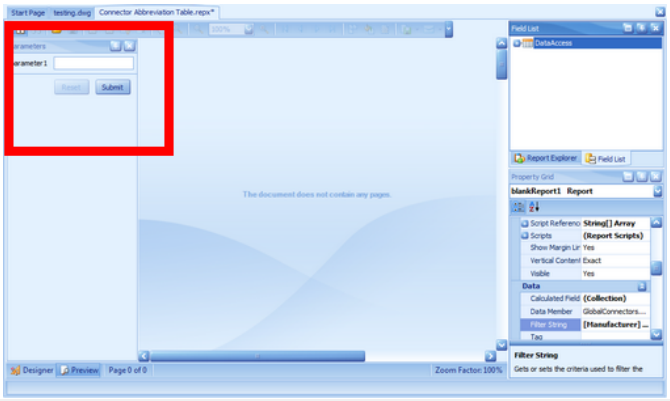
Filtering Reports	
	 

2.3.3 Creating Reports

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2.3.3.1 Standard

Menu: **Report>New Report with Wizard** Default command line shortcut: **rw** Create a new report	**Applies To:** XLT PRO **Related Settings:** None

How To: Create a New Report

Create a Standard Report

Click **Reports>New Report with Wizard.** Alternately: from the Project Explorer - click **New Report with Wizard**	
Select the **Standard Report** option. Click **[Next >]**	

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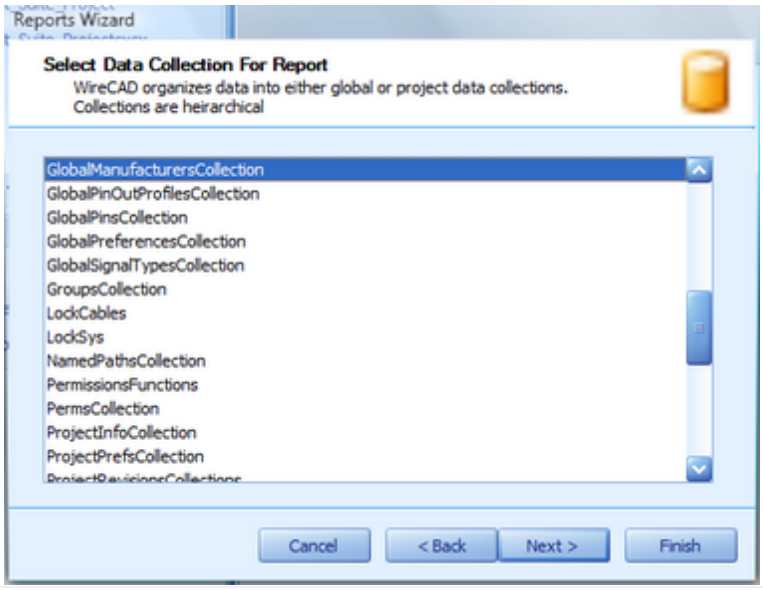
Create a Standard Report

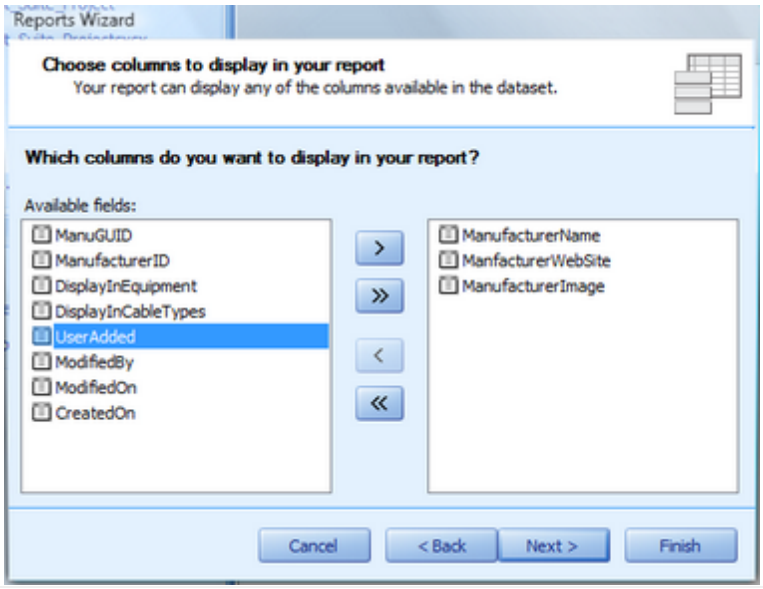
Select a data collection. Data collections access both the global and project databases. For example: say you wanted to show a list of all manufacturers. You would select the **GlobalManufacturersCollection**.

Note: collections are hierarchical to aid in the creation of subreports. All collections are populated with data when the report is previewed.



Select the fields (columns) you wish to display in the report.

Note: use the **> >> < <<** buttons in the center of the two lists to move items between the lists



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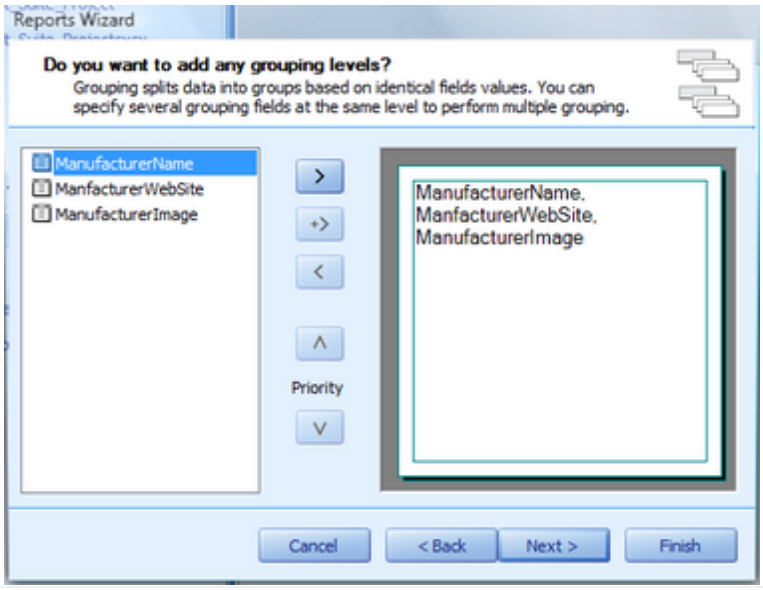
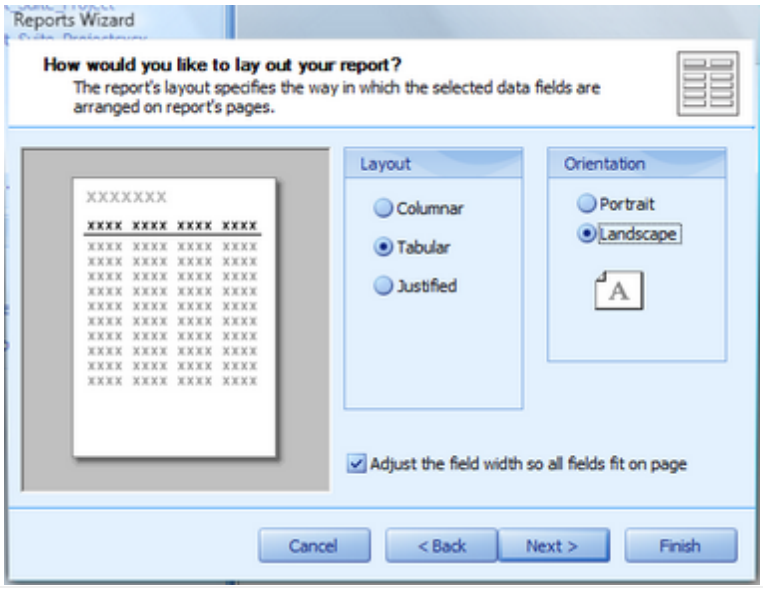
Create a Standard Report

Apply any grouping



Select a **Layout** and **Orientation** for your report.

Note: the **Adjust field width to fit** function will force all selected fields on to a single page possibly rendering some of the data unreadable. If you have lots of fields to display, consider using a **Justified** report



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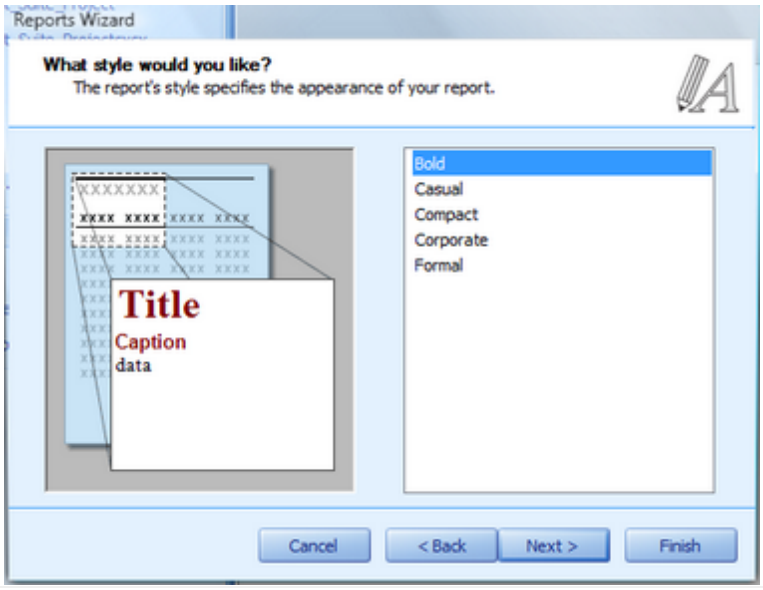
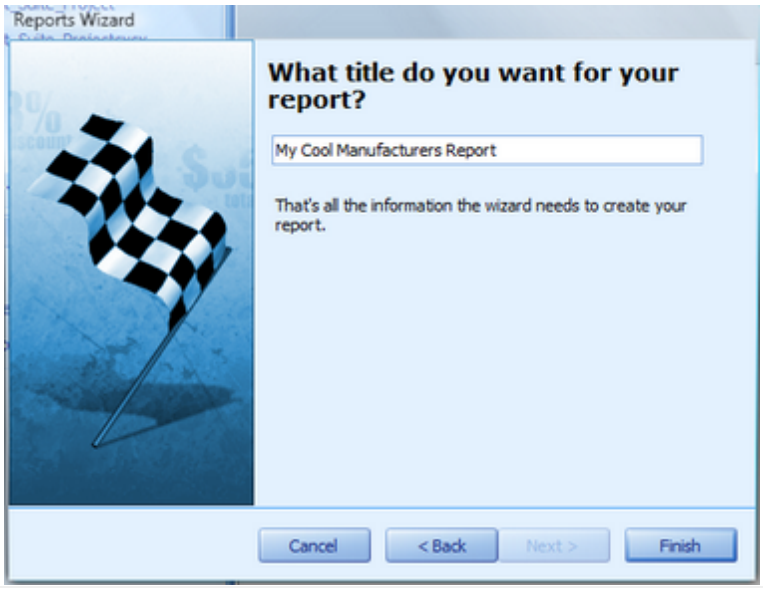
Create a Standard Report

Select a Report Style	
Title your report	

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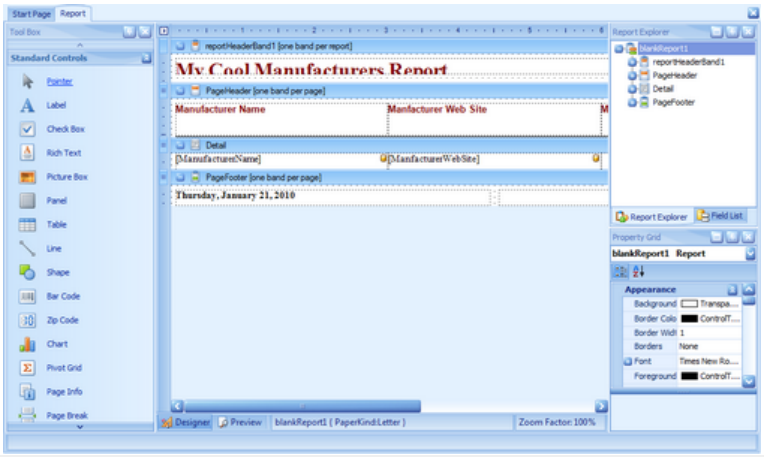
Create a Standard Report

Click **[Finish]** to create your shiny new report.	
Click **File>Save** and save your work to your reports support path	

2.3.3.2 Labels

Menu: **Report>New Report with Wizard** Default command line shortcut: **rw** Create a new label report	**Applies To:** XLT PRO **Related Settings:** None

How To: Create a New Label Report

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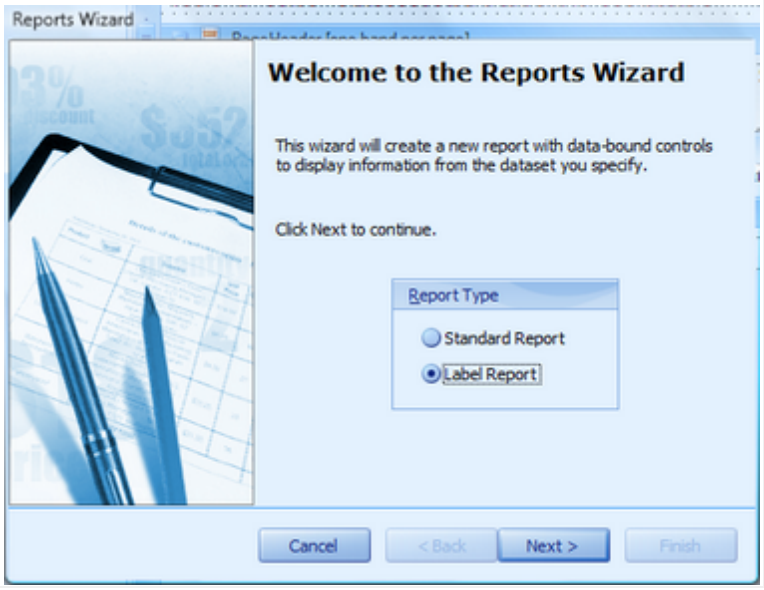
Create a New Label Report

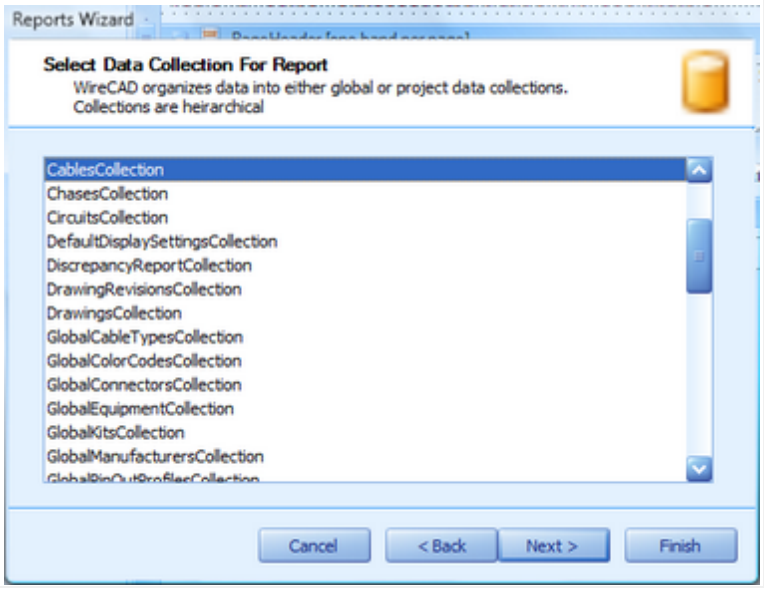
Click **Reports>New Report with Wizard.** Alternately: from the Project Explorer - click **New Report with Wizard**



Select the **Label Report** option. Click **[Next >]**

Select a data collection. Data collections access both the global and project databases.

Note: In the case of labels we probably want to use the **CablesCollection**



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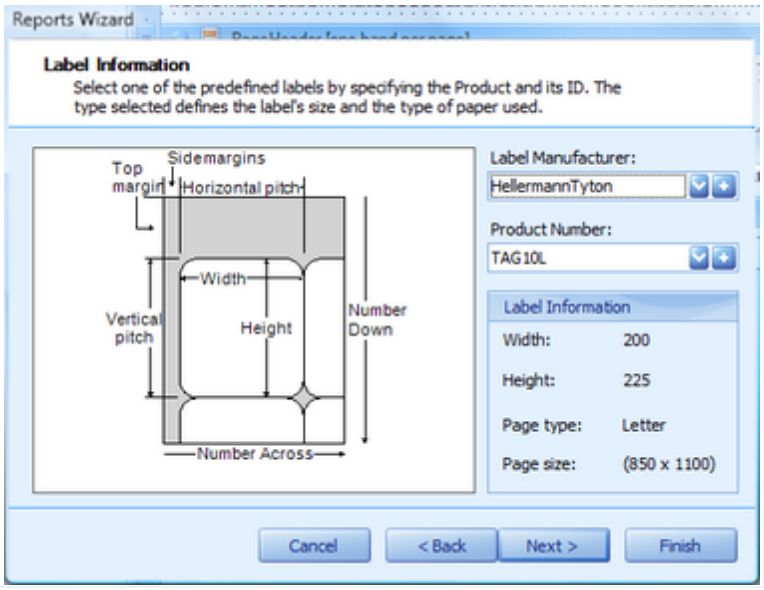
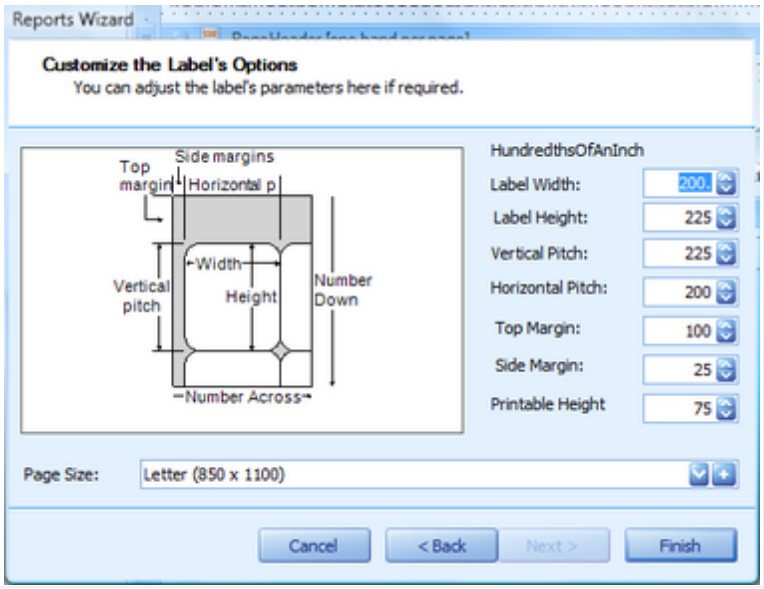
Create a New Label Report

Select a label format. WireCAD comes stock with over 1000 label formats from 15 manufacturers including Panduit, Hellerman Tyton and Brady.



Modify and of the nudge factors and select the sheet size



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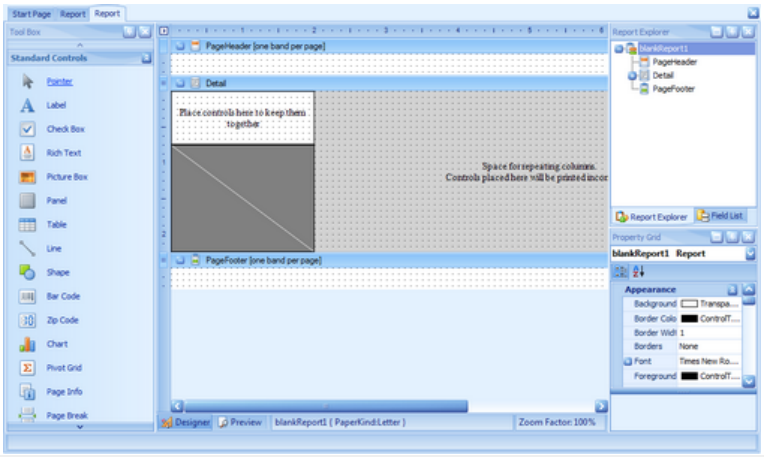
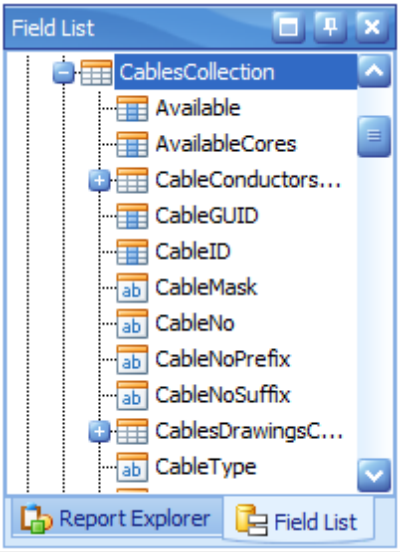
Create a New Label Report

Click **[Finish]** to create your shiny new report.

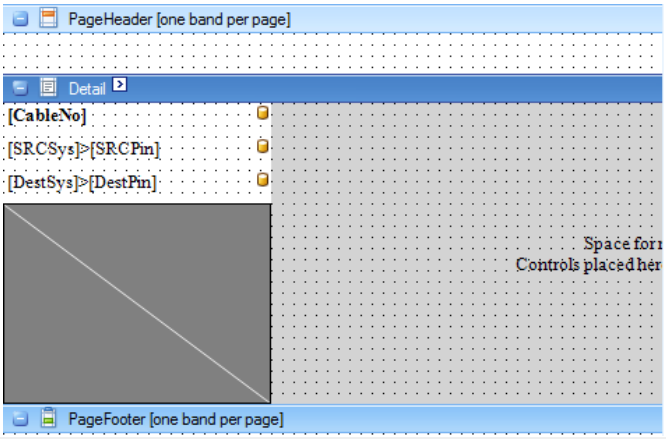


Select the Field List and drag any fields that you wish to display on to the report design surface.

Note: avoid placing field on the light and dark grey areas. The light grey area will not print and the dark grey is indicative of the clear laminating portion of a cable label.



Here we have three fields that we have dragged and positioned on the design surface. We then edited the Src and Dest fields to concatenate the Pin data as well. Then we edited the font property of the **CableNo** entity to bold it.



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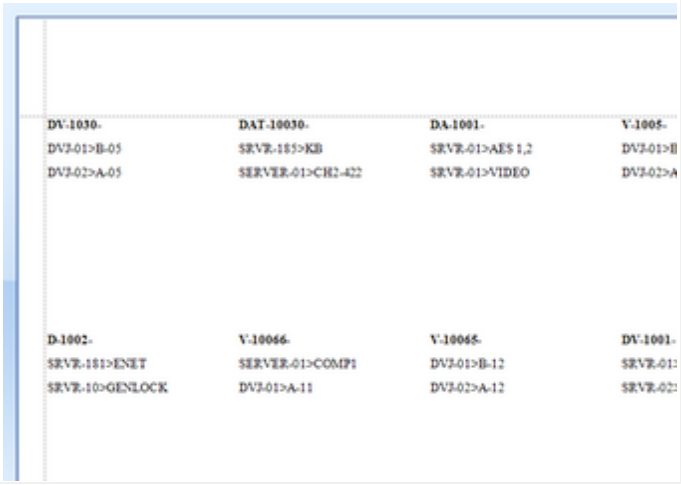
Create a New Label Report

Final output looks like this	
Click **File>Save** and save your work to your reports support path	

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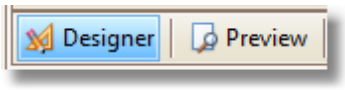
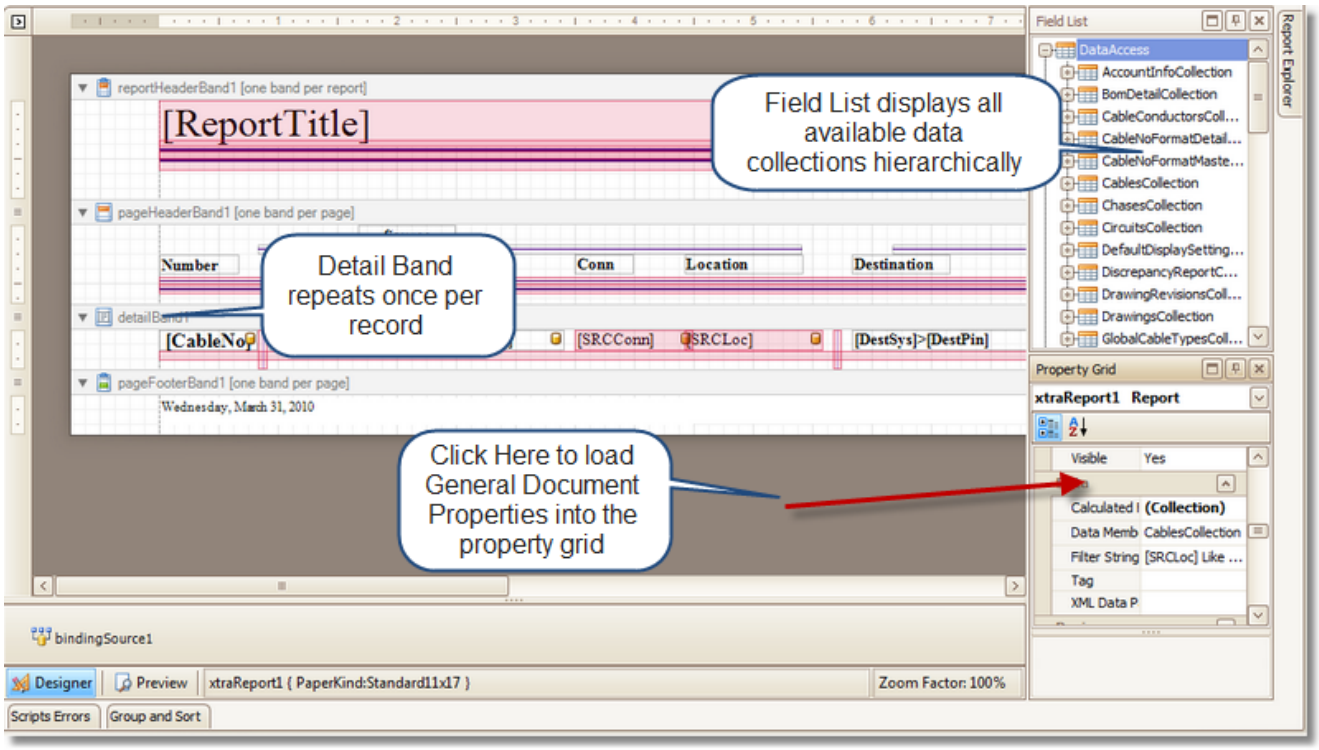
2.3.3.3 Report Design Basics

The following topic assumes that you have either opened a new blank report or that you have run the New Report Wizard.

Navigating the Designer





If you open a new report without running the wizard you will need to set the report Data Member variable. Click in the dark grey area to load the general properties. Select the Data Member from the drop down.

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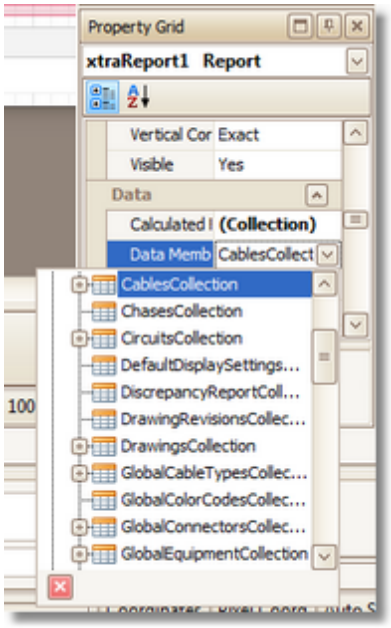

You can drag fields from the Field List directly to the report designer.

If you want to concatenate multiple fields in a single label you can drag multiple fields onto the same label or edit it directly.

To edit a label double-click it to enter edit mode.

Type directly into the label. Field names must be enclosed in [] brackets.

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2.4 Frequently Asked Questions

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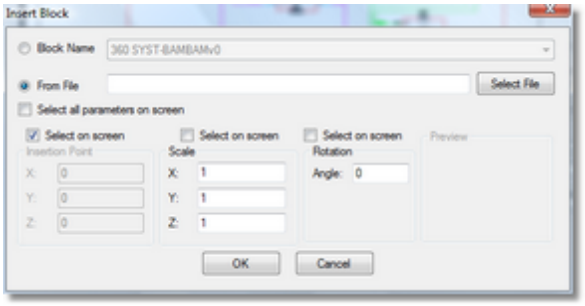
Creating Custom Titleblocks 107
Moving Projects 108
Synchronizing with Another Equipment Library 112
Setting Up on a Network 114
Upgrading From v6 115

2.4.1 Placing Custom Titleblocks (Page Borders)

Menu: **Basic CAD Tools>Blocks>Insert Block Into Drawing** Default command line shortcut:	**Applies To:** All Product Levels **Related Settings:** None

How to Place Custom Titleblocks into Your Drawing

Step	Description
Switch to the Layout in which you intend to place your custom page border	
Open the Insert block into Drawing dialog. **Basic CAD Tools>Blocks>Insert Block into Drawing**	

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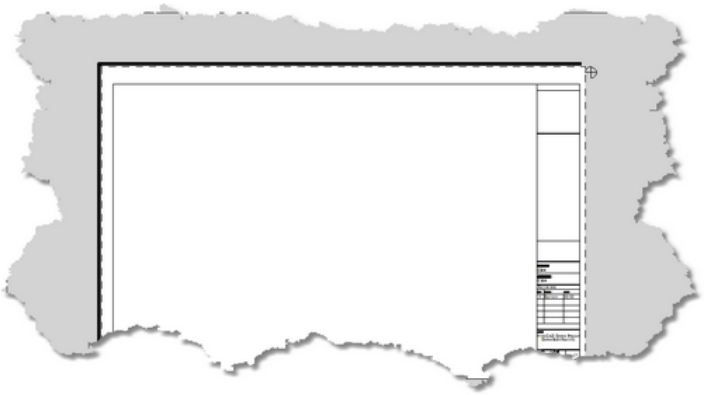
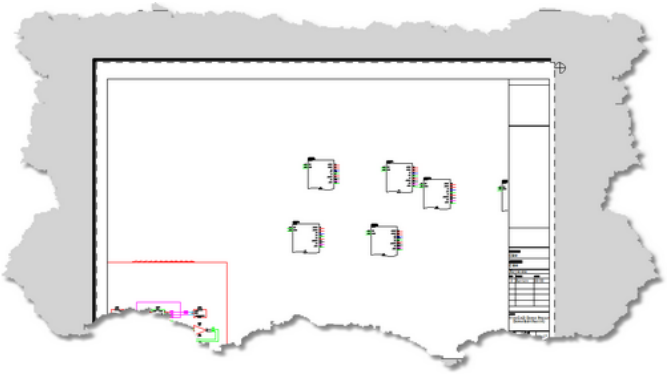
Step	Description
Select **[From File]**	
Browse to the dwg that contains your custom title block in the Model Space	
Click **[OK]** to place the insert into the drawing.	
Now you will need to place a Viewport to the model space	
Click **View>New Viewport** and select the logical boundaries of the viewport within the titleblock you placed earlier.	
Now double-click the viewport to activate it for zooming and panning and use the mouse wheel or zoom commands to position the viewport over the model space.	

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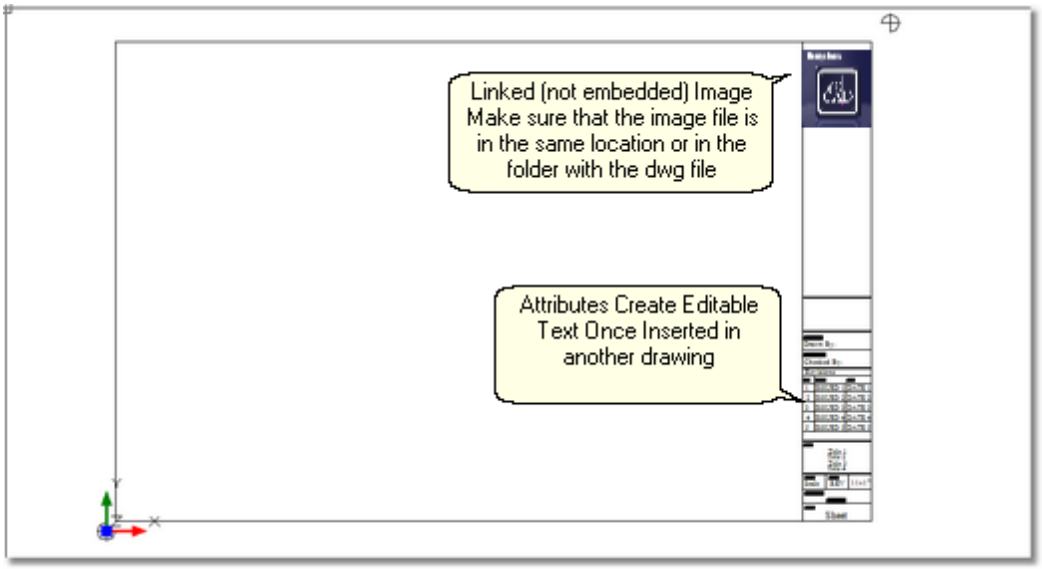
2.4.2 Creating Custom Titleblocks

Menu: **Basic CAD Tools>Blocks>Insert Block Into Drawing** Default command line shortcut:	**Applies To:** All Product Levels **Related Settings:** None

How To: Create Your Own Custom Titleblocks

1. Create a new drawing with no template.
2. Draw your titleblock in Model space scaling it 1:1 with your printed page size, ie an 11x17 page border would be 11x17 minus your margins.
3. Place any images and attribute definitions.
4. Save the drawing.
5. Follow the steps here[105] for placing your title block drawing in any other drawing.



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2.4.3 Moving Projects (Pack Up/Check-Out)

Menu: **Application Menu > Project Utilities>Packup / Check-out** Menu: **Application Menu > Project Utilities>Unpack** Menu: **Application Menu > Project Utilities>Check In** Default command line shortcut: **XL FREE does not support this function**	**Applies To:** XLT PRO **Related Settings:** None

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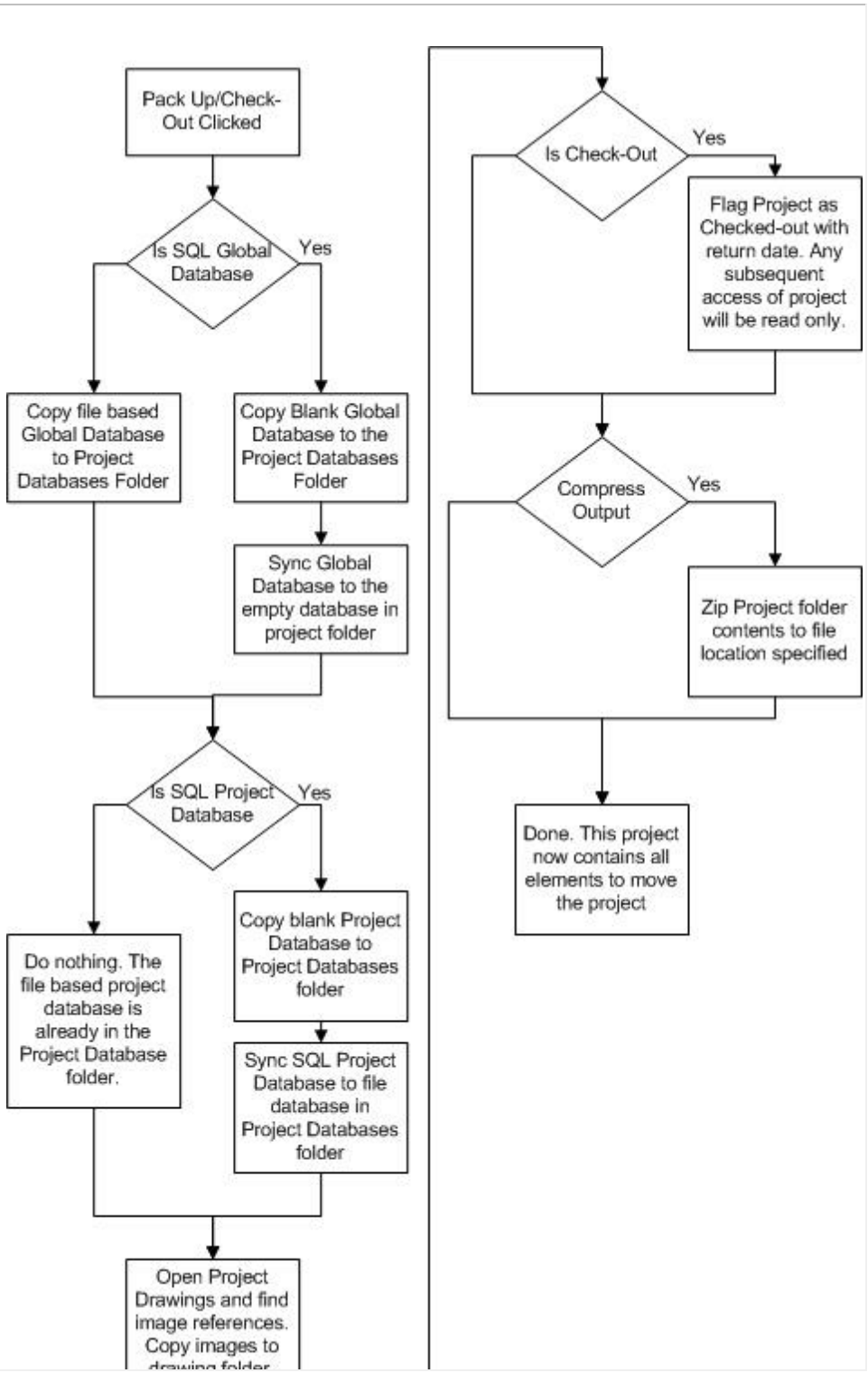
Moving Proejcts

The Basics

When moving projects from machine to machine there are external items upon which the project depends. These are referred to as project and drawing dependencies. The main project dependency is the global equipment database. Drawings may have image, XRef, and font dependencies. When we Pack Up a project we are grabbing all of those dependencies (fonts are and exception and are not included) and placing them in the Project folder. We may choose to Check Out the project at the same time (PRO only). This flags the project rendering read only until such time as the project is checked back in.



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Moving Proejcts

Once packed up and/or zipped up you are ready to move the project to another machine. Simply copy the Project folder or the zipped file and move it to the new machine.

Please note that it is beyond the scope of this manual to tell you how to copy and move files in your operating system.

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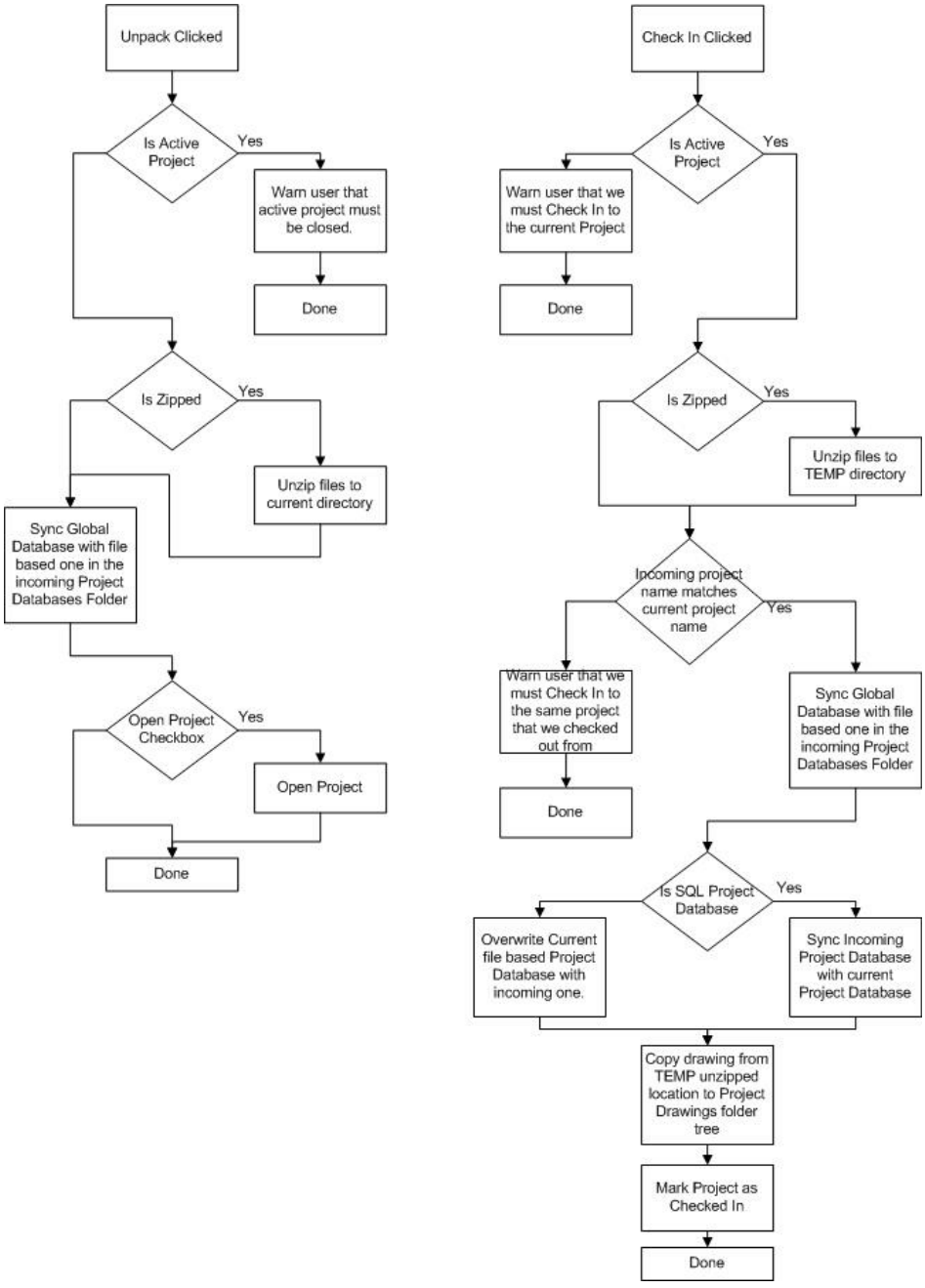
Moving Proejcts

To Unpack or Check In - That is the Question

The two functions are practically identical with the exception that the Check In function won't launch without an active project and once unpacked will mark the active project as Checked In.
Whether you Unpack or Check In a project depends on whether you are moving a project to a machine on which that project already resides and whether you have Checked Out the Project.

If you have not Checked Out the project then there is no need to Check In the project.
If you are moving a project to another machine, use the Unpack function.



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2.4.4 Synchronizing with Another Equipment Database

Menu: **Database>Sync Equipment Libraries...**
Default command line shortcut:

XL FREE does not support synchronizing another Equipment Database.

Occasionally you may experience the need to sync with another user's global database. This will copy all of their equipment to your Global Equipment Database. The sync includes manufacturers, equipment, inputs, outputs, signal types, connectors, cable types, cable core data, relational tables, etc.

You may choose within the tool to perform an **import**, **export** or **bidirectional** sync.

Applies To:

XLT PRO

Related Settings:

Syncs the incoming global equipment database to the connected Global Equipment Database

Demystifying Synchronization

Synchronizing data in two tables of the same structure is really very simple. In its most basic form, records that do not exist in one table are added. Records that exist in both tables receive the most current data based on a timestamp. In order that records deleted from one table do not get added back in, a special table is employed to track deleted keys. If the delete is the most current action then the record will likewise be deleted from the other table. In the unlikely event that the records have the exact same timestamp, yet the data is different, those records are flagged as conflict records from which you must pick the most correct.

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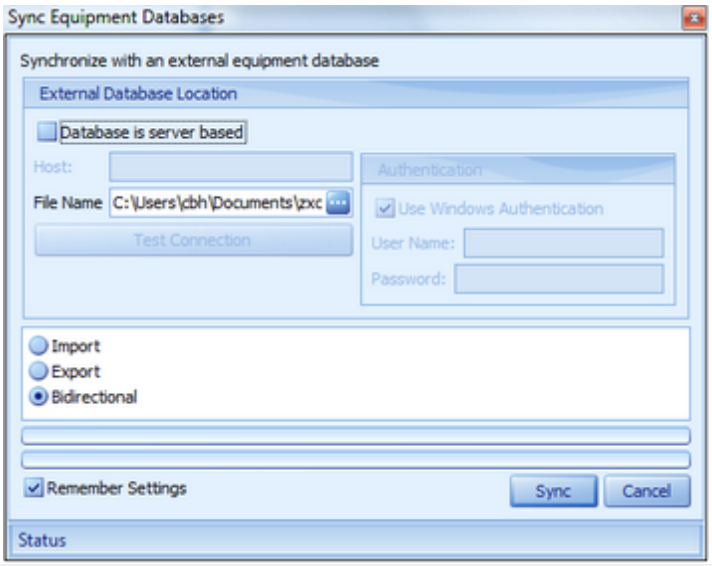
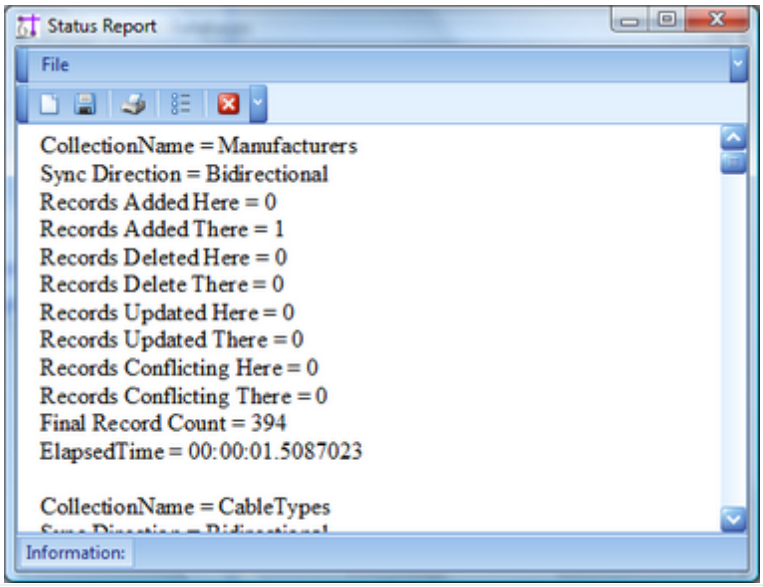
Controls

Database Location Select either a VistaDB file based database or a SQL Server host. If server based you will need to provide host and credentials. If you do not know them contact your SQL Server database administrator.	
Import, Export, Bidirectional	Self explanatory
Remember Settings	Remember database location information
Sync	Initiates the synchronization with the top progress bar showing the overall progress and the bottom showing detail progress.
Status Bar	Displays status of the sync.
At the conclusion of the sync you will be presented with a report that details the records updated here and there.	

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2.4.5 Setting Up On a Network

What follows is a discussion of several different network topologies and work flows that WireCAD can employ. Regardless of topology or work flow the following steps should be taken for each WireCAD machine. For purposes of this discussion we will distinguish between and Windows user operating under group policy and WireCAD user. The Windows user will be referred to as a OS user. WireCAD users will be referred to as WC users.

1. Install WireCAD
2. Create a network share that is visible to all WireCAD users. Group policy for the OS user of WireCAD should allow the user to read and write the registry (restriction of the registry editor is acceptable), as well as, read and write files on the selected shares, the WireCAD7 folder on the client machine, the OS user's temp directory, the OS user's All Users documents and settings folder trees.
3. Pick one WireCAD client machine from which to copy the global databases and copy from ...\WireCAD7 \WireCADGlobalEquipment.vdb3 to \ \YourNetworkShare\FolderForWireCADGlobalDatabases\WireCADGlobalEquipment.vdb3
4. Launch WireCAD on the client machine.
5. Click **Application Menu > Settings{Support Paths}**
6. Modify the support paths for the Global Equipment database, and any blocks or reports that you wish to share among all users.
7. Click **[Done]** and relaunch WireCAD.

Note: The use of mapped network drives is not recommended. Rather use UNC (\ \ShareName\Path\) drive paths to specify network shares. This will avoid problems with the same share mapped to different drives.

8. Click **Application Menu > Security>View Permissions.** If you are an administrator or rather if your WireCAD identity is that of Administrator, you will have edit ability on this grid.
9. WireCAD uses your Windows groups. You assign permissions to the group. The current user Identity is set to the group thus determining their access level.

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2.4.6 Upgrading from v7

Menu: Various Default command line shortcut: none	**Applies To:** All product levels **Related Settings:** None

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If you are upgrading from v7 you will need to take the following steps:

Upgrading from v7

1. Install WireCAD v8
2. Setup your global databases (file based or SQL Server)
3. Click **Database > Sync Equipment Libraries**
4. Click the ellipsis **(...)** and enter the path to the v6 WireCADGlobalEquipment.vdb3 file or set the SQL Server Host info.
5. Click the Import radio button.
6. Click **[Sync]** to sync the two databases.

Note: this may take some time

6. Next convert any projects that you want to work with in v8
7. Click Application Menu **> Open Project** and browse to your v7 <YOURPROJECTNAME>.wc6plf file. WireCAD will open and convert the project.

*When WireCAD converts projects no drawings are touched. The database schema is modified.

WireCAD can no longer upgrade a v5 or earlier project. Key data access components needed to open and import data from the Microsoft Access databases are no longer available for modern 64bit operating systems.

If you need to bring a v5 or earlier project forward we recommend using a 32bit XP virtual machine with WireCAD v6 installed. Convert the project to v6. Then open it in v8 once converted.

We offer this service if you get in trouble. Call us.

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2.5 Choosing a Database Format

Menu: **None** Default command line shortcut: **none**	**Applies To:** PRO **Related Settings:** None

WireCAD v8 PRO and ENT allows the use of file based and server based databases for the project and global databases. The choice of which to use requires some forethought. Listed here are some basic considerations:

	SQL Azure	SQL Server	VistaDB (File Based)
Zero Administration			X
Portable			X
ACID Compliant (atomicity, consistency, isolation, durability)	X	X	X
Database Size	2 Gig	Theoretically unlimited	Theoretical limit is 16 Exabytes (uint64). Practical limit is based upon machine resources. Files are not limited by the database engine, but loading very large databases will require large system resources.
In Process Processing			X
Cloud Based	X		

At first glance that the table above it would seem that the proper choice would be the file based solution. However, take note of the item - In Process Processing means that the WireCAD processes must read and write all data to and from the file based database. Using SQL Server allows us to hand those processes off to the database server creating, in many instances, a significant (read 10X) increase in speed.

Before selecting a database format consider the following questions:

- Will I be moving the project from machine to machine? If yes, consider staying file based on the project.
- Do I have the chops to manage a SQL Server? If no, stay file based. SQL Server requires care and feeding.
- Am I away from my network when I work on WireCAD projects? If you lose connection, WireCAD will become hampered.

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- Do I really need the speed enhancements? If you are working on projects with hundreds of thousands of cables, SQL Server is a must.

When you move a project using the **Application Menu > Utilities>Pack Up/Check Out** function and you are using SQL Server databases the database in converted to a file based version and will remain file based from that point forward.

To set up SQL Server see here119

Need help with SQL Azure? Contact us we can help.

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2.5.1 SQL Server Setup

It is not within the scope of this manual to provide an in depth discussion of SQL Server. We will touch on the basics required for use with WireCAD.

Basics

The WireCAD distribution includes SQL Server database files for the Global Equipment database. You will need to attach these to the the running server. You will then configure WireCAD to look at the SQL Server for the Global Equipment database. WireCAD projects will create a new database (catalog) for every new project.

You will need to set up permissions for each user to allow them dbcreator privileges. This is the default for localhosts but not remote servers.

There is no further requirement to attach databases once the Global Equipment database.

SQL Server can be set up on a server or on a local machine. WireCAD requires the 2005 version or newer and can use the Express versions.

Be sure to download SQL Server Management Studio Express as well. Both are free.
SQL Server does not provide a graphical user interface so you will want to download the management studio listed above.

Setting Up the WireCAD Global Databases on SQL Server

The following assumes that you are installing WireCAD on a local machine. If you are installing on a server you will want to copy the global database files in Step 6 below to the server before you attach them to the server.

1. Install SQL Server. You will be prompted for an instance name. Instance names allow you to have multiple SQL Servers running on the same machine. In addition you will be prompted for a security mode (Windows or SQL), Windows uses your Windows users and groups, SQL ignores these and allows you to manages different users and groups from within SQL Server.
2. Install SQL Server Management Studio(SQLSMS).

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3. Launch SQLSMS and log in to the server. If the server is on your local machine you can use the shorthand . \INSTANCENAME for the host.
4. Setup a proper login for WireCAD.
5. You will now need to configure each WireCAD client to look at the SQL Serverl
6. Launch WireCAD
7. Click Applcation Men > Application Setup and follow the steps for SQL Server.

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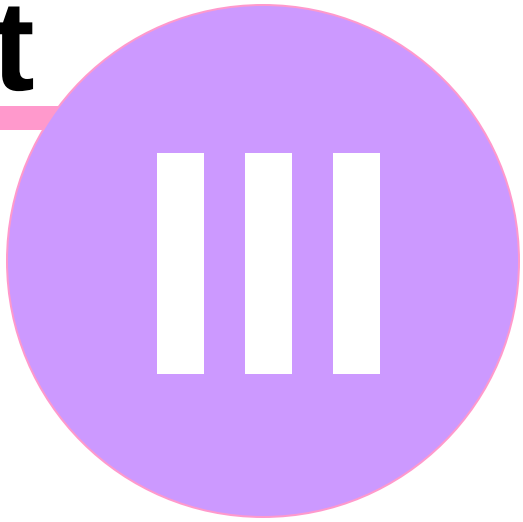
Part



3 WireCAD ENTerprise CMS Tools

3.1 WireCAD CMS Introduction & Concept

This section of the manual covers topics that will help you better understand the work flow, background and idea behind <%APPNAME%> with CMS Tools.

Topic Sub Sections

WireCAD Concept Before CMS Tools

CMS Tools Concept

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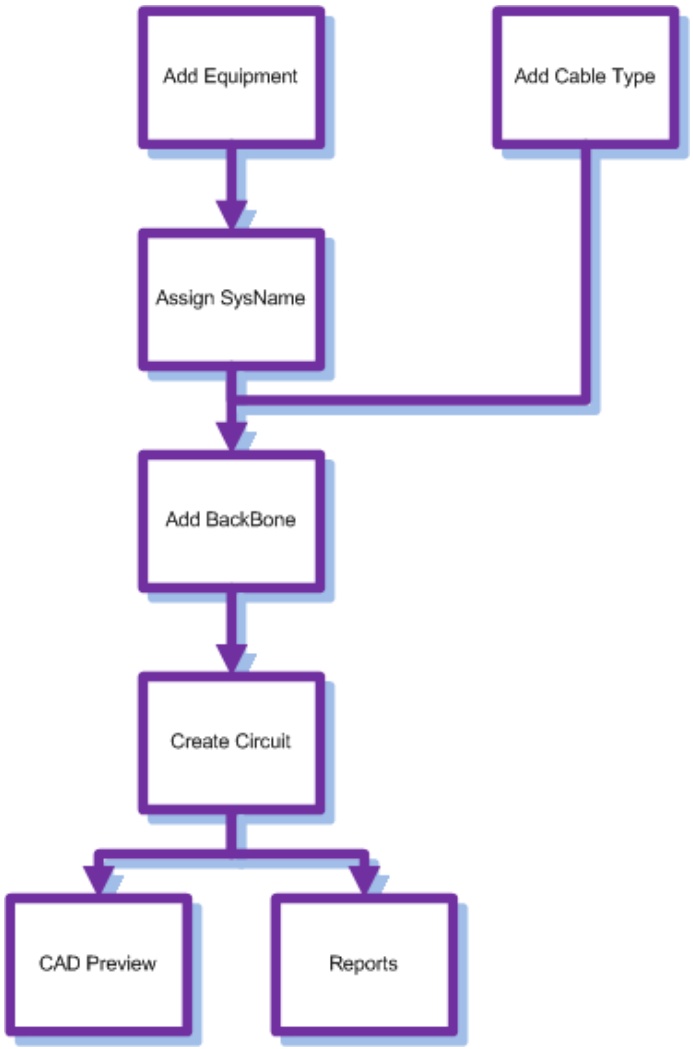
3.1.1 CMS Tools Concept

<%APPVER%> with CMS tools has introduced the ability to work in a different manner from previous versions of WireCAD.

The standard work flow for WireCAD users has been to create your Functional Block Diagrams first, then assign SysNames and Cable Numbers and lastly, generate reports based on this information.

<%APPVER%> CMS allows you to start by entering your SysNames and Cable Numbers into the Database first, create Backbones and Circuits and then generate a Functional Block Diagram based on the information set in the Database.



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3.2 CMS Basics

The following is a list of How To's for multiple functions in <%APPVER%> including creating Cable Types 419, New Equipment Definitions, Creating Projects and more.

Creating a New SQL Project 183

Creating a New Cable Type 170

How To Create a Backbones 130

Using The New Circuit Tool 147

How to Output a Circuit to CAD 162

How to Output Many Circuits to CAD 164

Using The Backbone Grid 126

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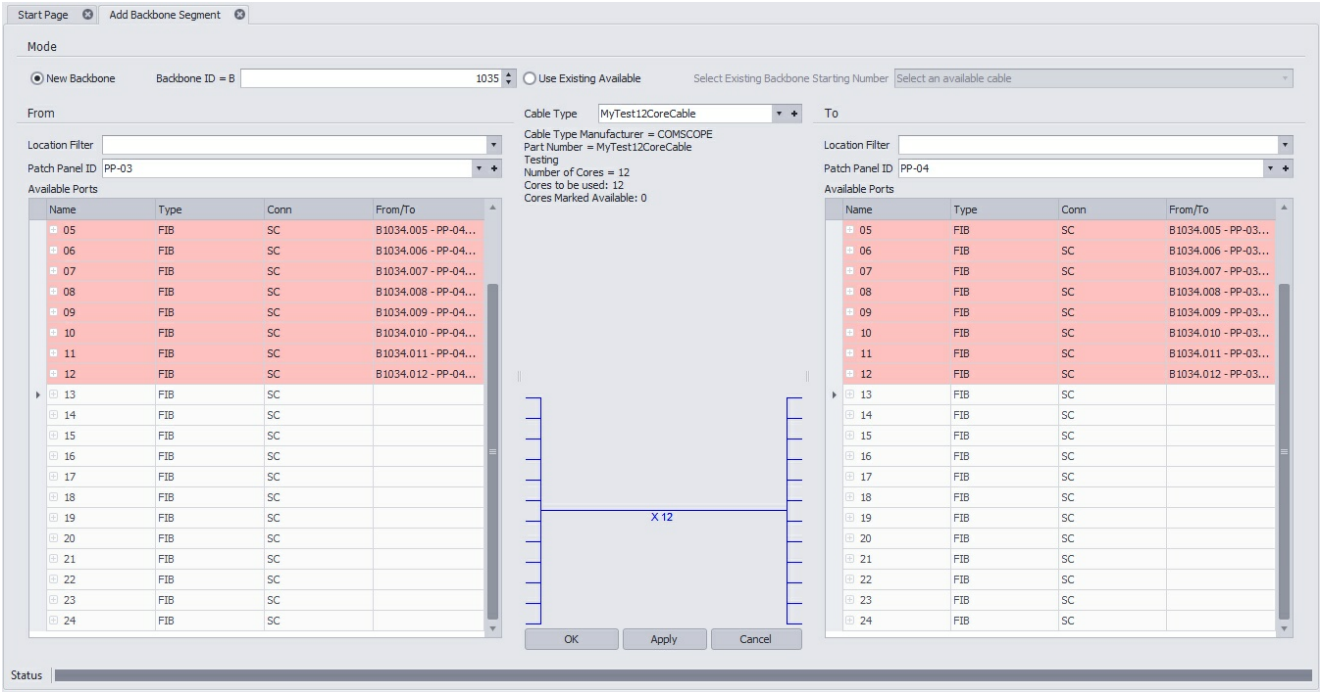
3.2.1 Backbones

This is a step by step guide on how to create Backbones. Backbones are represented in the cables database by a collection of cables.
Each cable in the backbone has the same Cable Number Prefix. When you create a new Backbone you are creating a collection of cables based on the selected Cable Type. If you are documenting fibers think one fiber equals one core/conductor/cable. backbone cables are flagged with the boolean value isBackbone = true. Doing so distinguishes a cable as being part of a backbone structure.

Open the Backbones grid by double-clicking the icon in the Project Explorer [Project Databases]**[Backbones]**
Command Line Shortcut: **bbg**

Before You Start

Before creating a Backbone, you will need to make sure you have created your Equipment 176 and Cable Types 169 associated with this project.



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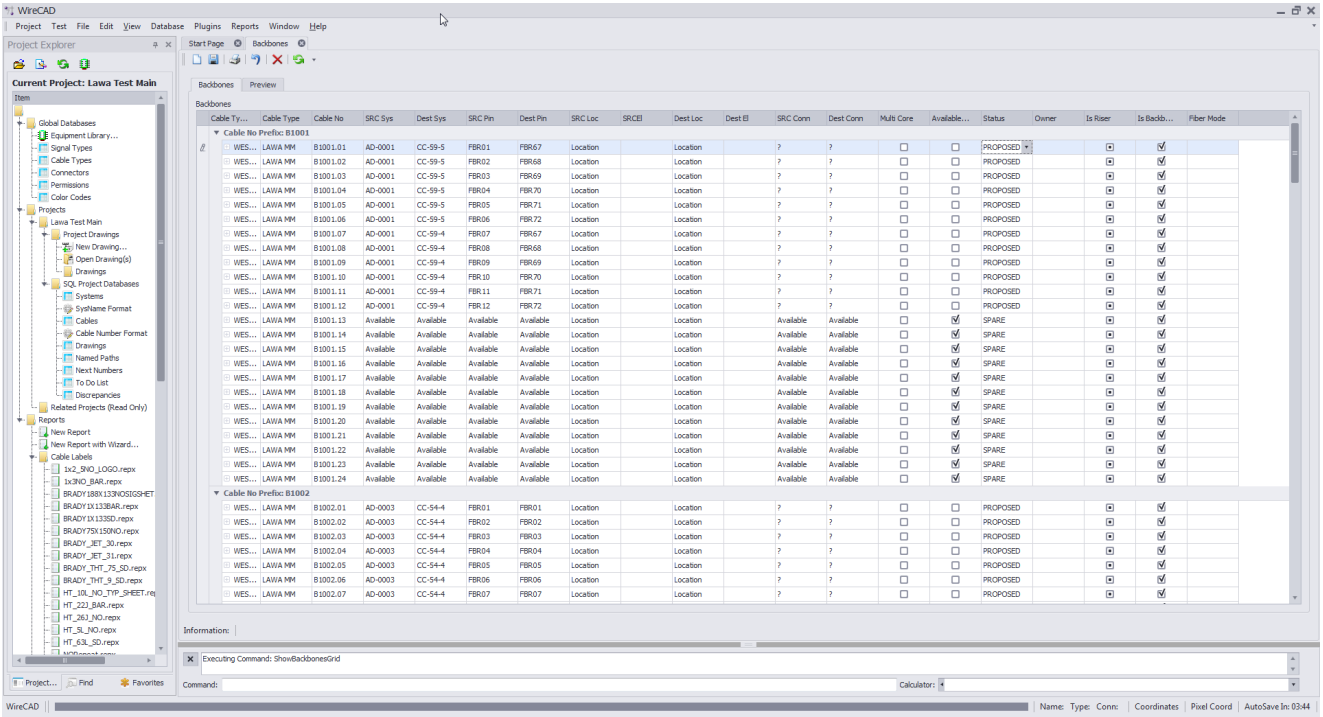
3.2.1.1 The Backbone Grid

The Backbone Grid will show you a list of all the backbone segments in your project and allow you to modify their status or delete the entire backbone cable group at once. The status will refer to whether the backbone is in use, proposed, dead ETC. New backbone status can be created in the project settings menu. There are 3 default status available; in use, proposed & dead.

The Backbone Grid is easier to use than the Cables Database if you are looking for basic information about a backbone such as number or origin and destination information or if you are simply wanting to change the status of the backbone.

To access The Backbone Grid, type **BBG** in the command line.

With The Backbones Grid open, a list of all created backbones and cores will show along numerous columns of information about each backbone core.



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Edit	
Copy Selection Down	Create a selection vertically in the grid and click **Edit>Copy Selection Down** or **Ctrl+D** and the topmost cell's data will be copied to all selected cells below.
Delete Selected Backbone	This function will delete ALL cables associated with the selected Backbone. If you are just trying to delete a single cable you should do that from the Cables database.
Refresh	Query the database and reload the data into the grid.
Tools	
Attach Document	Useful for storing field survey reports and other documents associated with this backbone. You can attach as many documents as you need. The documents are stored in the database. You can click on the link provided in the grid to launch the document into the system document reader for that file extension (MIME Type).
Rename Source Connecotor(s)	Renames the Source Connector (SrcConn) field and any jumpers or horizontal cables attached to this backbone.
Rename Destination Connector(s)	Renames the Destination Connector (DestConn) field and any jumpers or horizontal cables attached to this backbone.
Rename FiberMode	Renames the Fiber Mode (FiberMode) field and any jumpers or horizontal cables attached to this backbone.

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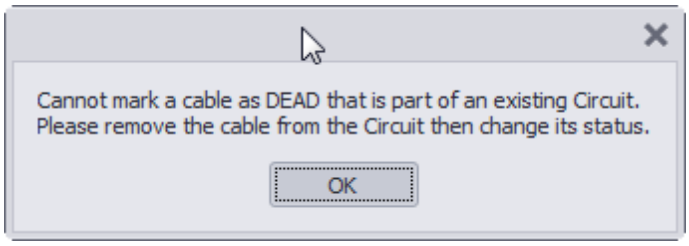
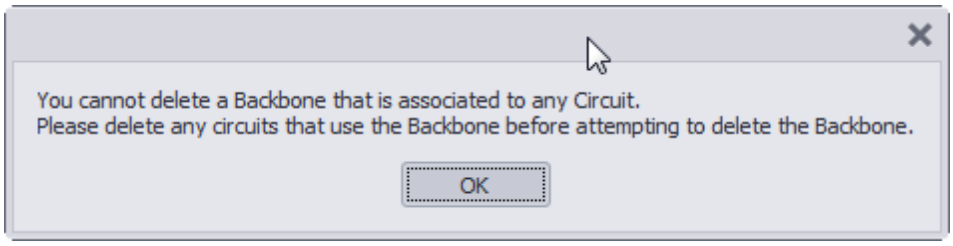
While a number of fields are shown in **The Backbone grid**, only the **Status**field & **Owner** field are modifiable. All other fields are simply shown for reference.

Note: When marking a backbone as dead you must make sure that this cable is no longer used in an active circuit. If WireCAD detects that this backbone is still in use, you will be presented with a warning message stating "Cannot mark a cable as DEAD that is part of an existing Circuit. Please remove the Cable from the Circuit, then change its status. "



Note: You will also receive a warning message if you try to delete a cable that is part of an existing circuit. You must remove the cable/backbone from the circuit before deleting. If you wish to delete individual cores, you can do so from inside the cables database however this information will not persist back into the CAD drawings.



Note: When deleting a backbone in **The Backbone Grid**, the entire group of cables will be deleted even if you have only selected a single core. Make sure that you want to delete the entire backbone segment before selecting delete.

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Note: Deleting backbones in **The Backbone grid**, does not adjust number sequence. If you wish to reuse deleted backbone numbers, you will need to manually access the **Next Numbers Grid** and change the next available number to the one you would like to use. Example, you have created backbones 1001,1002,1003 & 1004. The next number in the sequence would be 1005. If you then delete 1002,1003 &1004, the Add Backbone Segment Tool will label the next backbone as 1005. To reuse 1002, 1003 & 1004, you need to manually select these as next in the sequence by doing so in the Next Numbers 187 Grid.

3.2.1.2 How To Create a New Backbone

Explanation

The following procedure details the creation of backbones in the CMS module. Backbones are multi-core cables in the cables database that interconnect two (or more) patch panels.

Note: While this tool is open in your window other WireCAD users will be locked out of the Cables table of the Project database.

1. Make sure you have used the steps above to create your Equipment 177, Customize your I/O and create your Cable Types 169.

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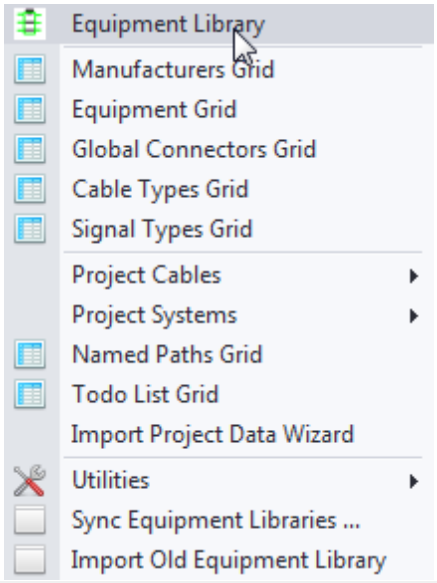
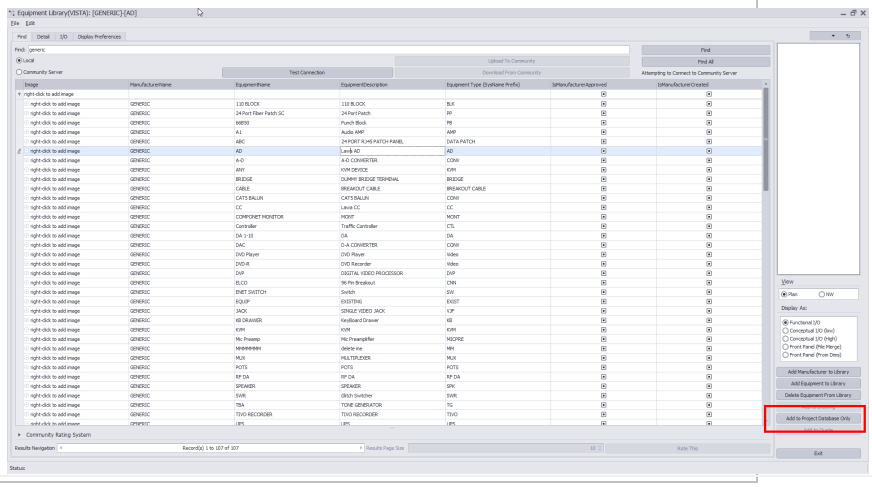
2. Access your Equipment Library 323.

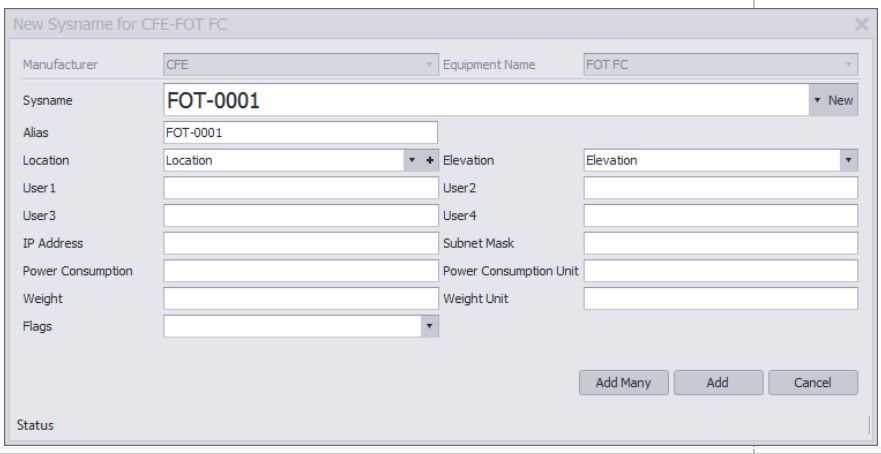


3.Find the equipment you would like to use and click **[Add to Project Database Only]**.

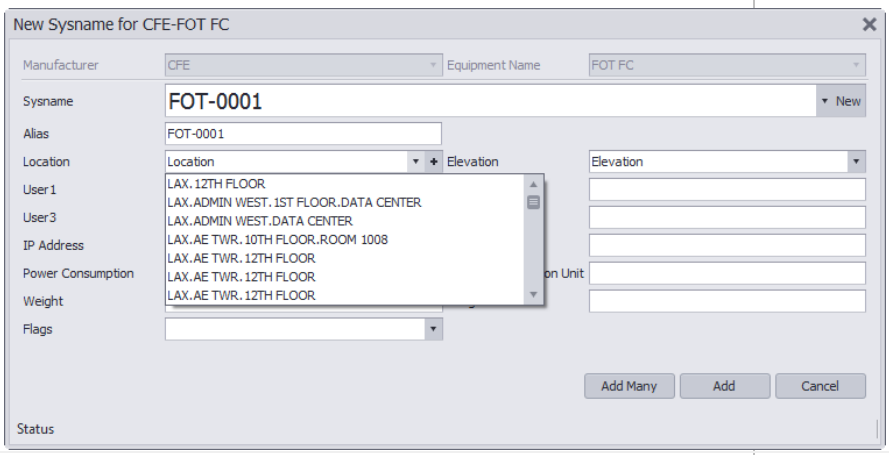
Note: You can add as many pieces of equipment you as you would like at this time however you will need to have at least the 2 definitions that the Backbone are linked to.



4. A new SysName window will pop up asking you to verify information about this equipment. The next available SysName will automatically populate.

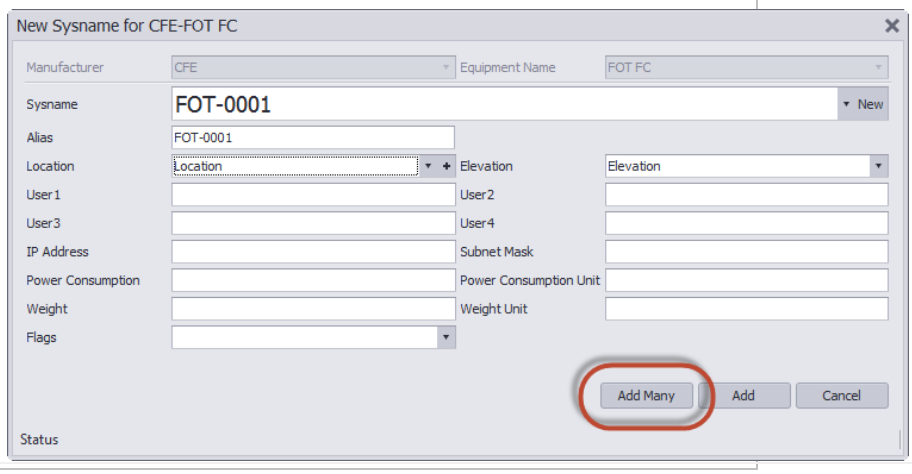


5. Enter in your location for this equipment. Example: Admin Basement Telephone Room.



6. If there are multiple pieces of the same equipment in this location, you can select the **[Add Many]** to create multiple pieces of equipment at the same time.

Note: WireCAD will automatically SysName each piece of equipment using the next available number in the sequence.



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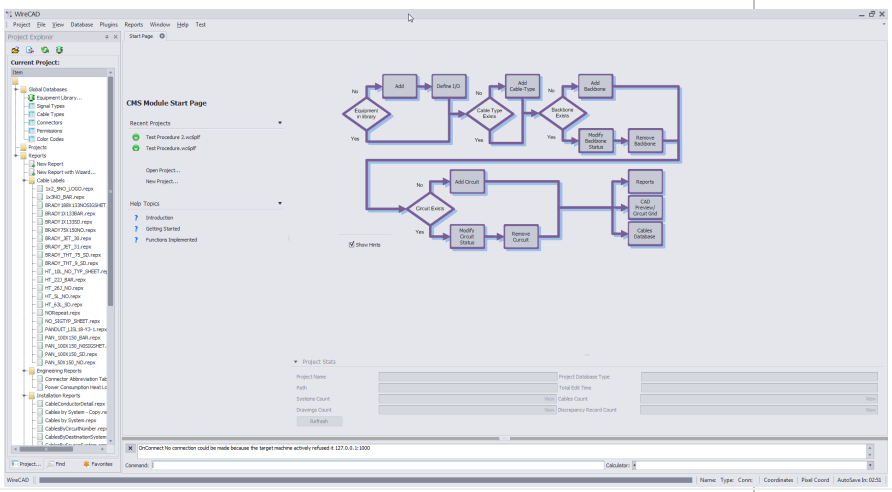
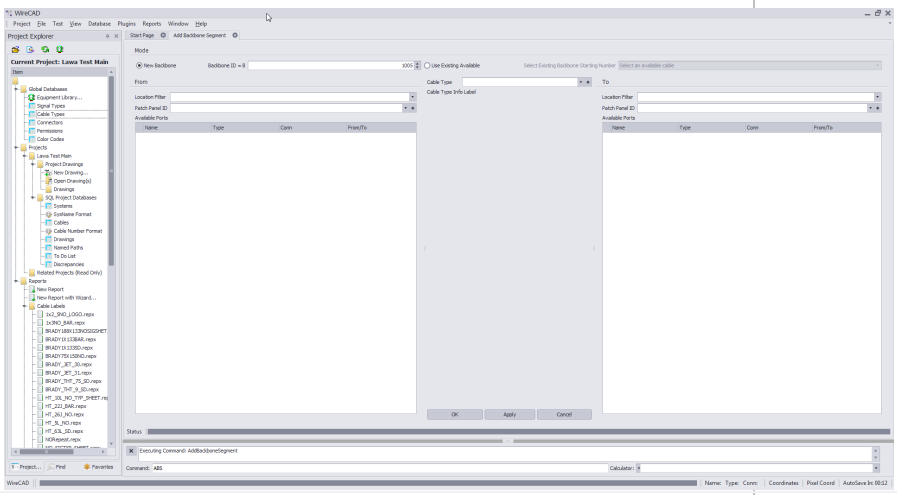
7. Once you have added your equipment into the Project Database, close your Equipment Library 323.

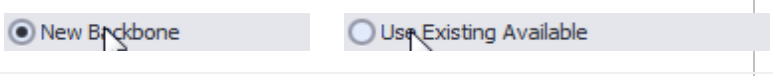
8. Enter ABS into the command line and press enter or click on the **[Add Backbone]** button on the homepage.



9. The **Add Backbone Segment** window should now be open.



10. First select if you would like to create a **New Backbone** or **Use Existing Available**.



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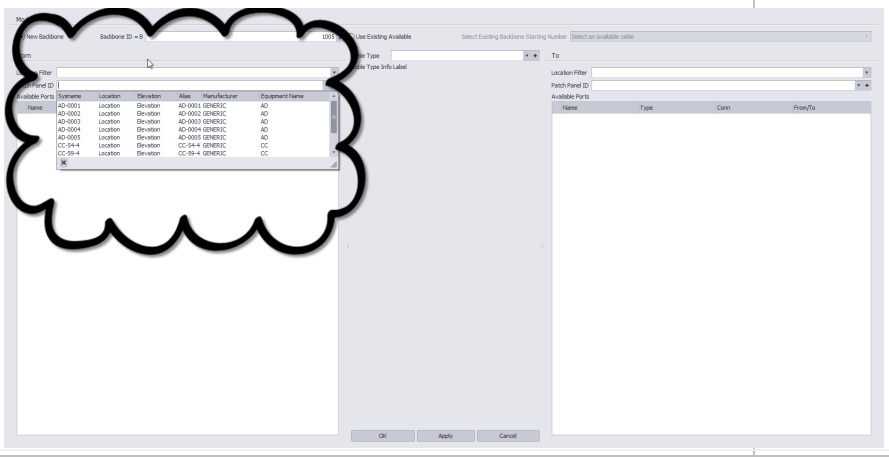
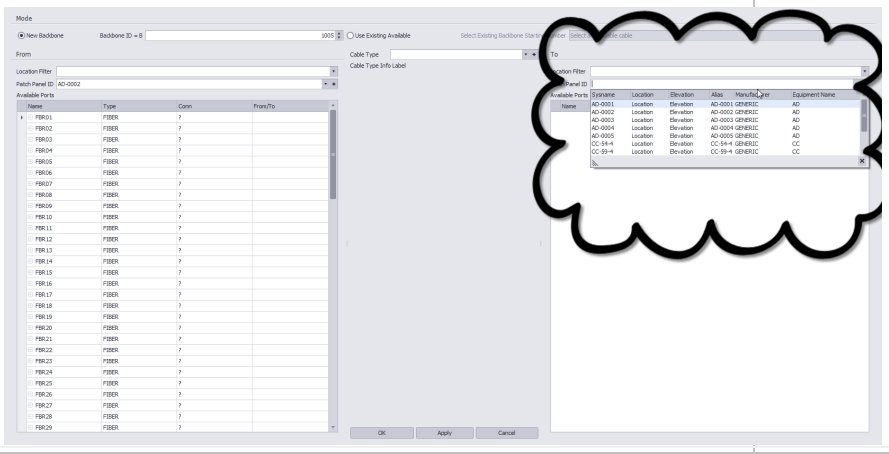
11. On the **From** side, select your equipment from the **Patch Panel ID** field.

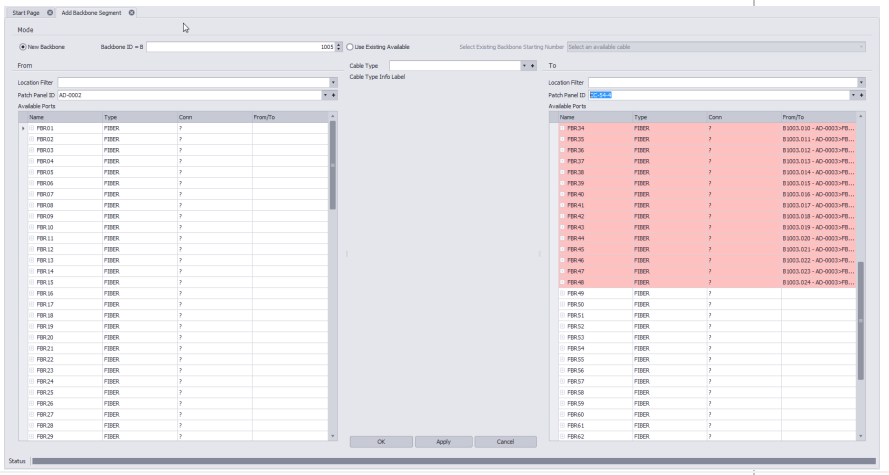


Note: You can filter your results using the Location Filter field. This allows you to select only equipment listed in a location that was specified during SysName Assignment.

12. On the **To** side, select your equipment from the **Patch Panel ID** field. Again, you can filter your results using the **Location Filter** Field.



13. On both sides, ports that are available will be shown in white while ports that are currently being used will show as pink.



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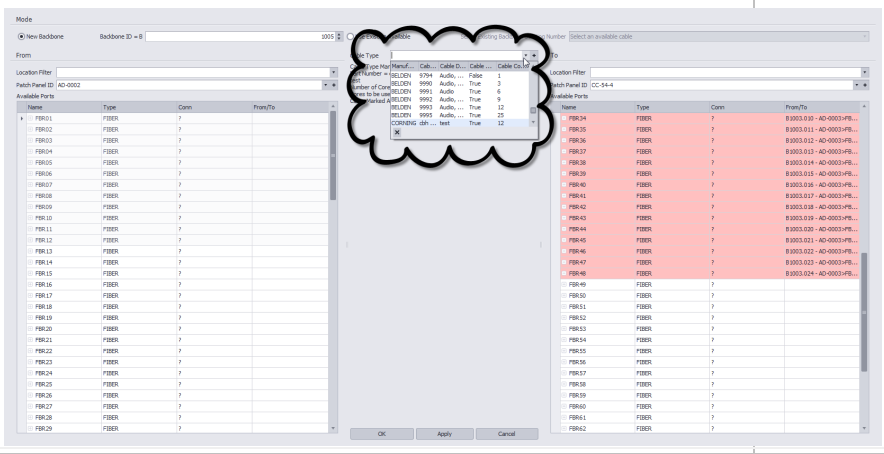
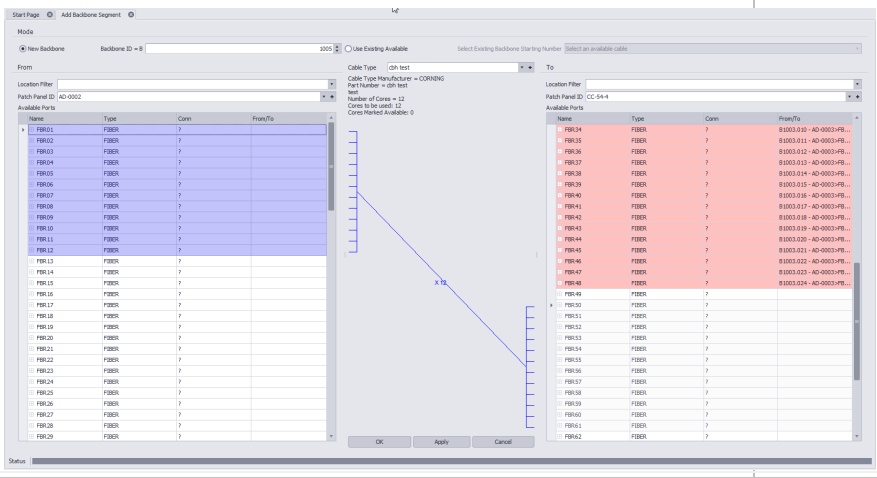
14. From the **Cable Type** field, select the Cable Type you would like to use as your backbone.



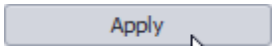
Note: If you have not already created a Cable Type for your backbone, you can do so by clicking the **[+]** sign and following the instructions here 170.

15. Select the ports you would like to use on the **From** side, then select a starting port on the **To** side.



Note: You will see that WireCAD will automatically draw a backbone based on your port selection and Cable Strand count. NOTE: See * Below!

16. Click **[Apply]**. WireCAD will create this backbone and then revert to an empty page ready for another backbone assignment.



*Note: Always make sure that you are not overlaying on used ports and that the ports coming in are not the same as the ports going out. Example: If you have a Patch Panel with 24 Ports in and 24 Ports out, you could use ports 1-12 as your incoming ports and 13-24 as your output ports. This allows the other 12 ports on each side to be used for jumpers to other equipment while maintaining a backbone infrastructure.

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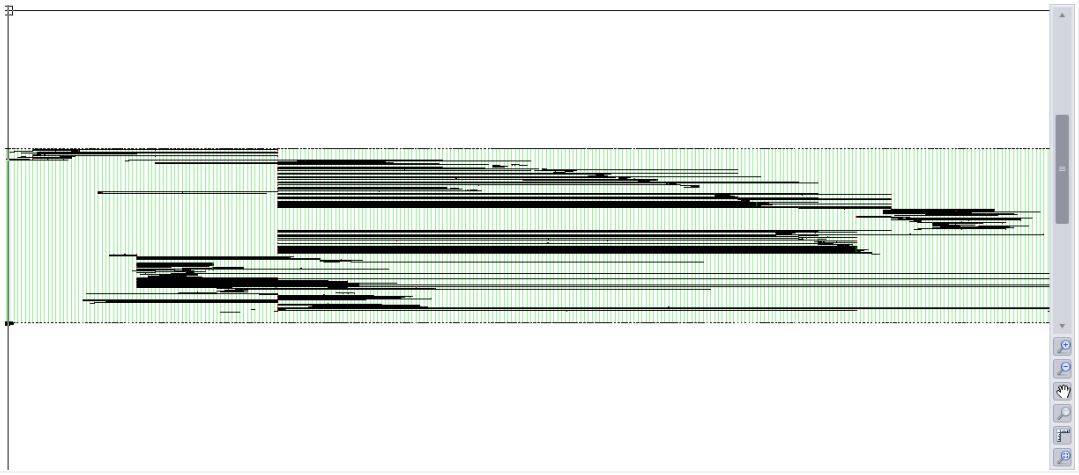
3.2.1.3 Backbone Visualization Settings

Before You Start:

In order to preview Backbones you will first need to Add Backbones 130

These settings determine the display of the Backbones Visualize 142 tool.

Layered Digraph Mode Data Source	
Show All	Shows all backbones in the database in the Visualize tool 

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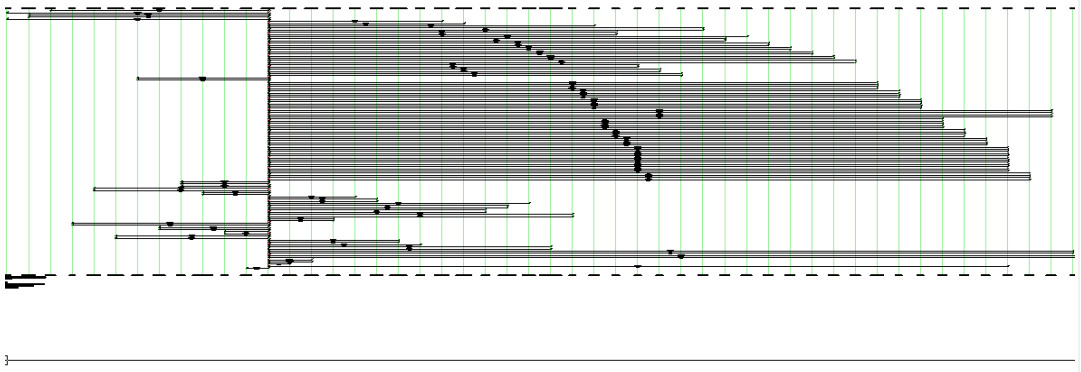
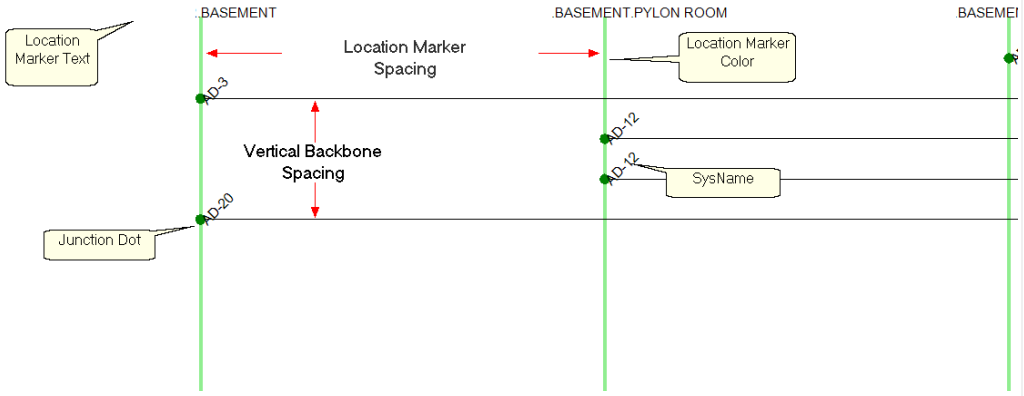
Current Record	Allows selection of only those backbones that touch the selected record. 
Search Depth	How many branches deep are we going to search.
Search Width	How many backbones per branch.

Appearance

Location Marker Spacing	
Location Marker Text Height	
Location Marker Color	
Junction Dot Radius	
Vertical Backbone Spacing(DU)	

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Center Label Format	String used to create the center label. Can make use of the following variables: {0} = Backbone Number {1} = Total Count {2} = Total Available Count {3} = Total Dead Count {4} = Single Mode Fiber Count {5} = Available Single Mode Fiber Count {6} = Dead Single Mode Fiber Count {7} = Multimode Fiber Count {8} = Available Multimode Fiber Count {9} = Dead Multimode Fiber Count Example: assume that our backbone number is 1001 with 12 single mode fibers of which 1 is dead and four are in use. **String:** B{0}-SM COUNT:{4} Avail:{5} Dead:{6} **Output:** B1001-SM COUNT:12 Avail:8 Dead:1 **String:** B{0} **Output:** B1001
Center Label Offset	Offset from center in DU
Show SysNames	Shows the SysName labels

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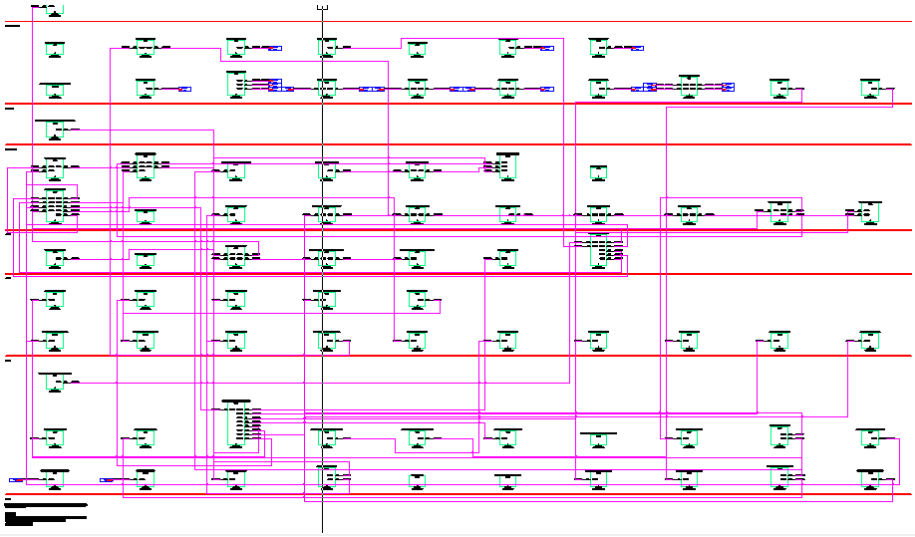
Ignore Same Locations	Hides backbones that originate and terminate in the same location
SysName Rotation Angle	Sets the rotation angle of the SysName label if shown
SysName Text Height (100th DU)	Sets the height of the SysName text if shown
SysName Text Offset	Offset from the endpoint of the backbone
Riser Diagram Mode	
Campus and Building	The Campus and Building for which to build the riser diagram 

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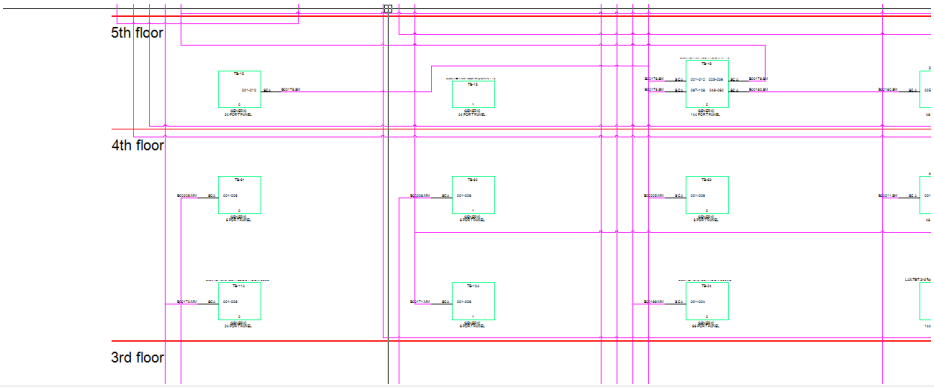
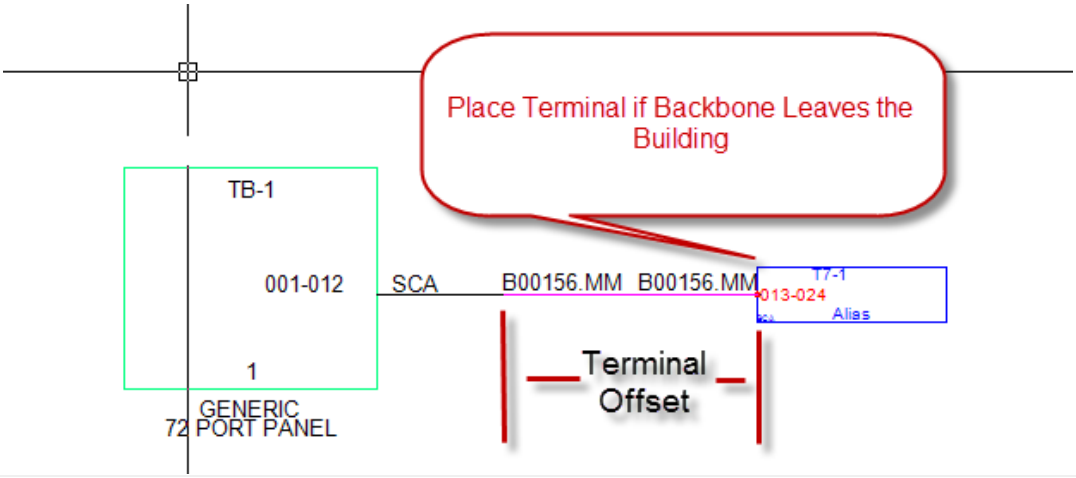
Layout Max Columns, Column Spacing, Minimum Row Height	Determine the layout of the panels in the diagram 
Body Color, Body Width, Descriptor Locations	Determines the appearance of the body of the panels in the diagram
Show Terminals if Backbone Leaves the Building, Terminal Offset	If the other end of the Backbone is not in the selected building a terminal will be placed and a backbone drawn to it. The terminal's position from the port on the panel is determined by the **Terminal Offset** property. 

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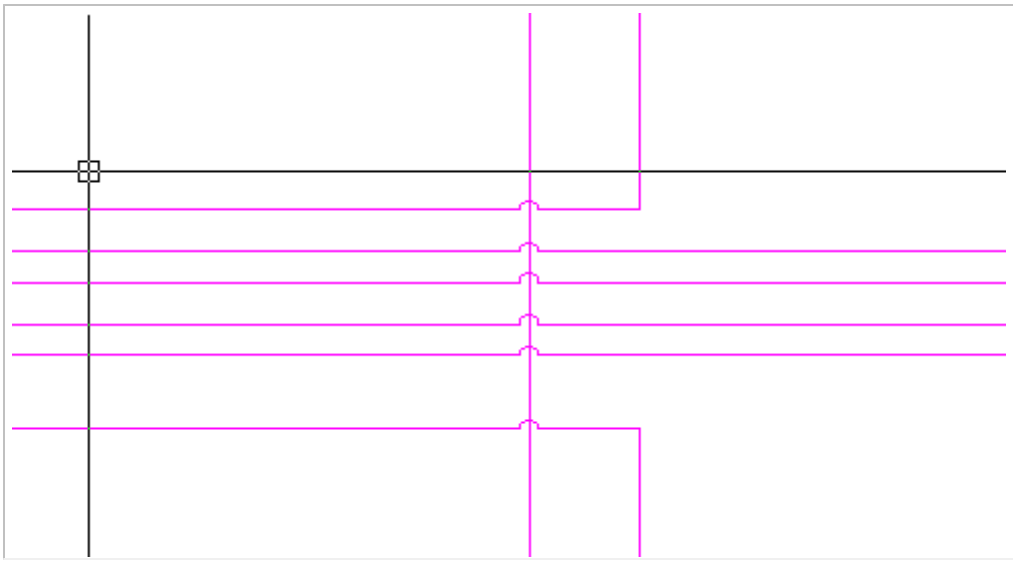
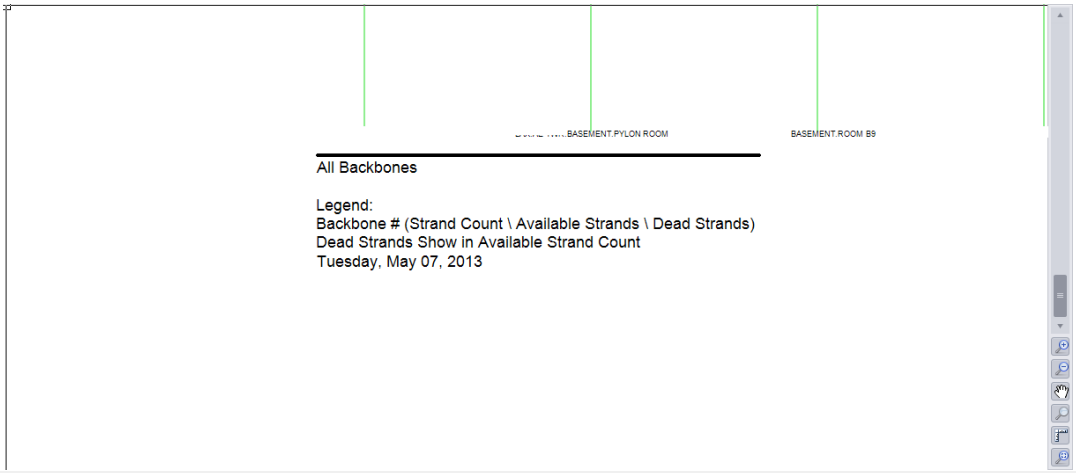
Apply Jumps	
Avoid Other Cables	Instructs the cable autorouter to attempt to avoid other cables.
Show Unresolved Backbones	If the Backbone cannot be placed in the drawing a list is generated. Enabling this setting shows the list as the function completes.
Title and Comment Block	
Show Title	Sets the visibility of the title/comment block
Title Position	
Show Time Stamp	
Title Text Height (100th DU)	
Title Offset	
Title	



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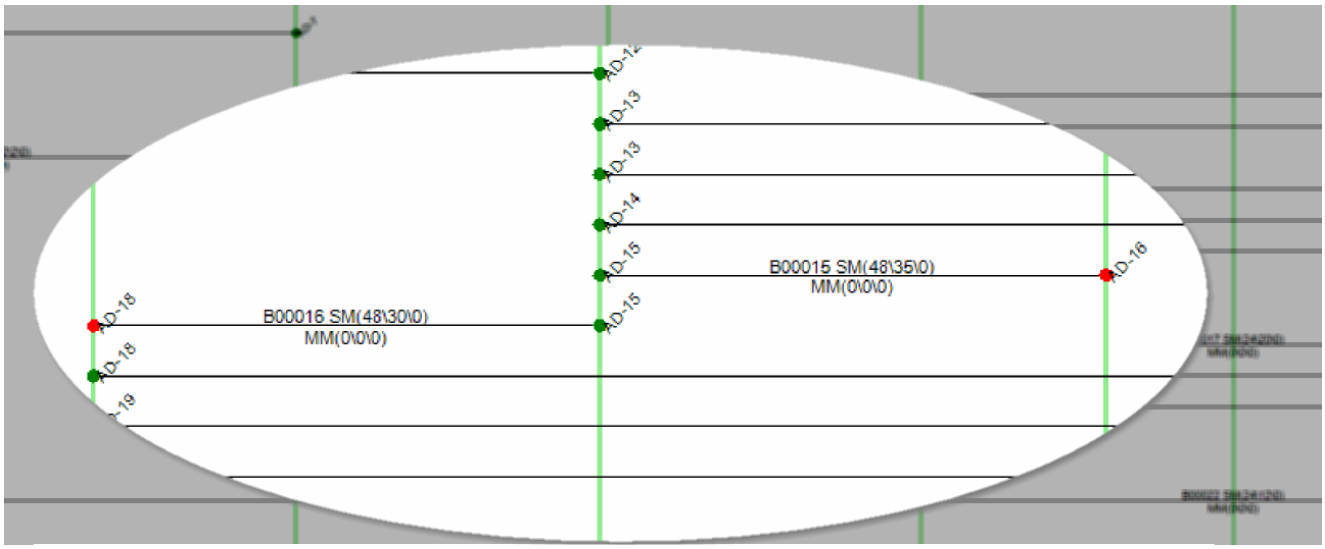
Misc.	
Backbone Color by Signal Type	Pulls the backbone color from the global Signal Types database.
Show Directional Coloring	Shows green dots for the source end of the backbone and red dots for the destination end if shown.
Backbone Color	Sets all backbones to the color defined.
[Reset Default]	Button to reset the settings to the defaults.

3.2.1.4 Backbone Visualization Layered Digraph Ouput

The Backbone Visualization tool creates a layered digraph showing the backbones horizontally and the locations in which they originate and terminate vertically.

The backbones displayed, and many of the display parameters can be set using the **[Visualization Settings]** 136 tab.



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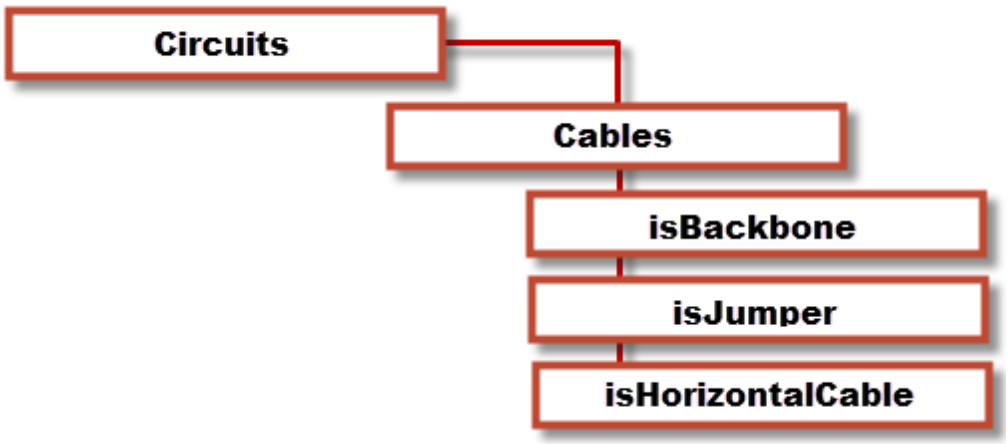
3.2.1.5 Backbone Preview Export

Exporting the CAD preview of the Backbones Visualization tool is as easy as clicking the **[Export]** button.

Note: The current preview will be exported based on the Export Settings found in the Application Menu > Settings [Project][Export Settings] 193 tool.

3.2.2 Circuits

A circuit in WireCAD is defined as a collection of cables. Each circuit may have a Name, Description, and other meta data. A circuit also has a strand count to indicate the number of connections made from the originating device on through to the terminating device. Circuits have a one-to-many relationship with the cables in the Cables database. Each circuit may have many cables but a cable can belong to only one circuit.



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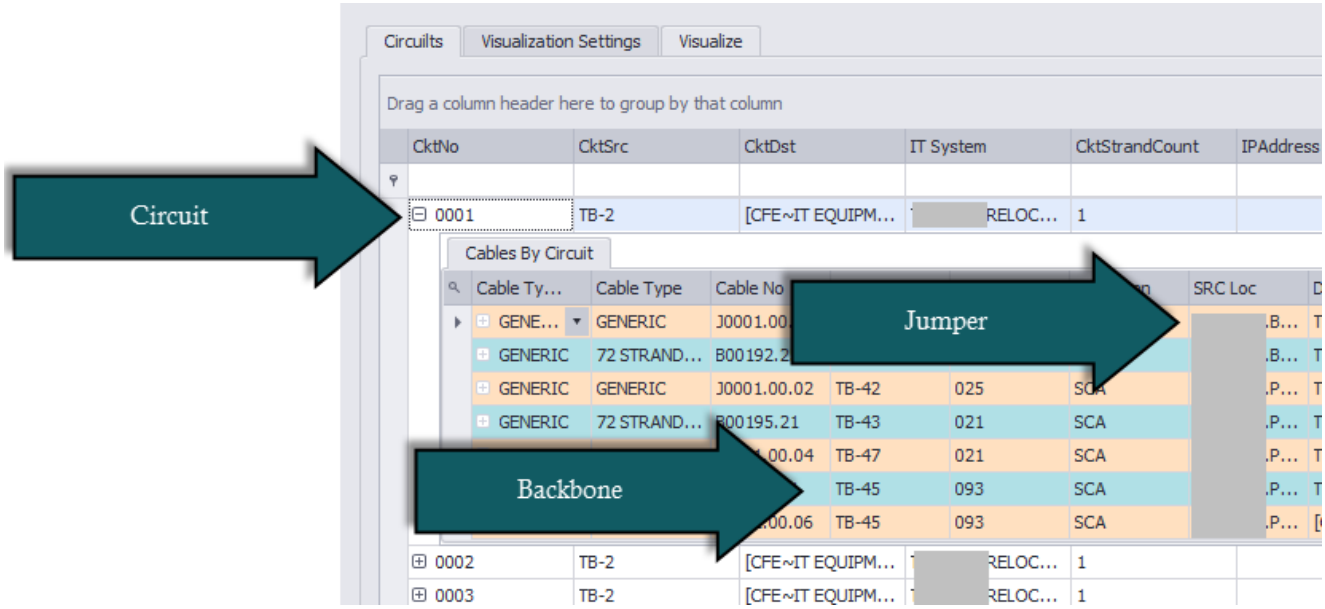
3.2.2.1 Circuits Grid

The Circuits Grid presents the overall circuit data in list form with the child cable data attached for view.

Open the Circuits grid by double-clicking the icon in the Project Explorer [Project Databases]**[Circuits]**

Command Line Shortcut: **cmscg**



Tools	
Attach Document	Useful for storing field survey reports and other documents associated with this circuit. You can attach as many documents as you need. The documents are stored in the database. You can click on the link provided in the grid to launch the document into the system document reader for that file extension (MIME Type).
Rename Circuit	Renames a circuit and all of its cables
Combine Circuit	See the topic Combining Circuits 167.

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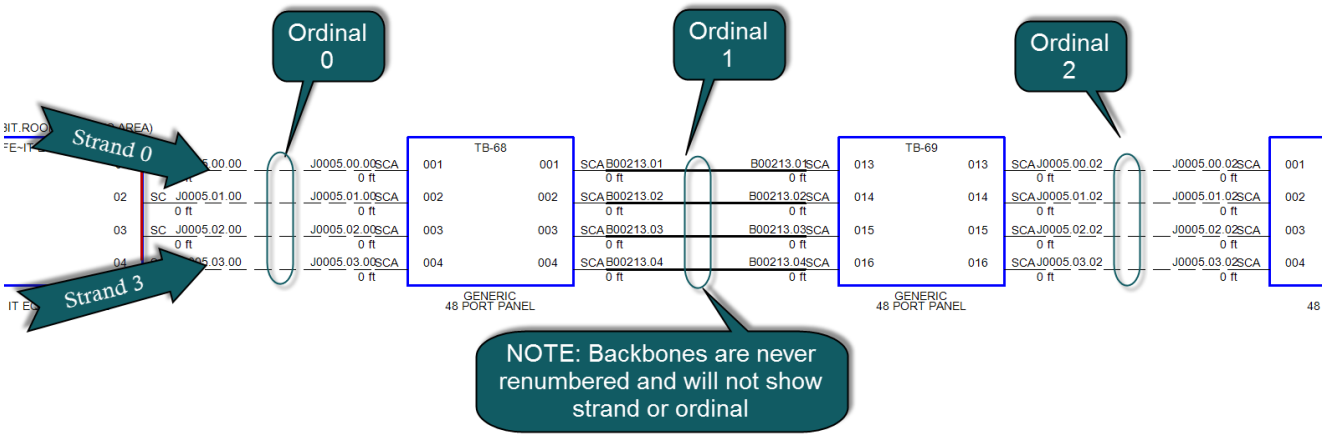
Strand Count and Ordinal Explanation



WireCAD uses the strand and ordinal to know the exact position of a cable in a circuit. Strand 0 will always be the topmost cable in the circuit with Strand n being the bottommost cable in a circuit. Ordinal 0 will be the leftmost set of cables in the circuit with Ordinal n being the rightmost set of cables in the circuit.

3.2.2.2 New Circuit Tool

The New Circuit tool is used to connect *Field End* & *Head End* Equipment together by adding jumpers between existing Backbones. Each circuit is comprised of descriptive data, such as **Name, Customer, IT System** or **Description**, **source** and **destination equipment** (SysNames); as well as a collection of cables in the Cable database. You simply select the ports that you wish to jumper from/to and add the jumpers/back bone segments to the **Proposed Cables list**. A **Path Finder** tool helps you search out possible routes. A **[Preview]** window presents the functional block view of the **Proposed Cables**. Once you are happy with the circuit, simply click **[Build]** and all Proposed cables will be added and associated to the named circuit.

To open the New Circuit tool open the Circuits grid and click **File>New**
Command line shortcut: **nc**

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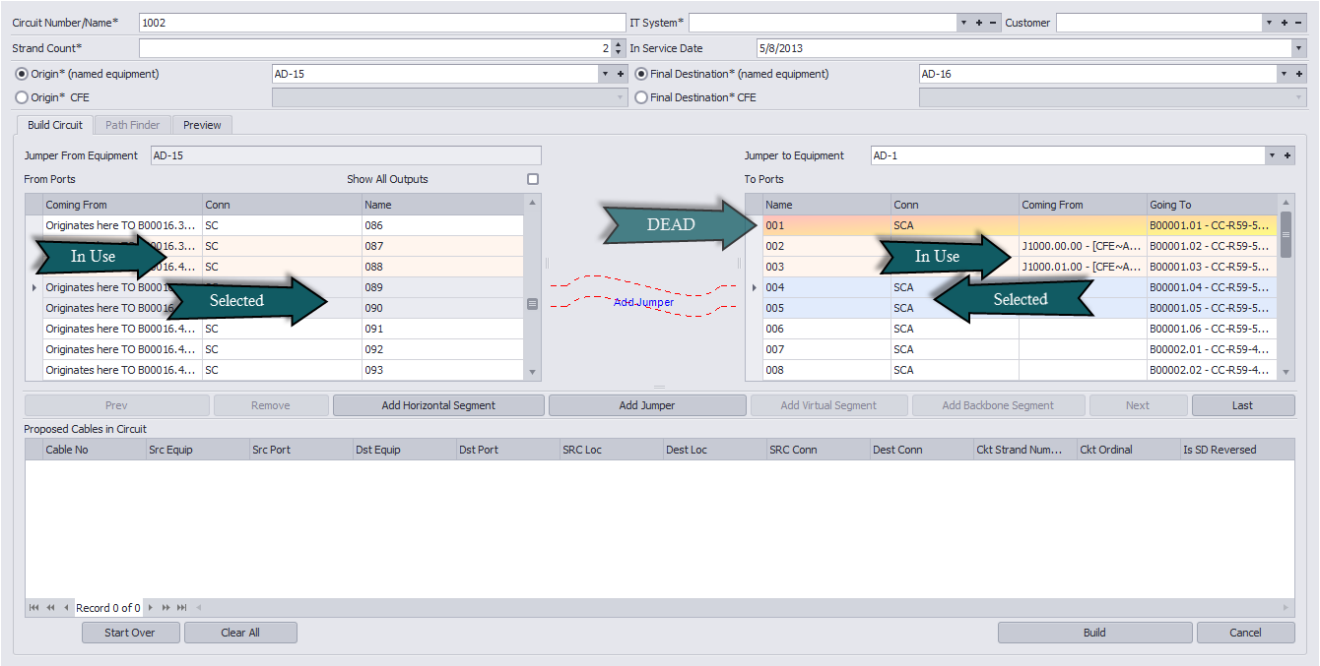
Note: While this tool is open in your window other WireCAD users will be locked out of the Cables table of the Project database.



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3.2.2.2.1 Create New Circuit

Before you Start

The use of this tool assumes the following:

- That you have added Backbones to the project.
- That you have added the necessary Cable Types to the global Cable Types 419.
- That you have an idea of what you want to connect together and that you know the first bit of infrastructure to which you will attach.
- That you have created your Customer Furnished Equipment(CFE) in the Equipment Library 323 for the originating and final destination equipment devices and/or that SysNames have been created for each individual piece of equipment to which you will attach.

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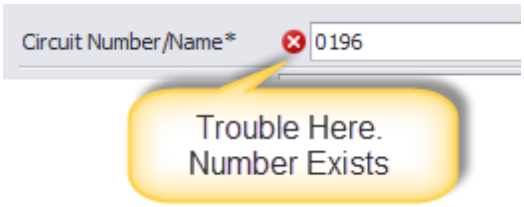
How to create a New Circuit

1. Verify that you have created all your Equipment and Cable Types needed for this circuit.

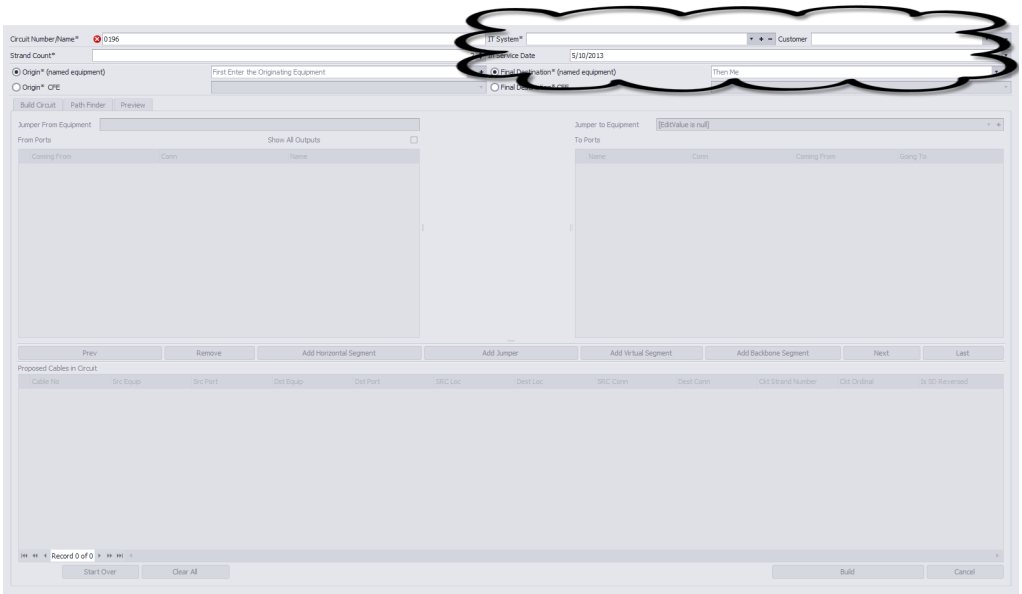
2. From the Circuits Grid click **[File>New]** to launch the New Circuit tool.

3. Verify that your Circuit **Number/ Name** is correct and that it is not duplicating an existing entry.



4. Enter your **IT System** and **Customer** info.

Note: **IT System** is required. You will not be able to **[Build]** without an entry.



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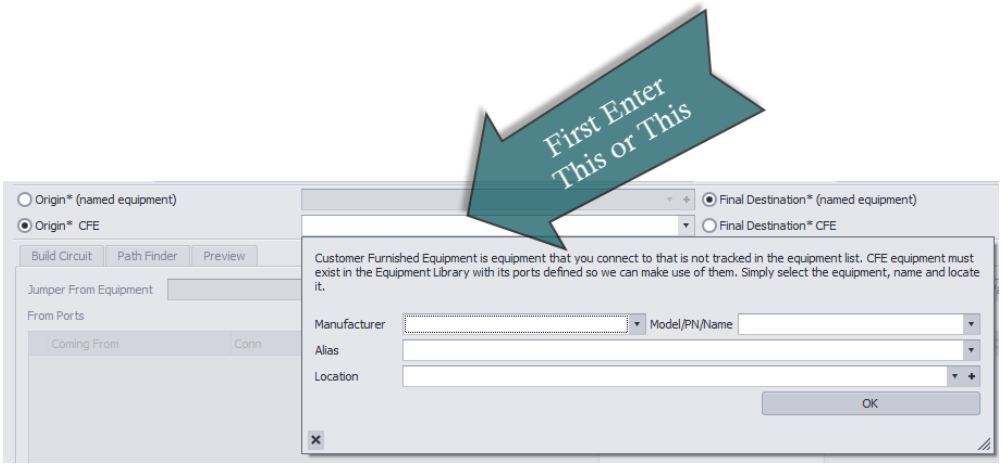
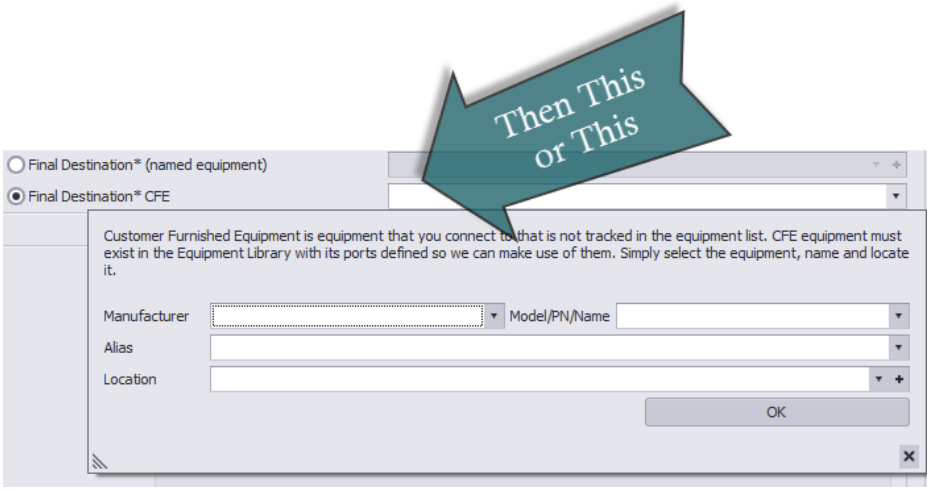
5. Select your **Origin**(named equipment) from the drop down menu on the left. Alternately, select the **Origin CFE** (Customer Furnished Equipment) and fill in the detail data in the dropdown.



6. Select your **Final Destination System** (named equipment) from the drop down menu on the right. Alternately, select the **Final Destination CFE** (Customer Furnished Equipment) and fill in the detail data in the dropdown.



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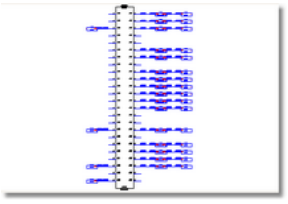
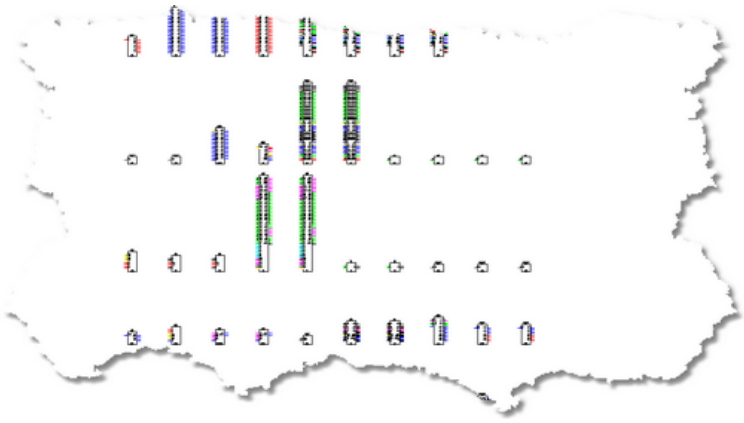
7. Select your **Jumper To Equipment**. This will be the first Patch Panel to which your **Origin** system will connect.	
8. Select the ports from your **Origin** equipment and the **Ports** on your **Jumper To** equipment. You will see that WireCAD creates a preview jumper between the 2 for you to verify correct connections. Note: You can only create a jumper set that matches the **Cable Strand Count** set in step 3.	

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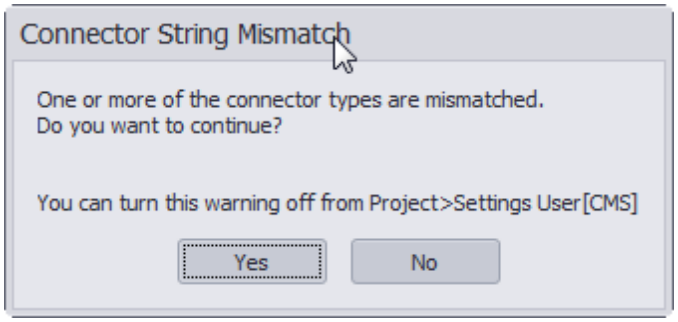
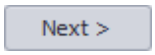
9. Click **[Add Jumper]**. Note: If you have connector types that WireCAD believes do not match, you will be presented with a window stating "Connector String Mismatch". If you want to turn this message off, you can do so in the **Application Menu > Settings>UserCMS**.	
10. Click the **[Next>]** button.	

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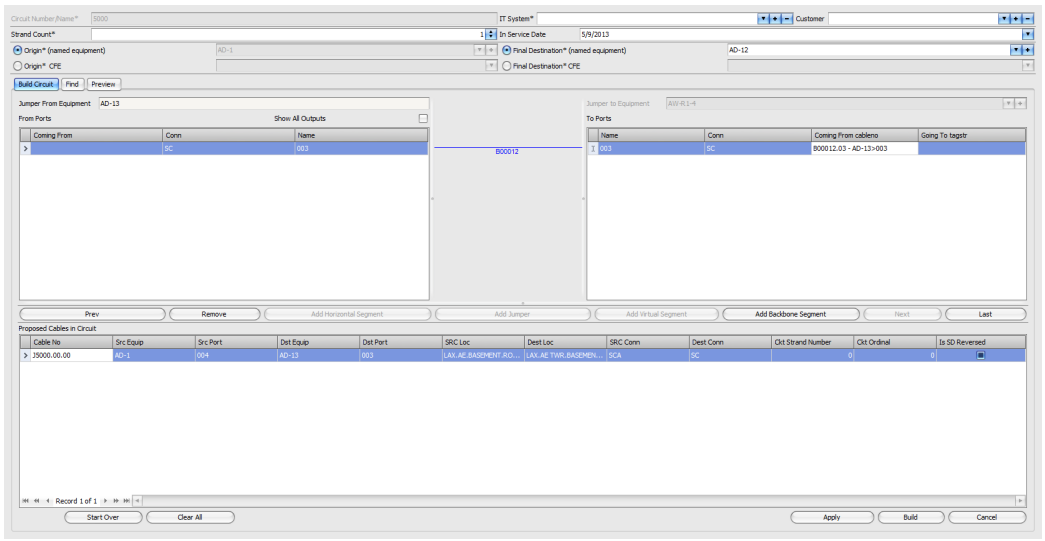
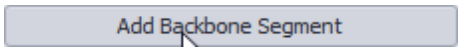
11. Verify that a Backbone exists between the correct Patch Panels.

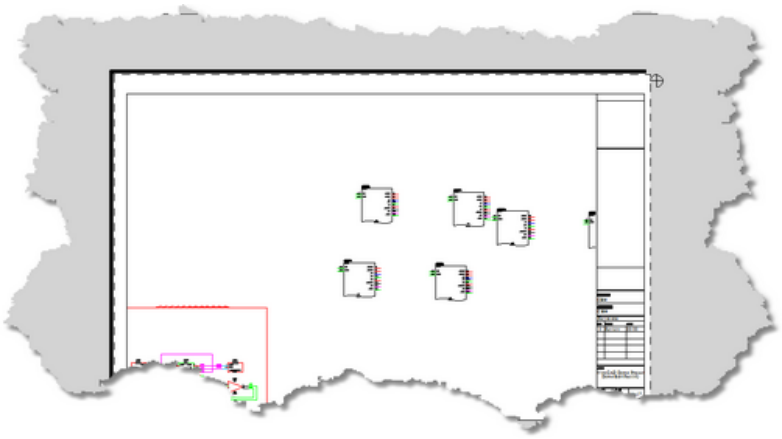


Note: WireCAD will automatically populate an available route between Patch Panels using existing Backbone structures.

12. Click **[Add Backbone Segment]**.



13. Verify the correct cables have been added to the **Proposed Cables In Circuit** list. Then click **[Next]**.



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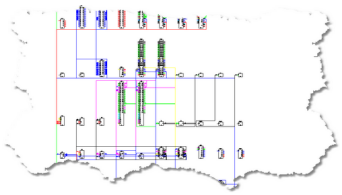
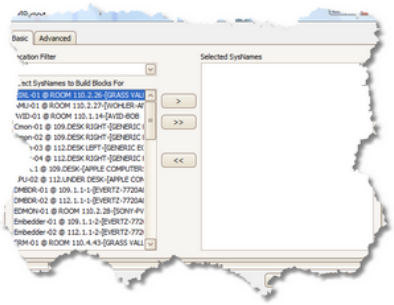
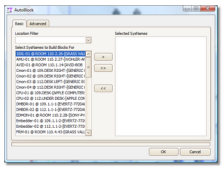
14. From this point, you can create additional **Jumper To** equipment, and place jumpers and backbone segments using steps 5-11.	
15. When you are ready to complete this circuit, select the **[Last]** button. The **Final Destination** equipment will populate the **Jumper To** the list for selection of the final set of jumpers.	
16. Select your last set of ports on both sides and click **[Add Jumper]**.	

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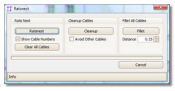
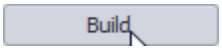
17. If you would like to see a Functional Block Diagram preview of this circuit, click the **[Preview]** tab. Note: Preview will be generated with **Project Settings**.	
18. Click the **[Build]** button to finalize this circuit. Note: If you have not filled in the required fields or if the **circuit Number/Name** is not unique the **[Build]** process will not continue. Look for the icon to indicate fields that require attention	

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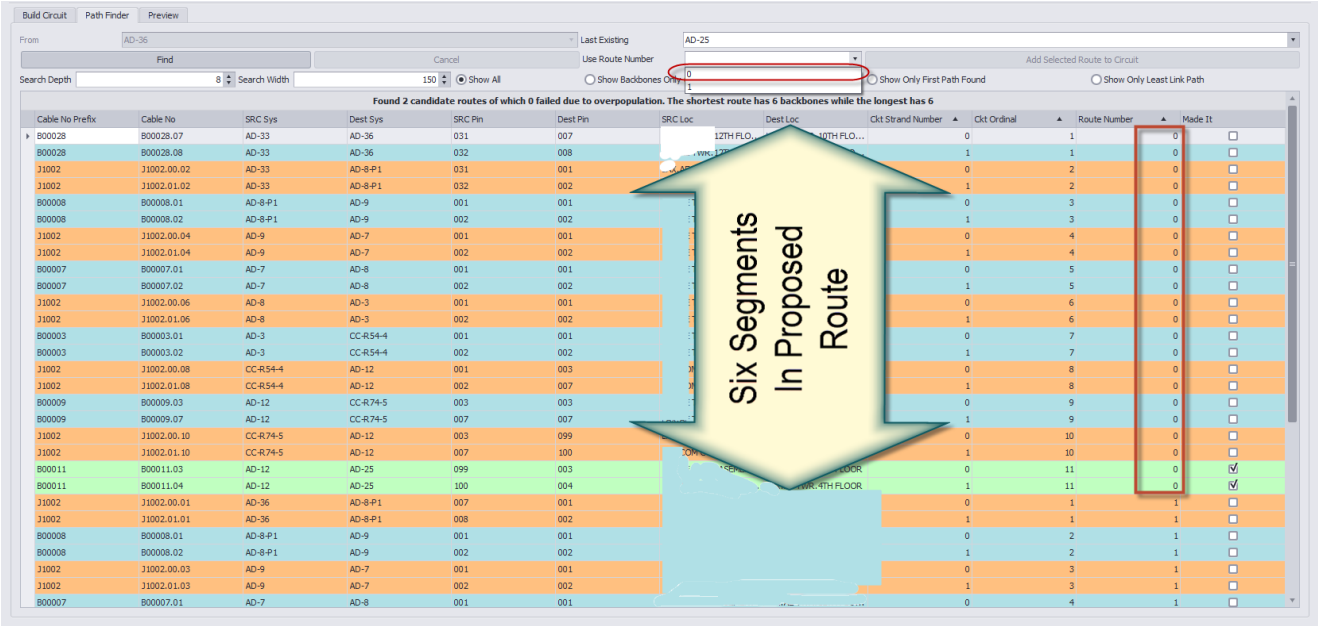
3.2.2.2.2 Path Finder Tab

Explanation:

The Path Finder tool can be used to find available ports and backbone segments from a source to a destination. The Path Finder tool will search the backbone structure for backbones that can be used to get from the source panel to the destination panel, then once a route is established the route candidate is checked for available port count. If all criteria are met the route is returned. If no routes can be established you will be notified.



2 possible routes returned each with 6 segments. We will use Route 0.

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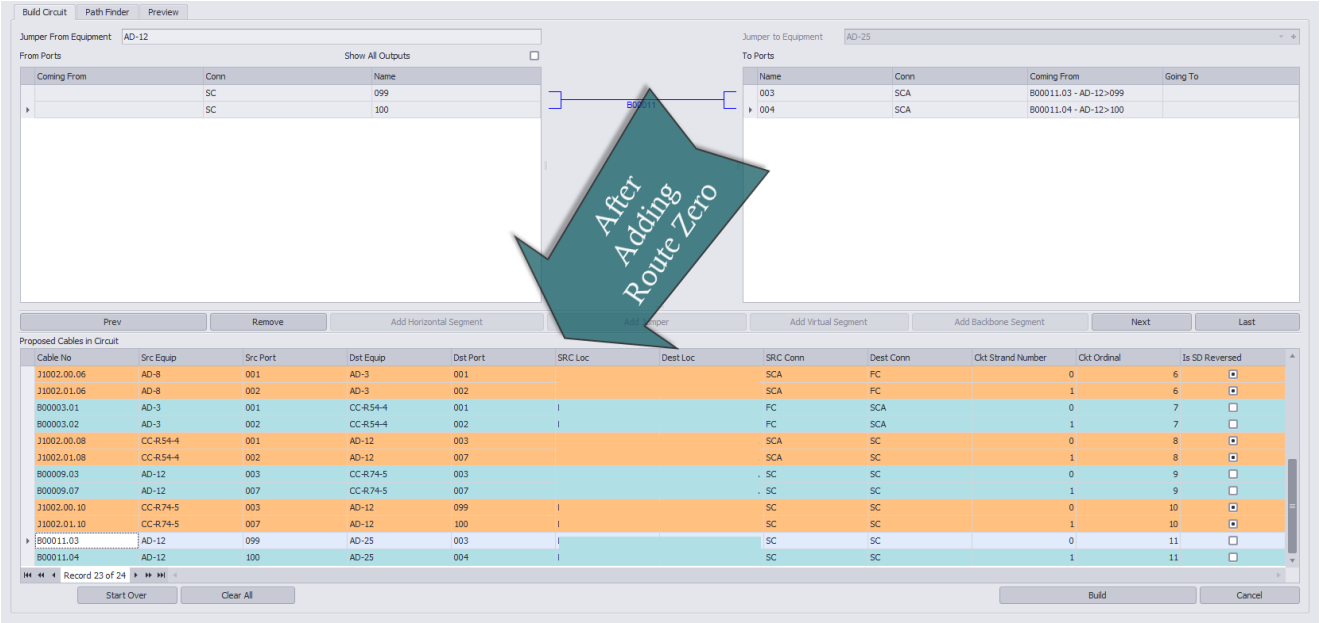

After adding Route 0

Path Finder	
From	Pre populated by your selection with the last jumper added in the Build tab.
Last Existing	Select the last existing piece of infrastructure that we will search for.
[Find]	Start the search.
[Cancel]	Cancel the search.
Use Route Number	Once routes are returned for selection this dropdown will be populated with the available routes.
[Add Selected Route to Circuit]	Once you have selected a route this button will enable for you to add the route to the Proposed Cables to Add to Circuit list on the[Build] tab.
Search Depth	How deep to search more will take longer but find more routes

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Search Width	Maximum candidate routes to search
Show All	Show all routes found and populated with jumpers
Show Backbones Only (for research)	Show only the backbones without jumpers. Useful for research.
Show Only First Path Found	Stop searching when the first route is resolved.
Show Only Least Link Path	Search all then prune the list to the route with the shortest number of segments.
Found Paths Grid	
Cable No Prefix, Cable No, SRC Sys, Dest Sys, Src Pin, Dest Pin, Src Loc, Dest Loc	Fields pulled from the Cables database or populated by jumpers that would need to be created to complete this circuit along this route.
Ckt Strand Number	For more information about circuit strand and ordinal see here 145.
Ckt Ordinal	
Route Number	The router may find multiple paths or none. If paths are found they will be returned with a route number. You may then select the which, if any, route to add to the circuit.
Made It	Indicates that the route made it to the destination. All routes shown will show **Made It** on the last segment.

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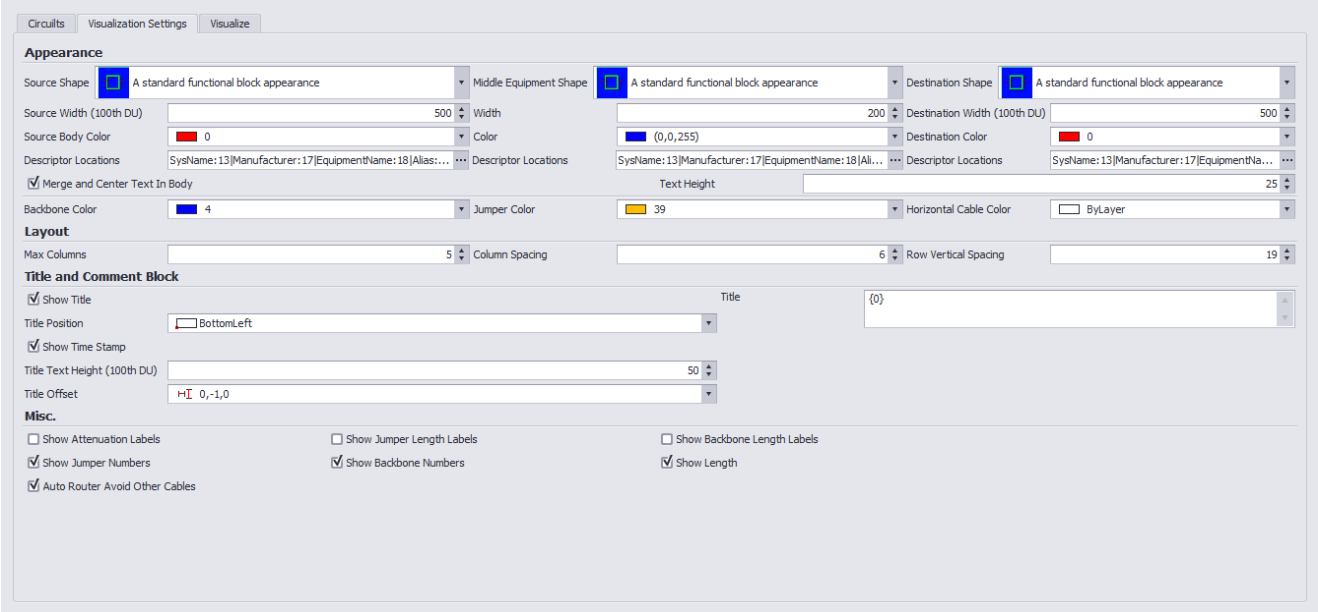
3.2.2.3 Circuits Preview Settings



Appearance	
Source, Middle and Destination Shape	Choose one of the 16 stock shapes
Source, Middle and Destination shape Width in (100th DU)	How wide is it
Source, Middle and Destination shape Color	Set the color of the shape

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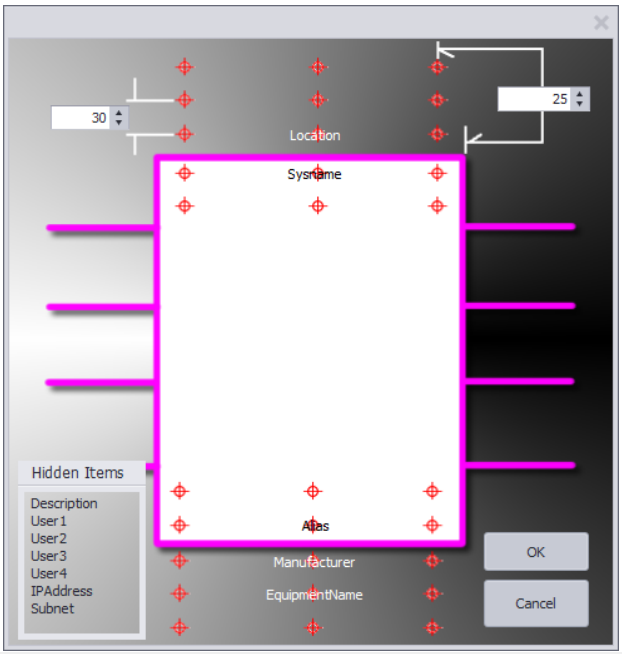
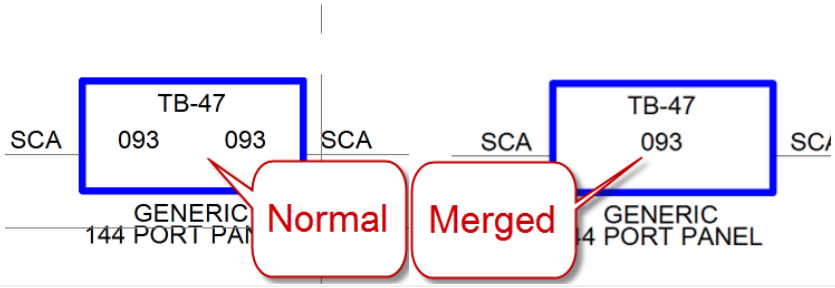
Source, Middle and Destination shape Descriptor Locations Drag the descriptor to the location map or to the **Hidden Items** list to hide.	
Backbone Color **Jumper Color** **Horizontal Cable Color**	Sets the color
Merge and Center Text in Body	
Text Height	controls the height of all text in the visualization.
Layout	
Max Columns	The maximum number of blocks placed before a new row is started below.
Column Spacing	The distance between blocks
Row Spacing	The Distance between rows

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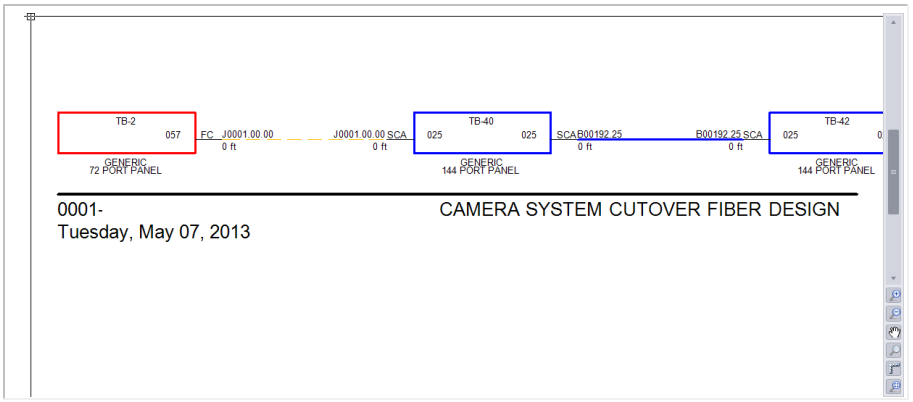
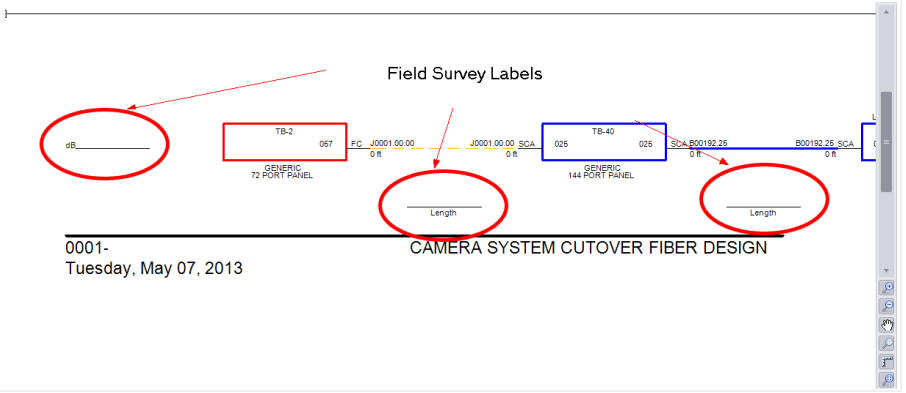
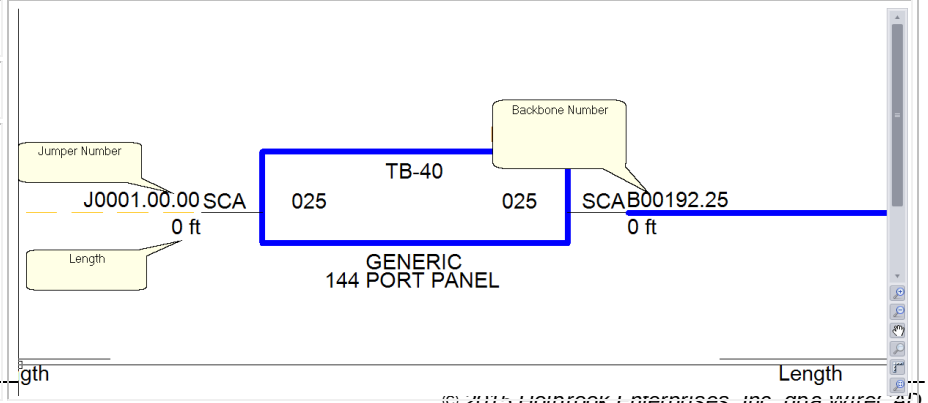
Title and Comment Block

Show Title **Title Position** **Show Time Stamp** **Title Text Height (100th DU)** **Title Offset**	
Title	You can type whatever you want in this field. In addition the following variables are available: {0} = Circuit Number {1} = It System

Misc.

Show Attenuation Labels **Show Jumper Length Labels** **Show Backbone Length Labels**	Show field survey labels in the CAD preview 
Show Jumper Numbers **Show Backbone Numbers** **Show Length**	

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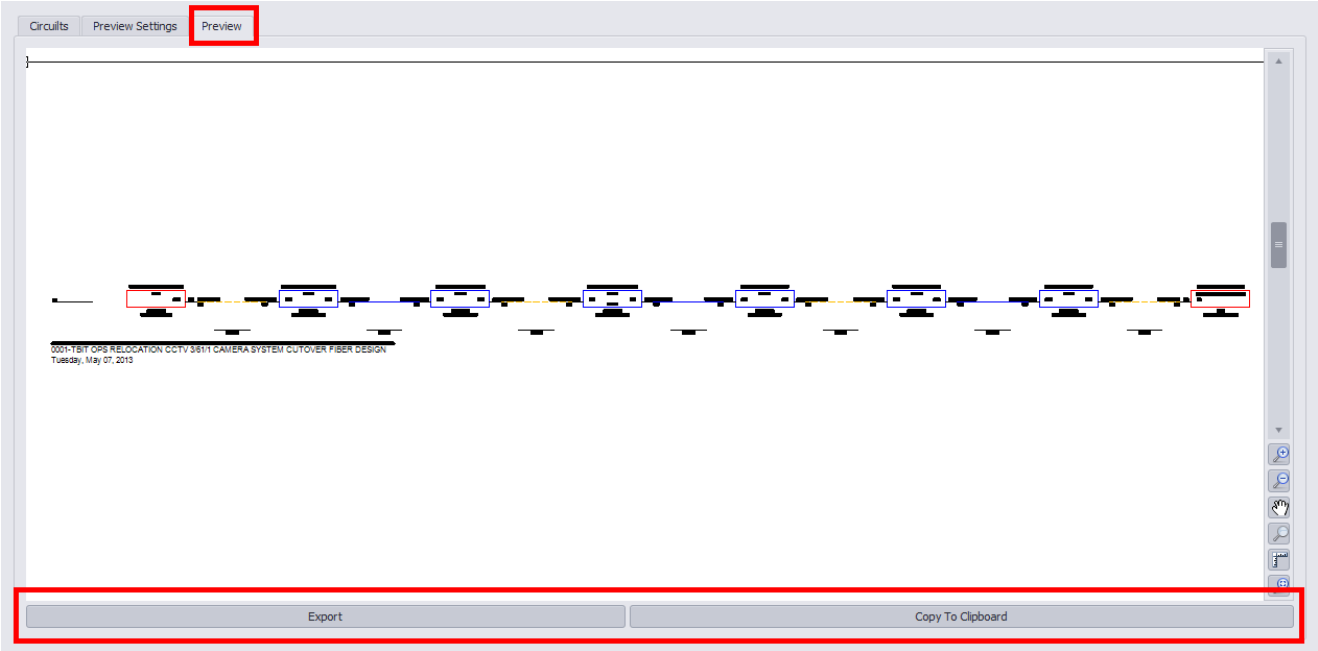
3.2.2.4 Outputting Circuits to CAD

Once a circuit has been defined you can create CAD views of single and multiple circuits. The tools to do this are contained in the **Circuits Grid** which you can access from the command line shortcut **CMSCG** or by selecting the **[CAD Preview/Circuits Grid]** on the home page.

Before accessing the **Circuits Grid**, please make sure to setup your export preferences in the settings menu. Please refer here 188 for more information on the settings menu.

You can also batch output the selected records by clicking Tools>Output Selected.

Note: All export is governed by settings in the **Application Menu > Settings[Project][Export Settings]** tool.



Export	Output to file based on the Export Settings found in **Application Menu > Settings [Project][Export Settings]**
Copy to Clipboard	Copies the preview to the clipboard so it can be pasted into another drawing.

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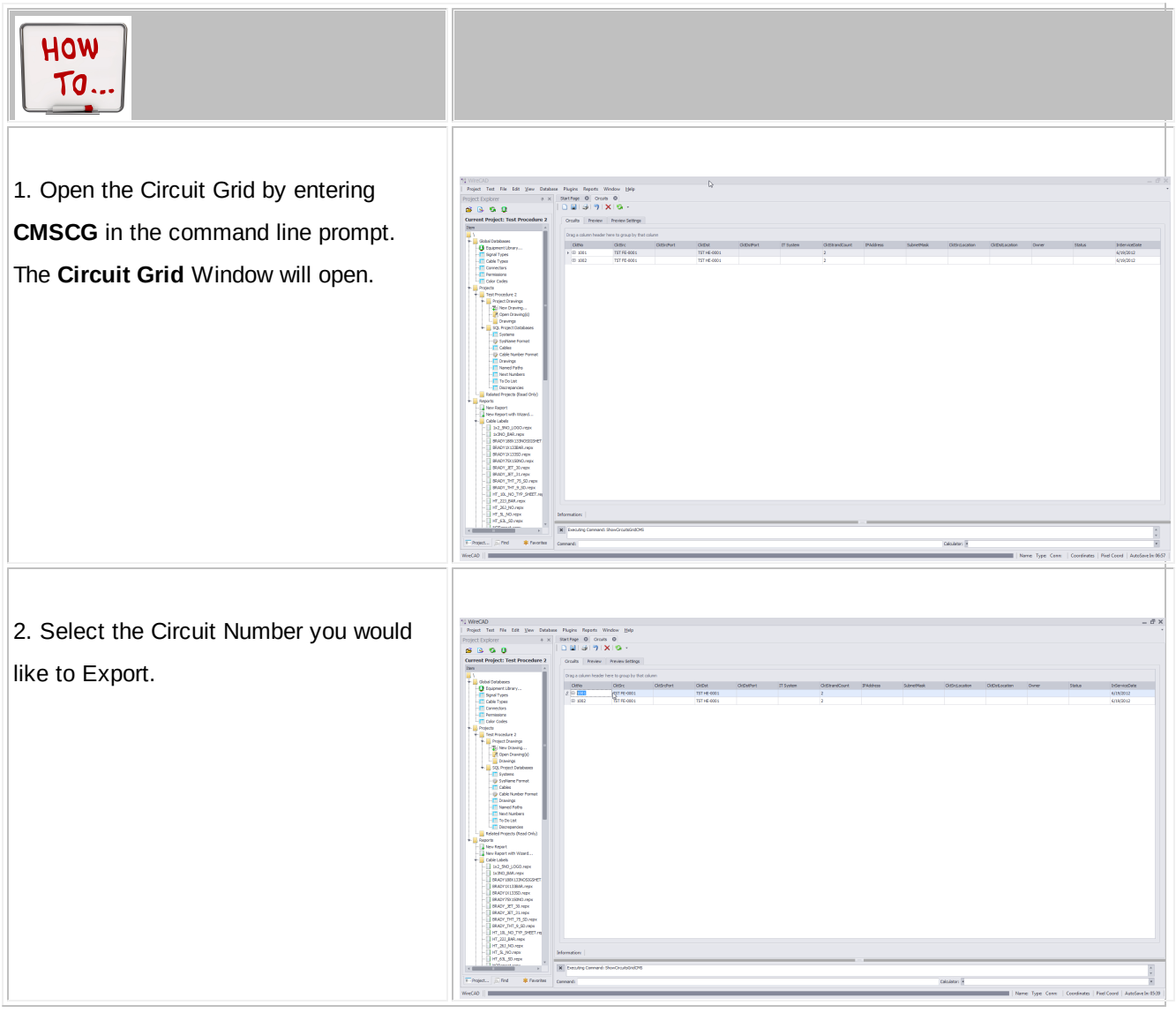
3.2.2.5 How to Output a Circuit to CAD

This step by step will guide you on exporting a circuit.



1. Open the Circuit Grid by entering **CMSCG** in the command line prompt. The **Circuit Grid** Window will open.

2. Select the Circuit Number you would like to Export.

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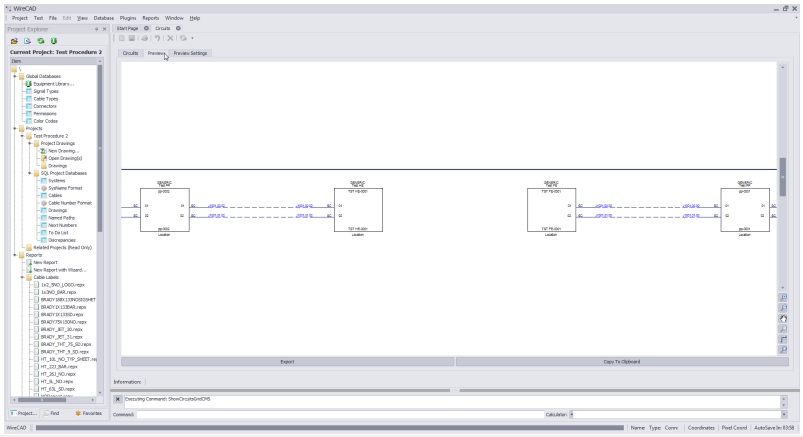
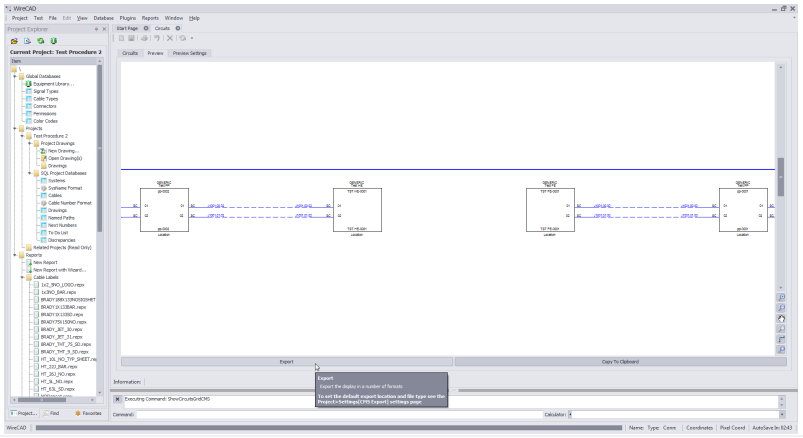
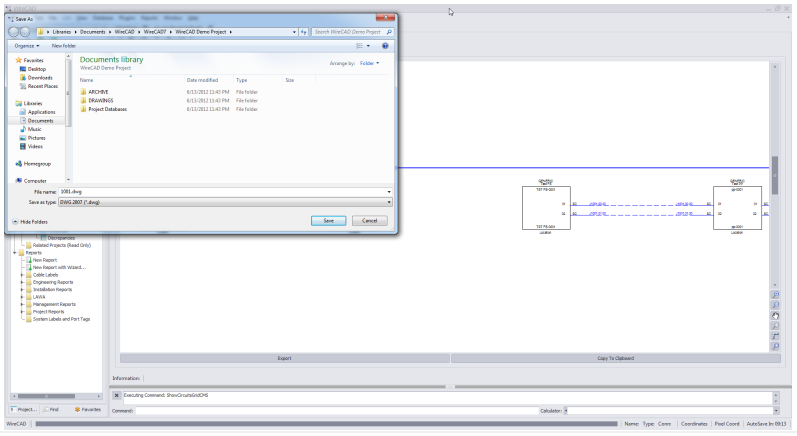
3. Select the **[Preview]** Tab.



4. Verify the circuit is the one you would like use and click **[Export]**.



5. A Windows explorer window will come up. Enter where you would like to export to, what you would like this file to be called and what file type you would like to export as.



Note: All of these settings can be automated in the **Settings Menu**.

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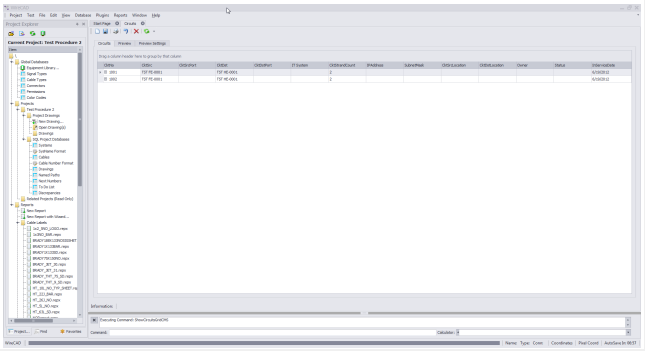
6. Click **[Save]**. Your exported file will now be created and placed in the location you have specified of the file type you specified in the **Save As Dialog filter**.

3.2.2.6 How to Output Many Circuits to CAD

This Step by step will guide you on exporting multiple circuits.

Note: this is different from the command **Tools>Output All Selected Circuits**

1. Open the Circuit Grid by entering **CMSCG** in the command line prompt. The Circuit Grid Window will open.



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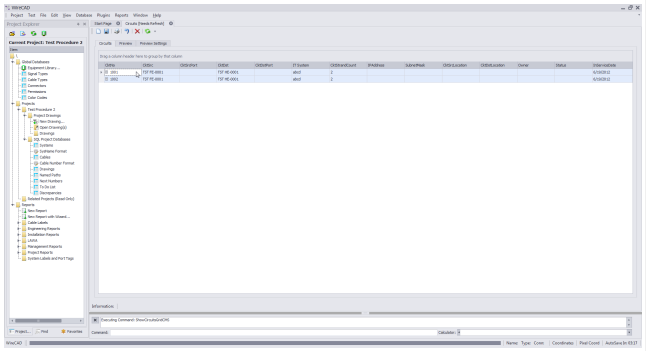
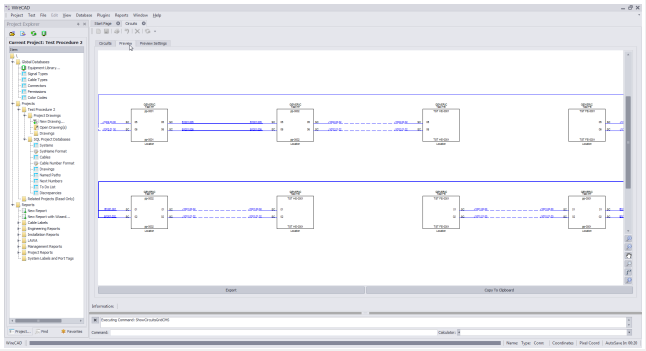
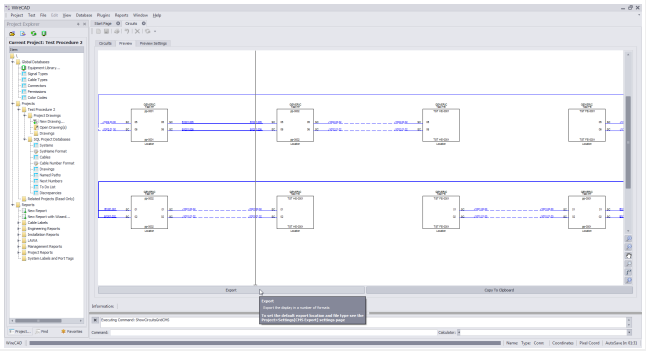
2. Select the Circuit Numbers you would like to Export. Note: You can select multiple circuits by dragging down with your mouse clicked, by holding **[Shift]** and selecting a set or by holding down **[CTRL]** and selecting multiple records individually.	
3. Select the **[Preview]** Tab.	
4. Verify the circuits shown are the ones you would like use and click **[Export]**.	

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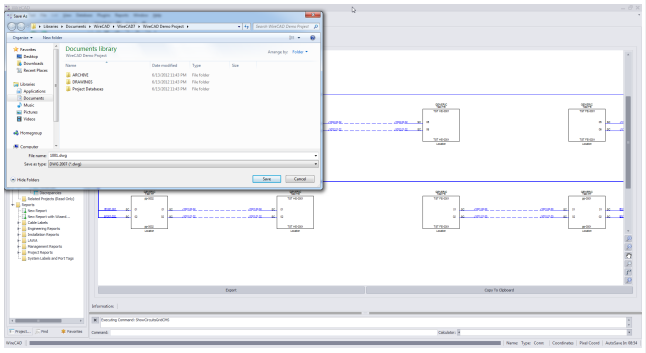
5. A Windows explorer window will come up. Enter where you would like to export to, what you would like this file to be called and what file type you would like to export as. Note: All of these settings can be automated in the **Settings Menu**.	
6. Click **[Save]**. Your exported file will now be created and placed in the location you have specified.	

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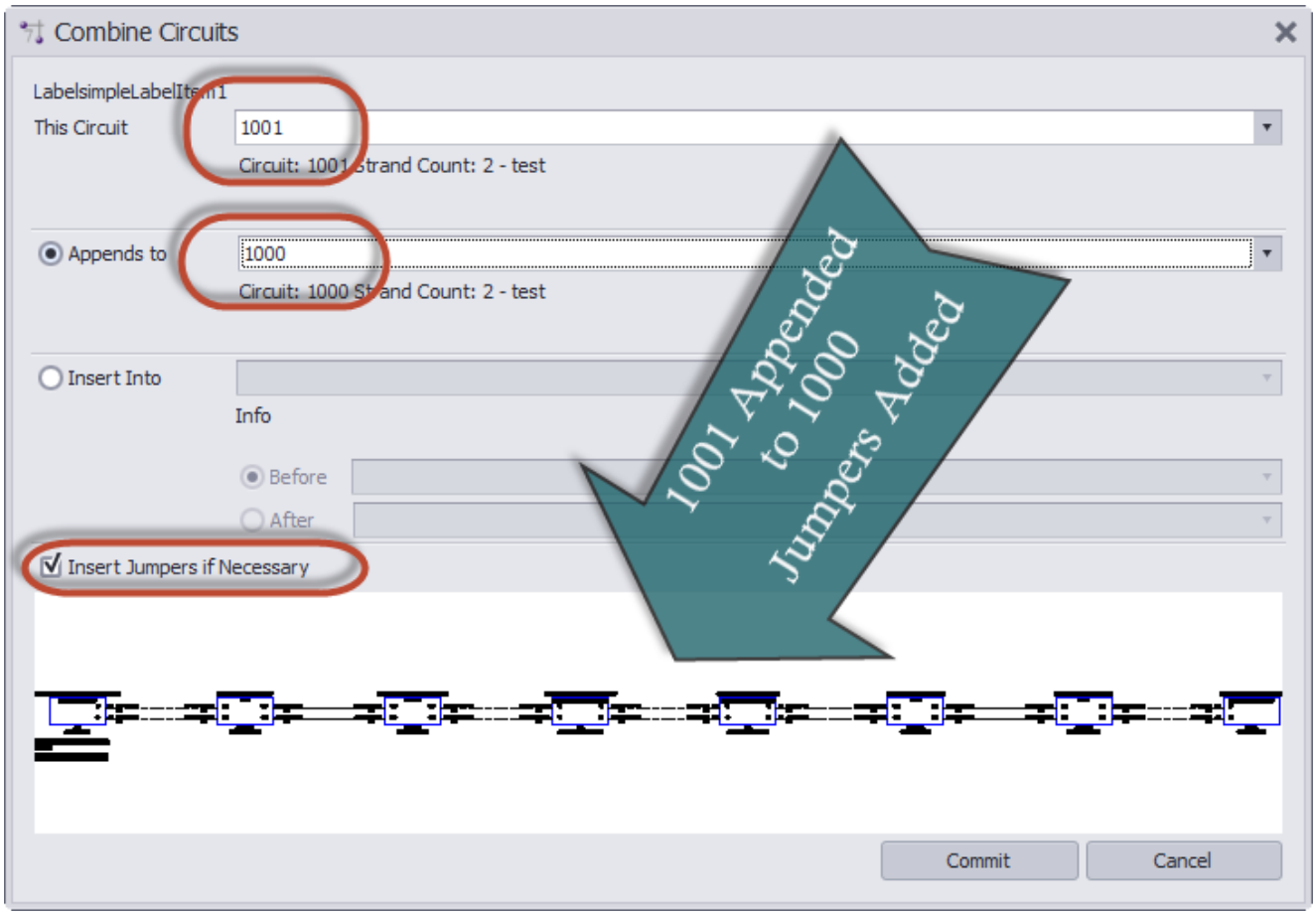
3.2.2.7 Combining Circuits

WireCAD CMS tools support the concept of combining circuits. Circuits to be combined must have the same Strand Count. The Circuit Name/Number of the Circuit that is being appended or inserted will be discarded.



This Circuit	The Circuit Name/Number of the circuit that will be appended or inserted into another circuit. This circuit Name/Number will be discarded if successfully appended or inserted.
Appends To	The Circuit Name/Number of the circuit that will be appended to.
Inserts Into	The Circuit Name/Number of the circuit that will be inserted into
Before	Before this SysName
After	After this SysName

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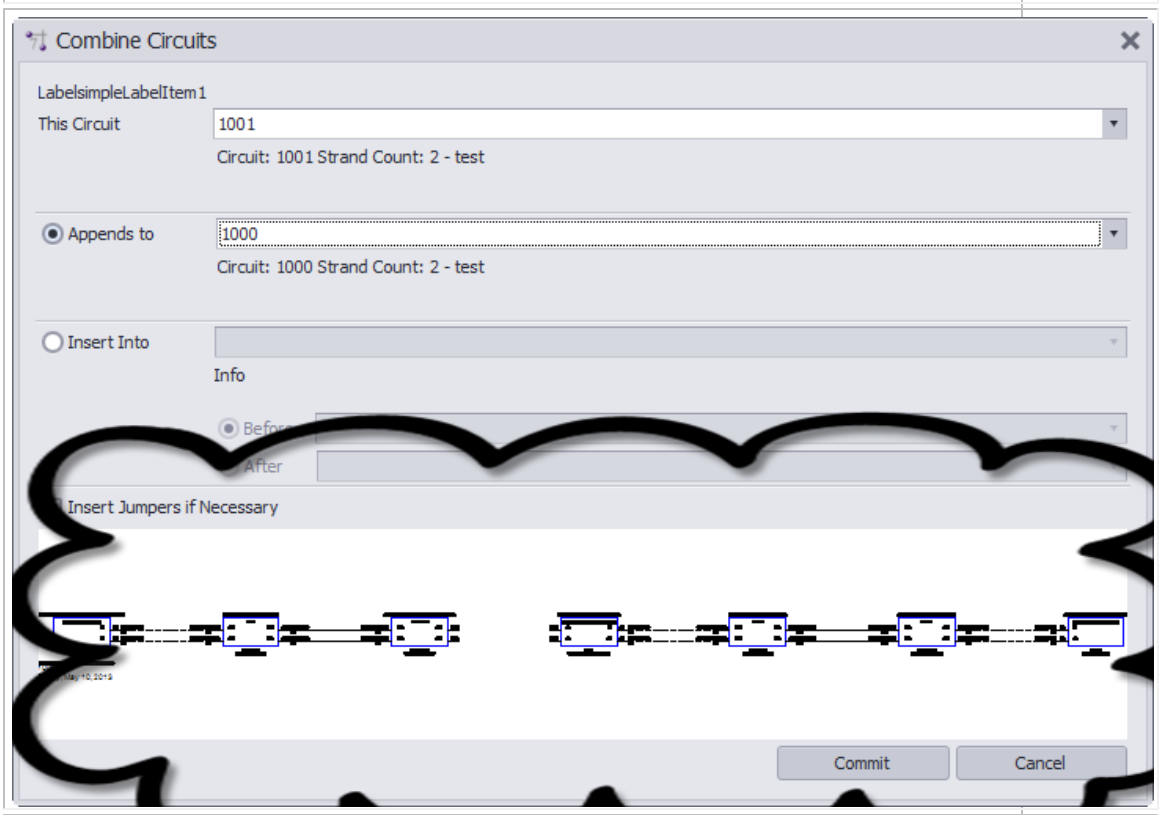
Insert Jumpers if Necessary	It is possible to create collections of cables in a circuit that do not interconnect. If you do not select this option you will create collection of cables that do not interconnect.
Preview	
[Commit]	Do it.
[Cancel]	Dump out without any changes.

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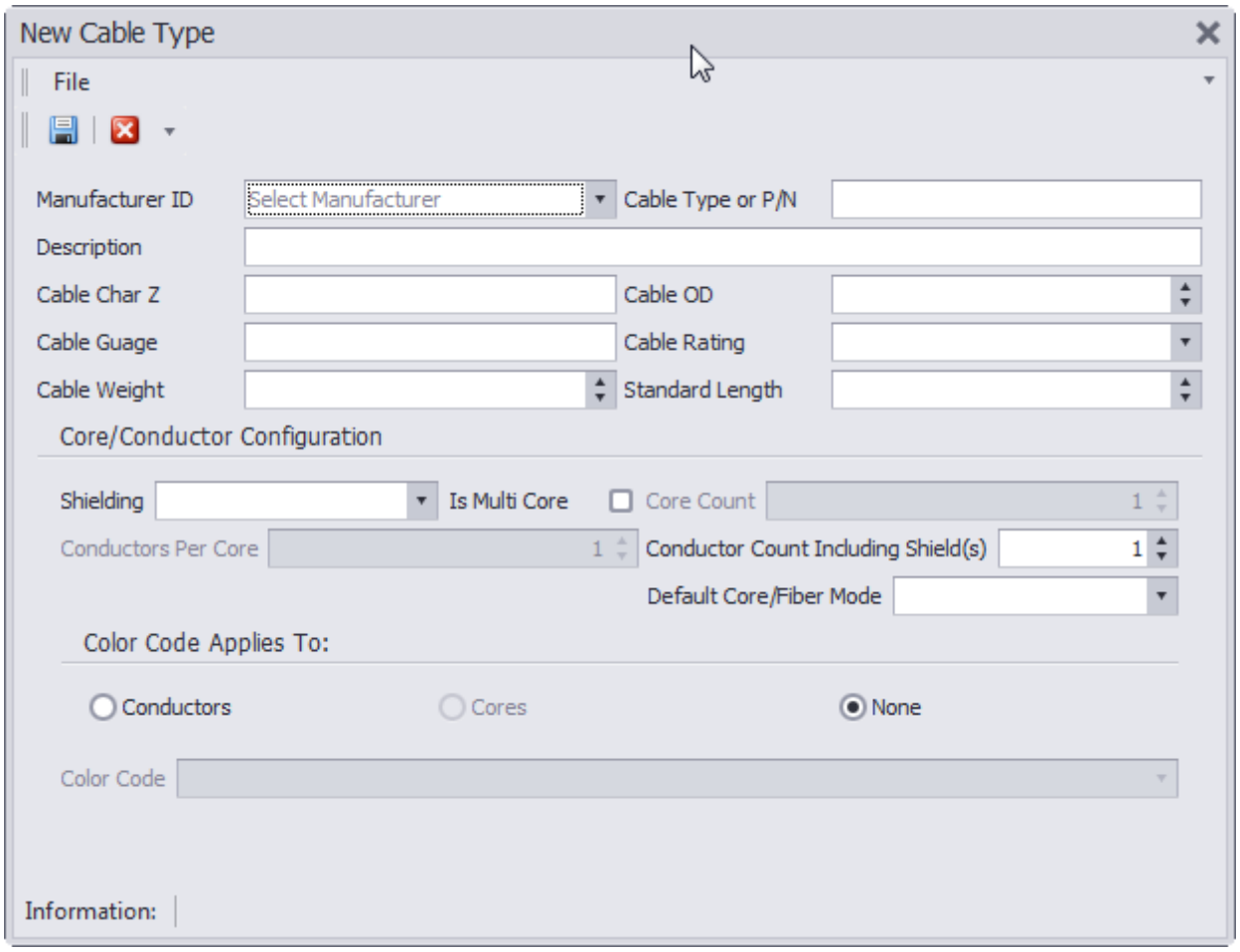
3.2.3 Cable Types

In order to create a Backbone segment in WireCAD, you will need to create a Cable Type with the correct amount of Cores.

This will guide you through creating a new Cable Type[419].



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3.2.3.1 Creating a New Cable Type

Wiki Links:

Cable Management Specific Features and Functions

http://wirecad.com/wiki/index.php?title=Cable_Management_System_Specific_features_and_functions

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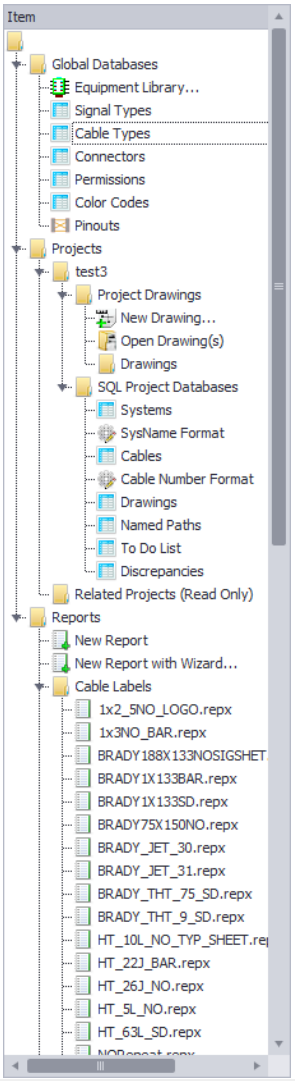
1. In your Project Explorer, double click the **Cable Types Database**.	
2. Click the **New** Icon. (This is the blank paper icon next to the diskette save on the top left of your screen.)	

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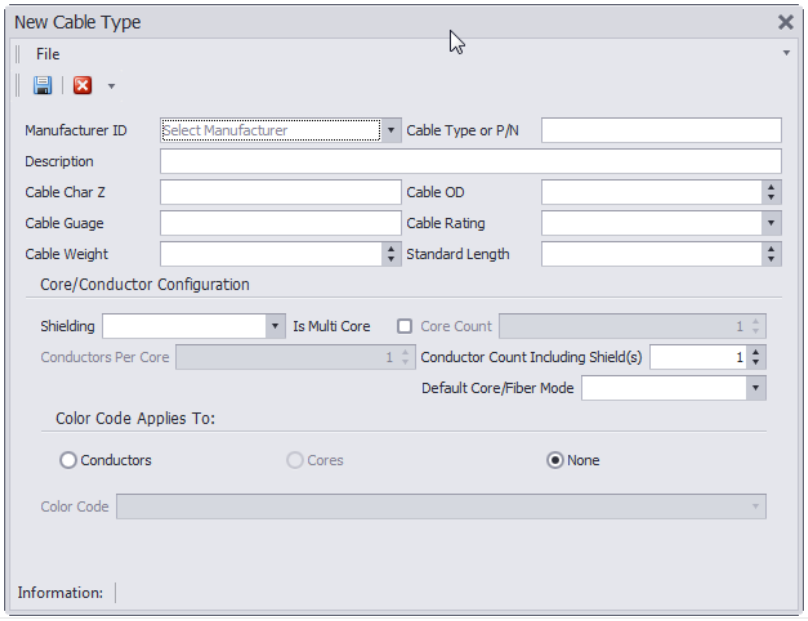
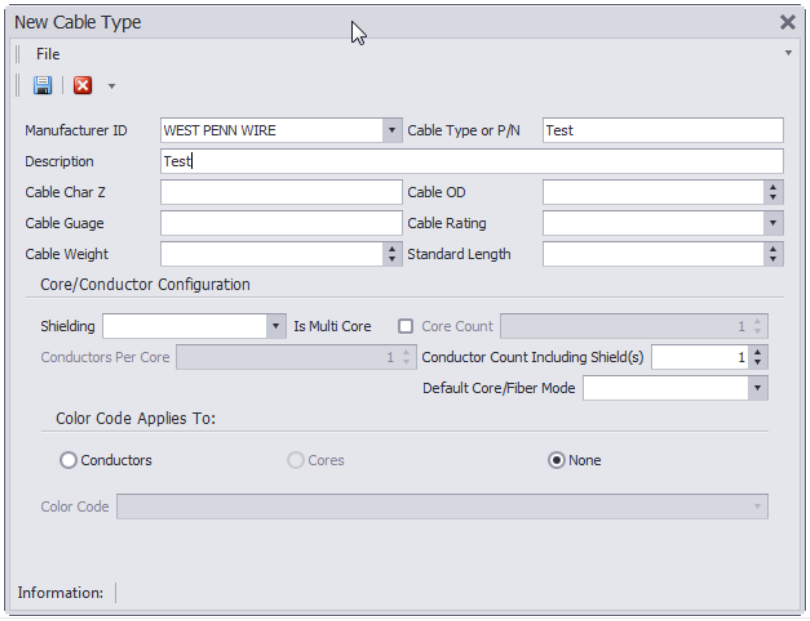
3. A new window will pop up asking for information on this cable type.	
4. Fill in all information about this cable including **Manufacturer**, **Cable Type** or **P/N** & **Description**. No other fields are required but are available to use at your discretion.	

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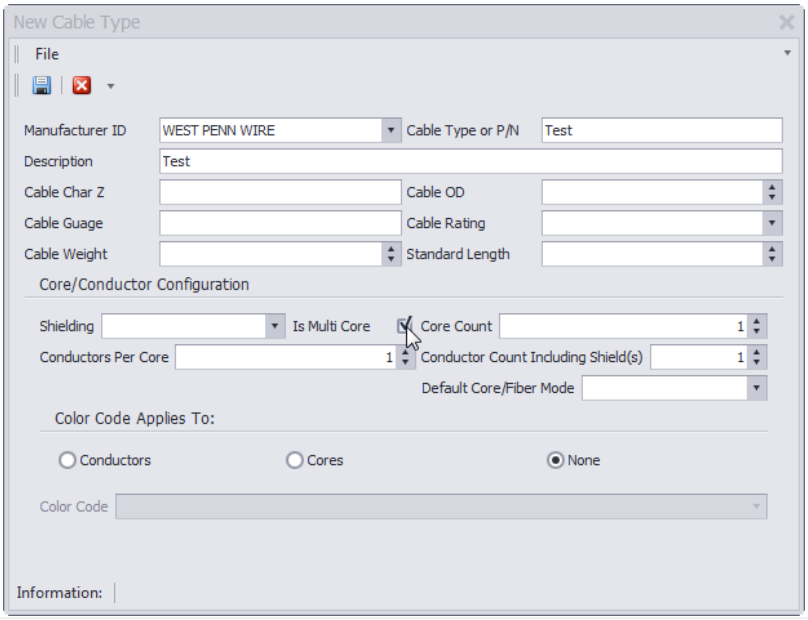
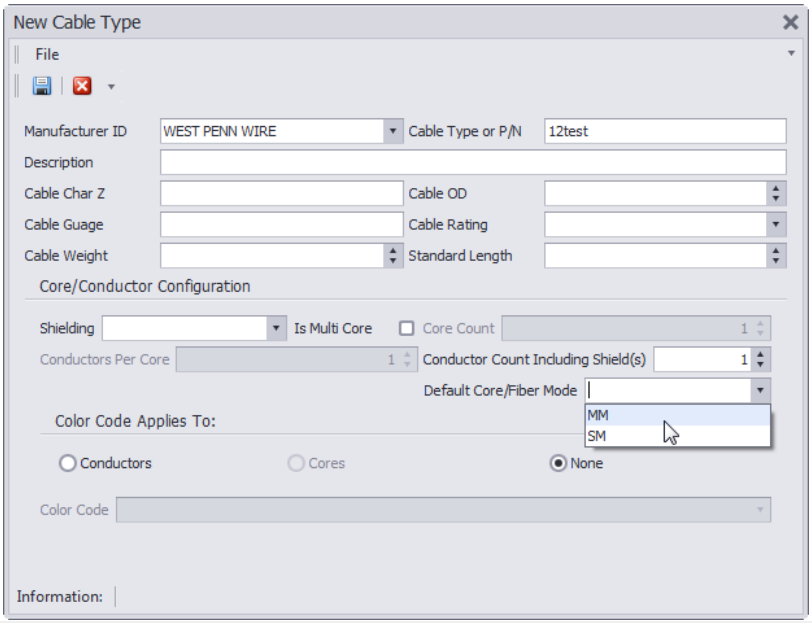
5. If this cable is a multi core cable, you will need to check the **Is Multi Core** box and select how many cores are in this cable.



6. Select the **[Default Core\Fiber Mode]**.

Note: To label specific cores as SM or MM, see step 8.



7. Click the **[Save]** icon (diskette).

If you need to define SM and MM, please follow steps 8.

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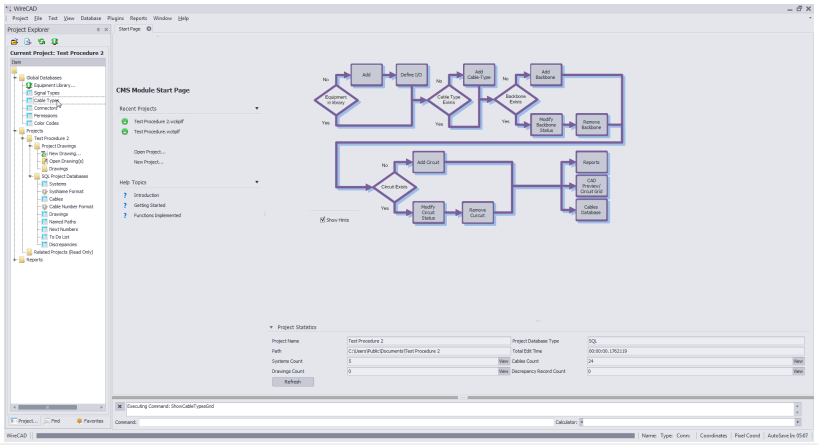
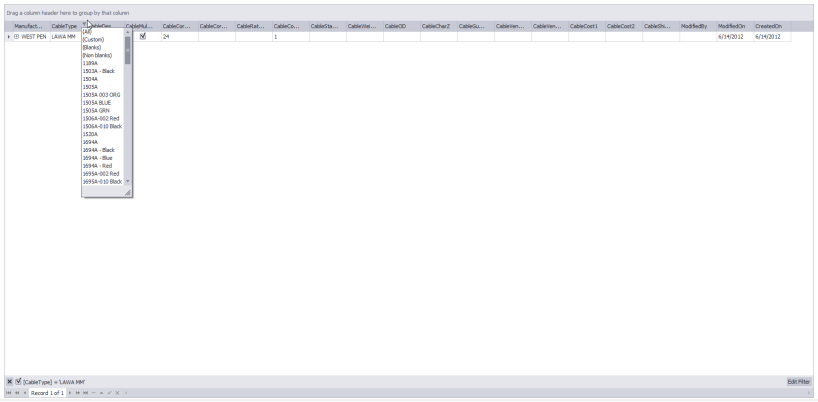
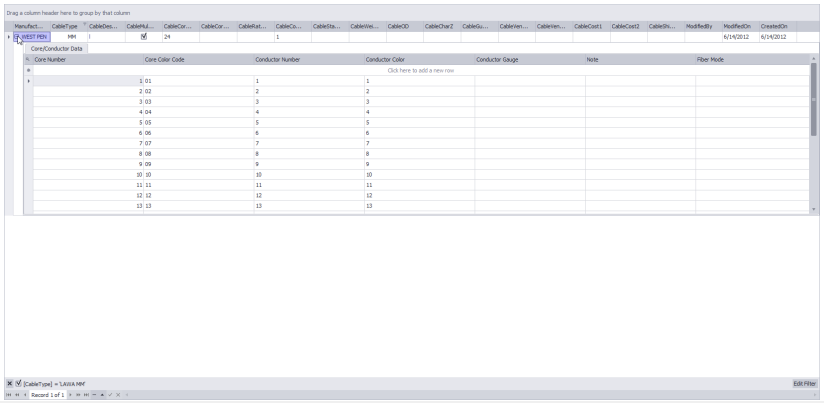
8. From your main WireCAD window, select your Cable Types database from the global database field.	
9. Using the filter icon on the Cable Type column header, select your cable from the drop down menu.	
10. Use the **[+]** button to expand and show all cores.	

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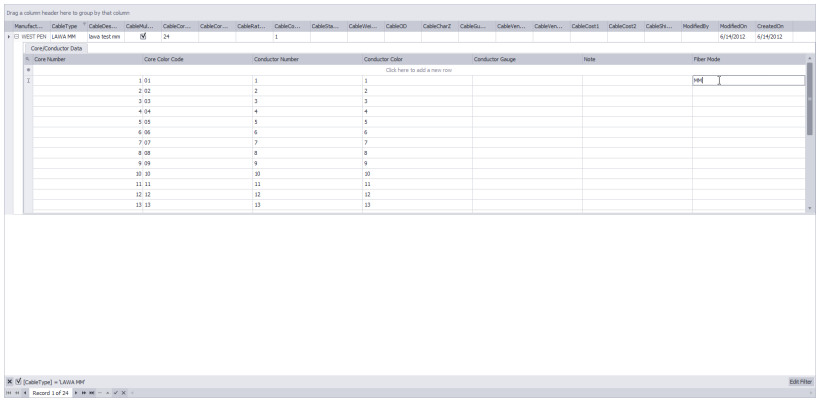
11. Double click in the **Fiber Mode** field and enter **SM** or **MM** for this strand. Note: If a series of cores are the same Fiber Mode Type, you can highlight the top one, drag down, and press CTRL+D to automatically populate additional fields.	
12. Click the **[Save]** button (diskette) to save changes.	

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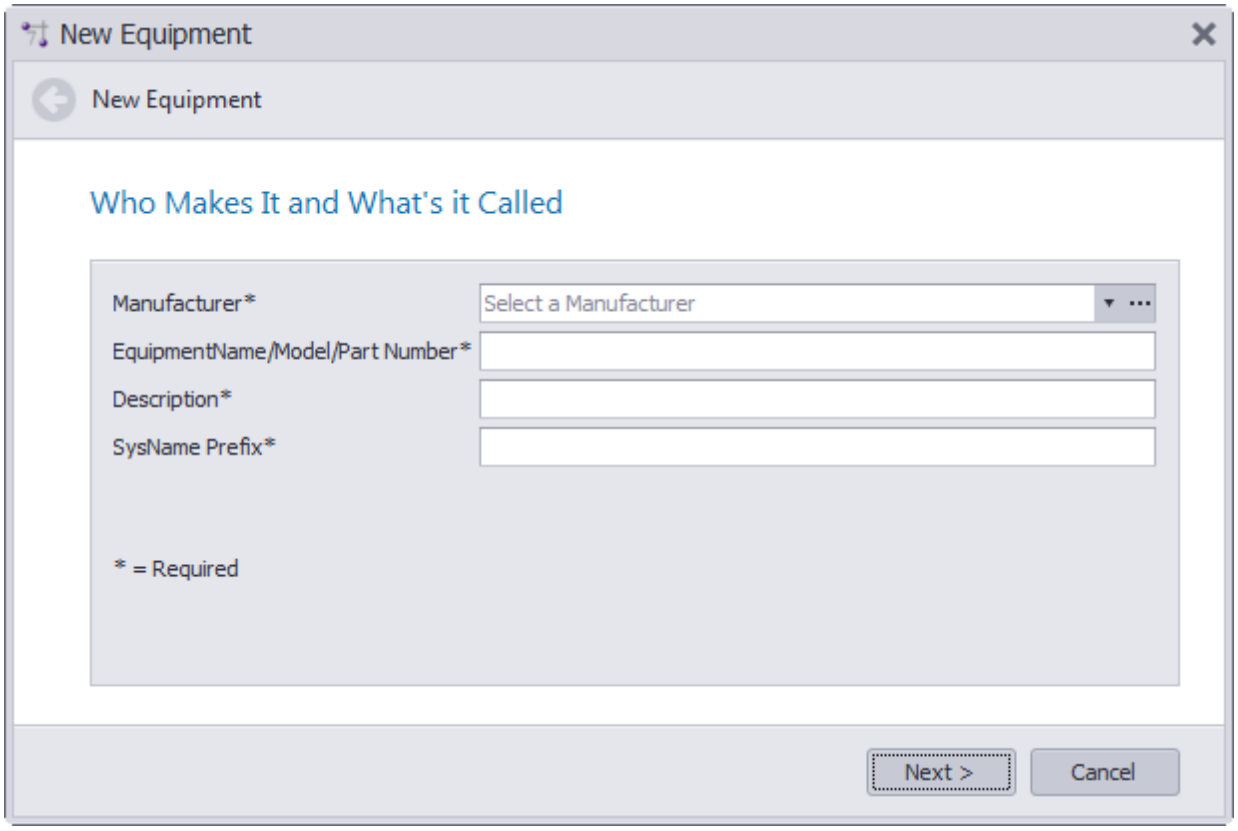
3.2.4 Equipment

<%APPVER%> for ENTerprise has been pre-populated with devices specific to fiber operations.

If you are unable to find your specific equipment, you will need to create a new Equipment Definition.

This section will guide you through creating a new Equipment Definition, adding & deleting I/O ports and modifying display preferences.



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3.2.4.1 Creating a New Equipment Definition

Wiki Links:

How To Access Your Equipment Library

http://wirecad.com/wiki/index.php?title=Accessing_Equipment_Library

How To Add a New Manufacturer To Library

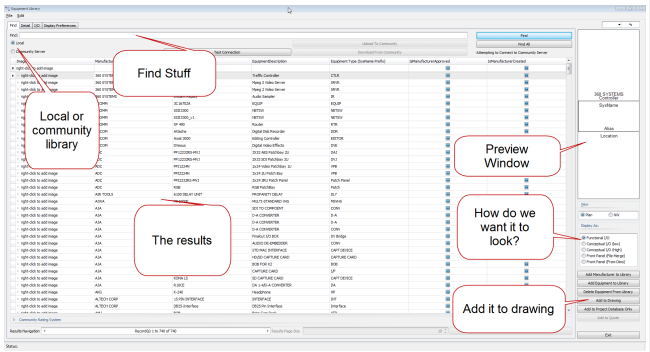
http://wirecad.com/wiki/index.php?title=How_To_Add_A_New_Manufacturer_To_Library

How To Create A New Equipment Definition

http://wirecad.com/wiki/index.php?title=HOWTO:New_Equipment_Definition

How To Customize Your Equipment I/O

http://wirecad.com/wiki/index.php?title=Customizing_Equipment_I/O

1. Click **Advanced Tools>Equipment Library OR Database>Equipment Library** OR Command Line shortcut LE.	
2. Use the search/find bar to first determine if your equipment is currently in the library.	

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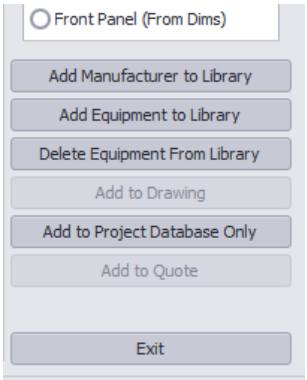
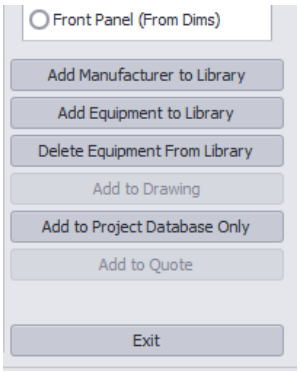
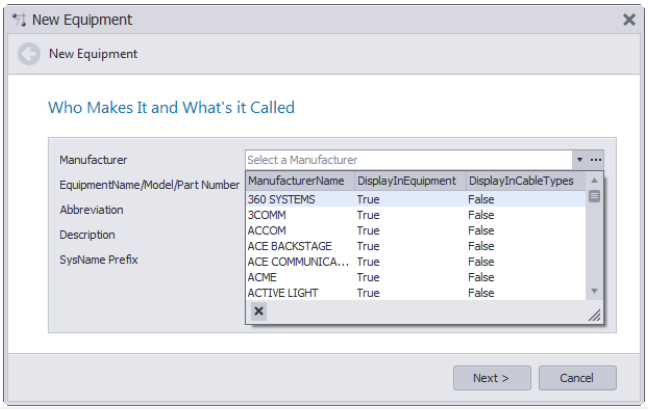
3. On the right hand side of the screen, you will see multiple buttons including **[Add Manufacturer To Library]** & **[Add Equipment To Library]**. (If your manufacturer is not listed, please see the section titled **Add Manufacturer to Library**.)	
4. Click **[Add Equipment to Library]**.	
5. In the dialog window, start by selecting the **Manufacturer** field and select who makes your equipment	

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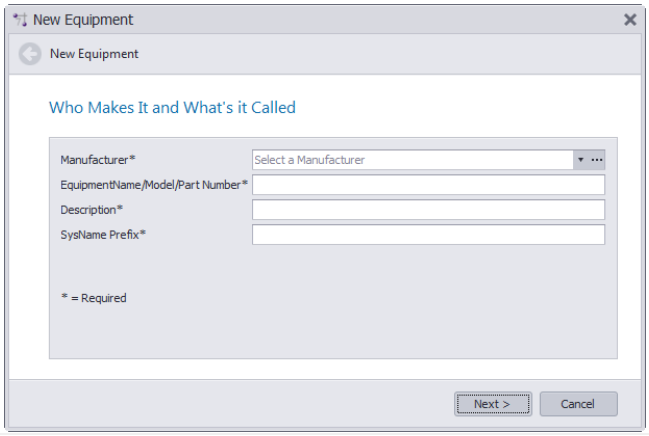
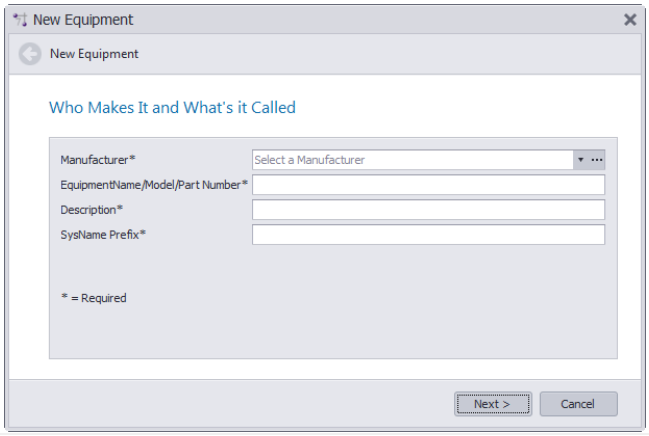
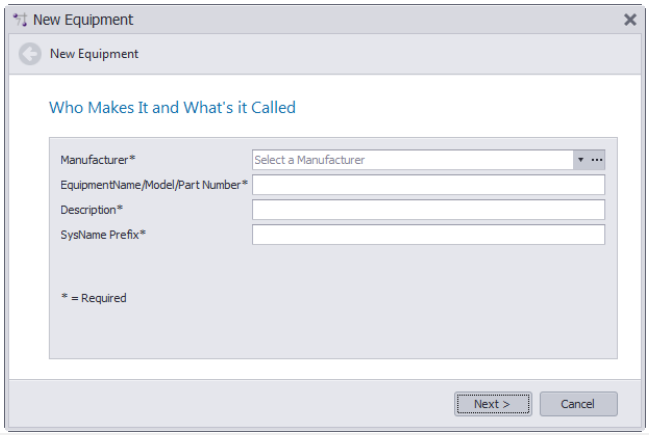
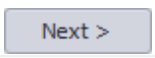
6. Enter in the Model/Equipment Name of your Equipment.	
7. In the **Description** field, enter something that will describe this type of equipment. Example: Laptop, Desktop Computer, Router, LCD Display etc.	
8. The SysName **Prefix** field is how the SysName will be shown after a SysName assignment. Example: Field Laptop = FLD LPT, Desktop Router = RTR, ect.	
9. Click **[Next]**.	

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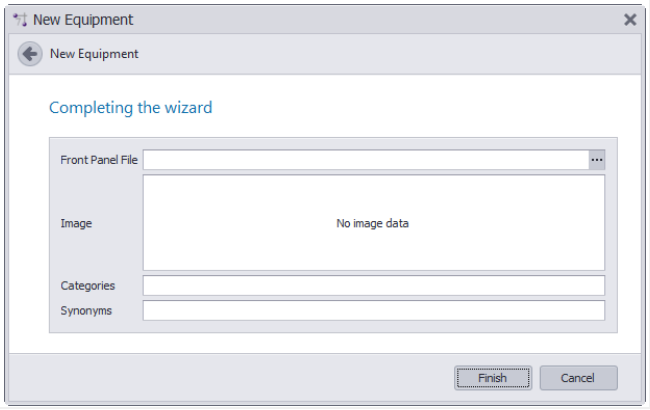
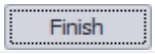
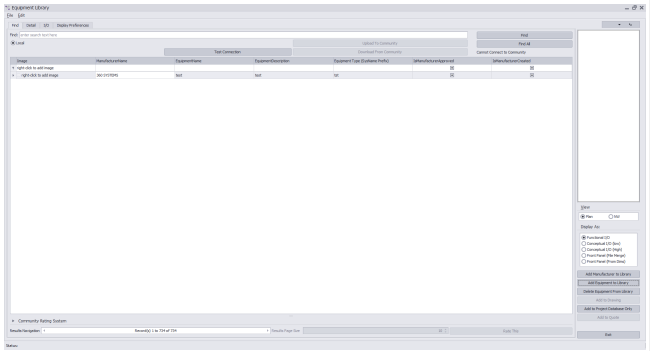
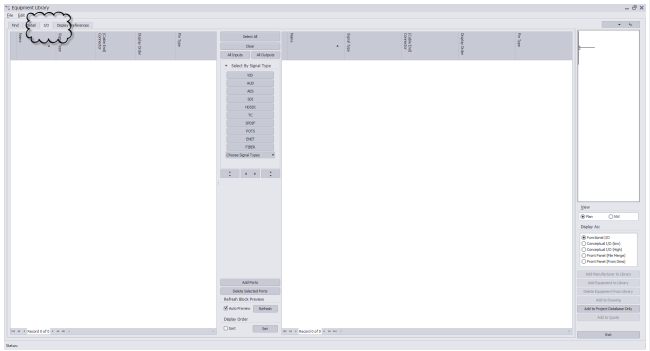
10. The wizard will advance to the next page asking you to add a Front Panel File, Image, Category & Synonym. None of these fields are required; however, if you plan to use the Rack Builder 345 tool it is advised that you enter a Front Panel file.	
11. Click **[Finish]**.	
12. You will now be taken back to the Equipment Library 323 with your new equipment in the grid.	
13. Select the I/O Tab.	

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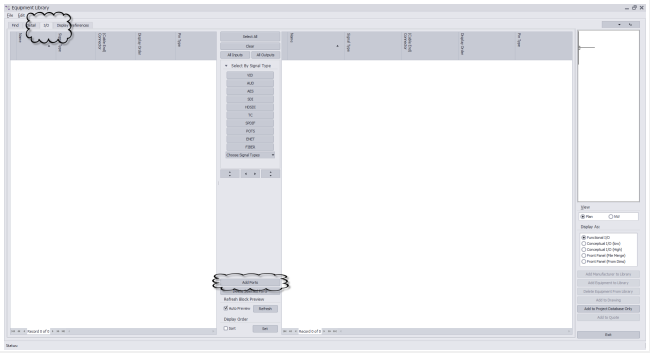
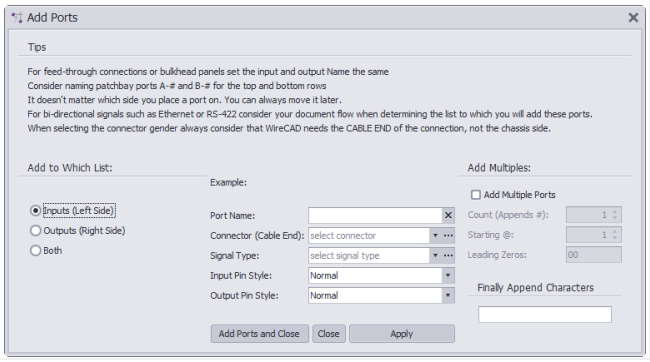
14. In the middle of the screen, Click The **[Add Ports]** button.

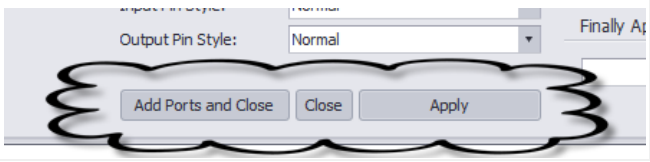


15. Enter in all port information including **Name**, **Connector Type**, **Signal Type**, **Pin Style, etc**. Do this for all ports on this device.



Note: You can add multiples of the same port type by clicking the **Add Many** checkbox and entering in how many of this specific port you would like. WireCAD will append a port number to the string in the **Name** field. Example: with the Inputs radio button selected, enter the value PORT- into the **Name** field, check the **Add Multiples** and set the Starting Number to 1 and the Count to 32. Click [Apply] and 32 records will be created in the Inputs list. The name field will be populated with the values PORT-01 through PORT-32.

16. When you are finished, click **[Apply]** to add the ports and leave this dialog open or click **[Add Ports and Close]** to add the ports and close this dialog.



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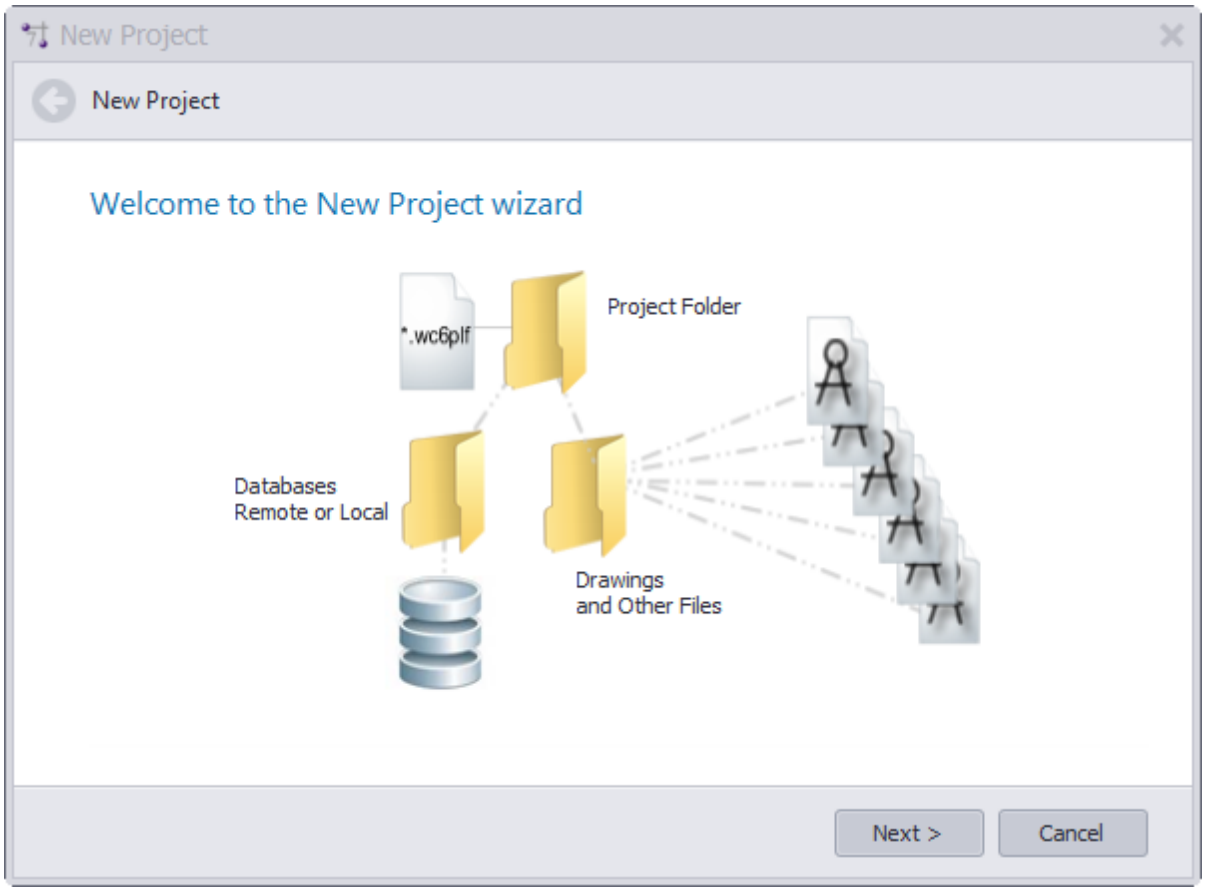
3.2.5 Projects

This section will guide you on how to create a New Project using a SQL Server Database.

You will need to have your network administrator or IT department set up a SQL Database and create user access for all WireCAD users who will have access to this Database.



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3.2.5.1 Creating a New SQL Project

Wiki Links:

How To Create a New Project

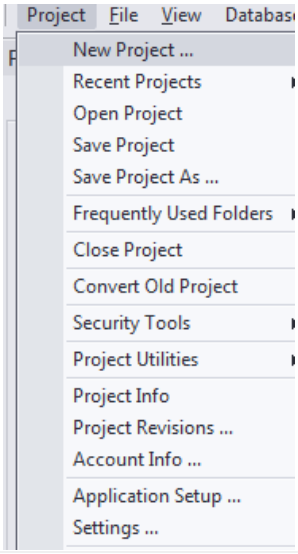
http://wirecad.com/wiki/index.php?title=HOWTO:New_Project

How To Move A Project To A Different SQL Server

http://wirecad.com/wiki/index.php?title=HOWTO:MoveProjectServer

Create a New Project

1. With WireCAD open, click **Application Menu > New Project**.



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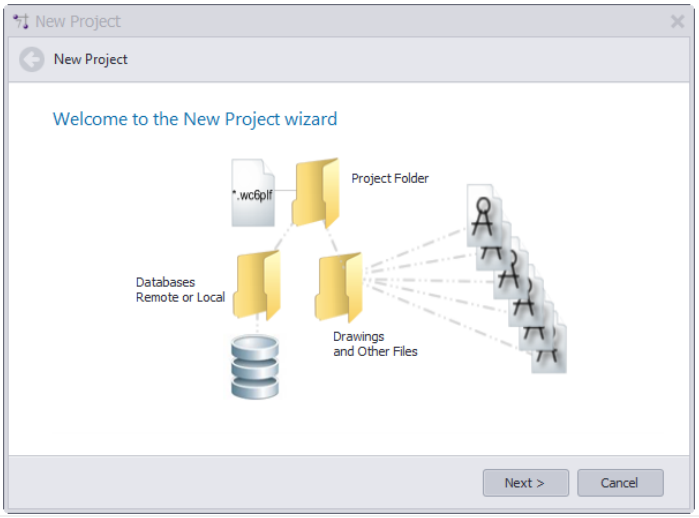
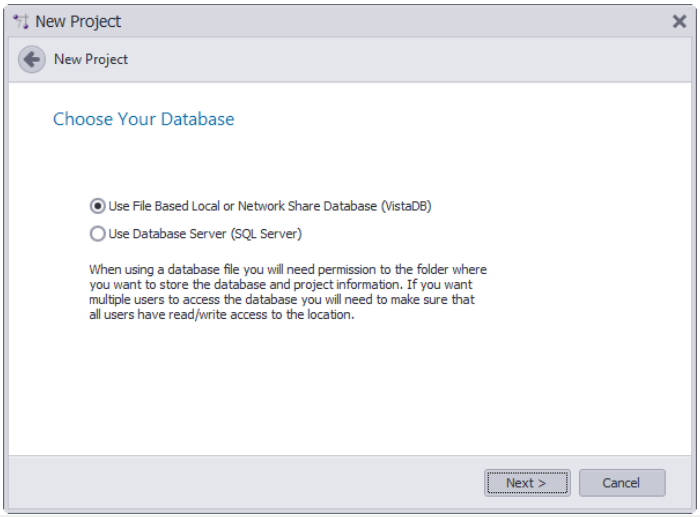
2. A new window will open saying "Welcome to the New Project Wizard". Click **[Next]**.	
3. On the next page, select **Use Database Server (SQL Server)** and click **[Next]**.	

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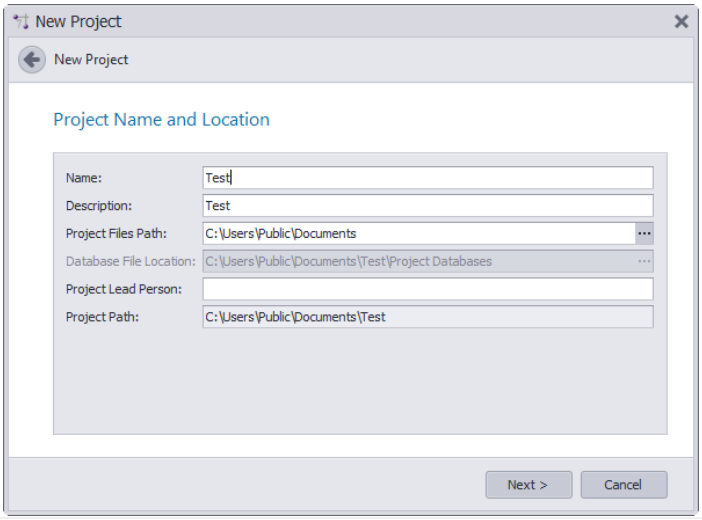
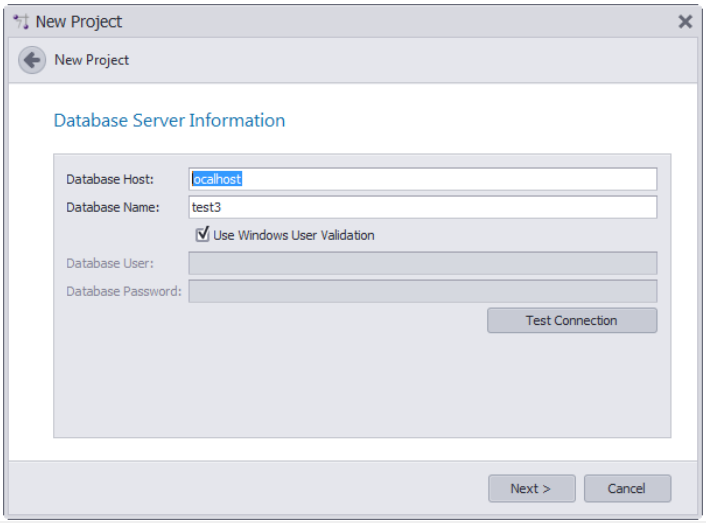
4. Enter a **Project Name**, **Description** and select a **Project Files Path**. This is where your project files will be saved. This is different than your Database files and will not be located in the same directory. It should be on a network share visible to other users of the project. Click **[Next]**.



5. Enter in your SQL Server database information and click **[Next]**.

Note: Please contact your IT department if you are unsure of any information required on this page.



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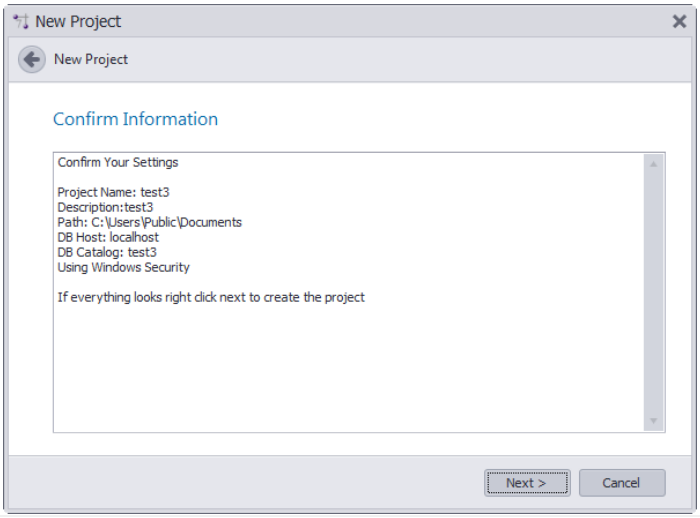
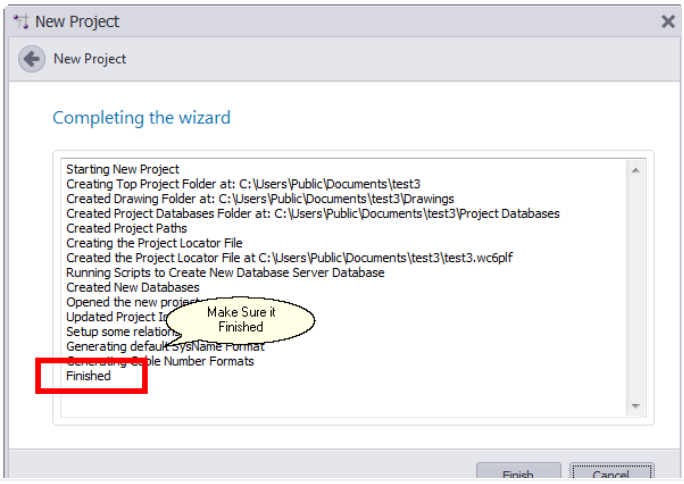
6. Verify that all information looks correct and click **[Next]**.	
7. Wait for WireCAD to build your project and then click **[Finish]**. You are now ready to start working in your new SQL Project.	

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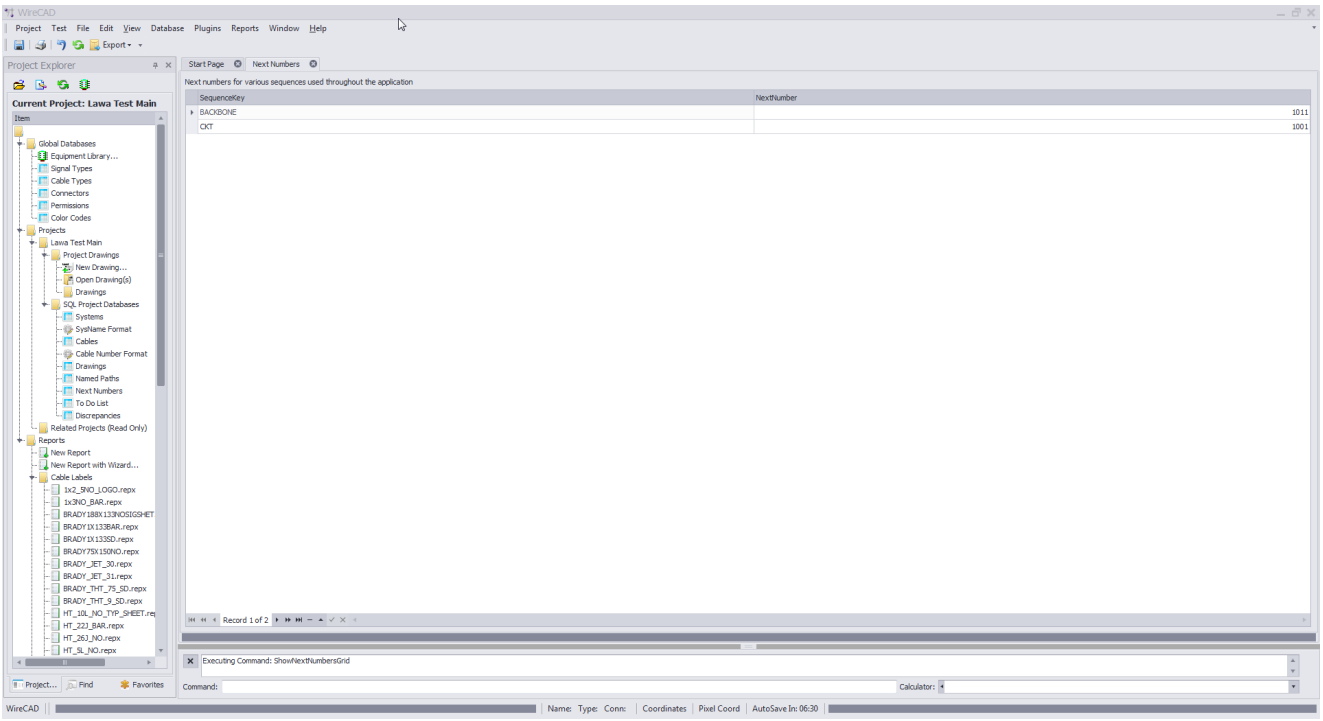
3.2.6 Next Numbers Grid

The Next Numbers Grid will show you the next available Cable number based on your Cable Number Format. To access the **Next Numbers Tool**, type NN in the command line prompt.

This grid will show you both **Backbone Cable Numbers** as well as **Standard Cable Numbers**. As you progress through your project, these numbers will change.

To edit these numbers (such as in the event of deleted Backbones) simply click in the Next Number box and fill in the desired number. Be sure that you are not entering a number that is already in use.



Note: Yours will look different as the Next Numbers grid will automatically create entries for each new sequence used by the application.

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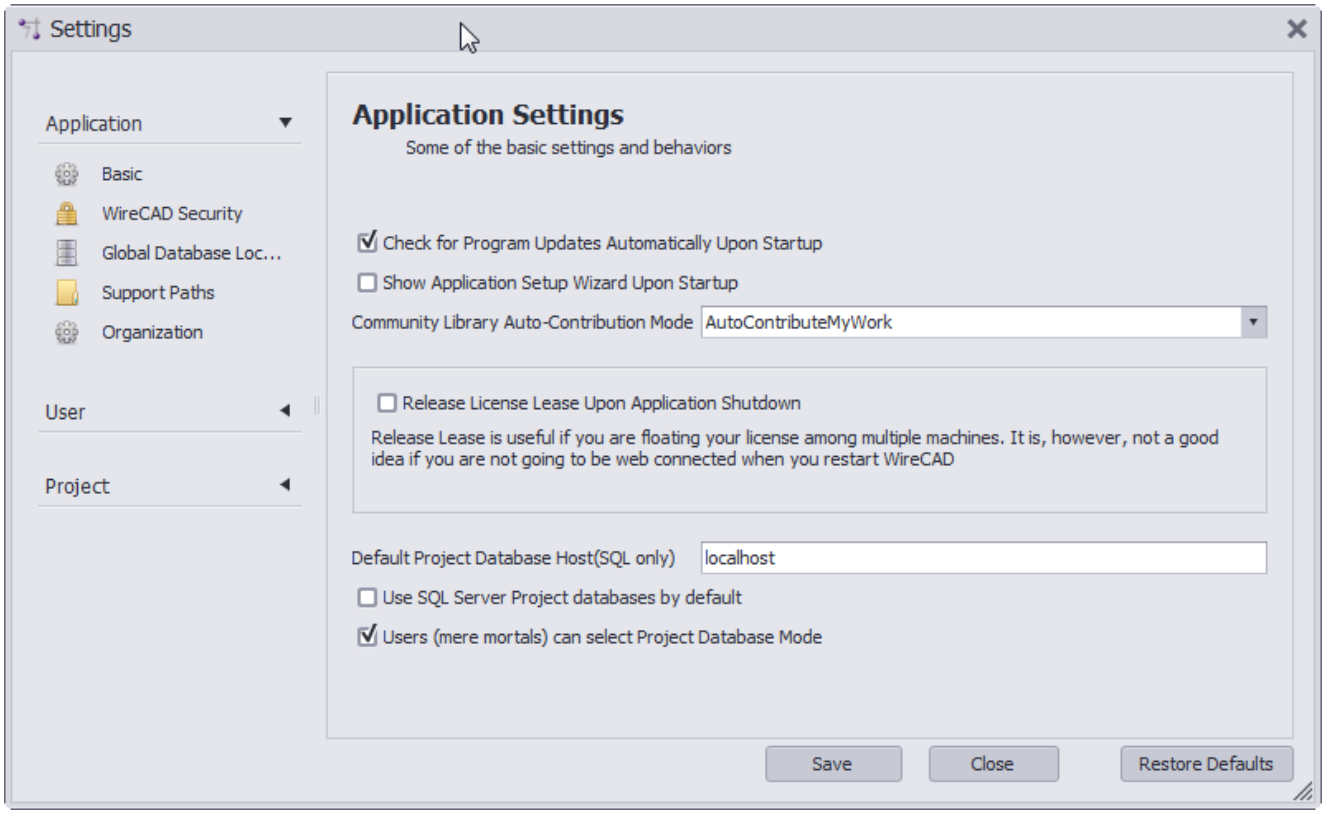
3.3 Settings and Options

The following settings are specific to WireCAD ENTerprise.

To access the settings menu, click **Application Menu > Settings**. Then select one of the three default sets of settings **Application**, **User** or **Project** by clicking on the down arrow.

Note: Third party plugins may register their own settings categories and panels. Shown are the stock settings.



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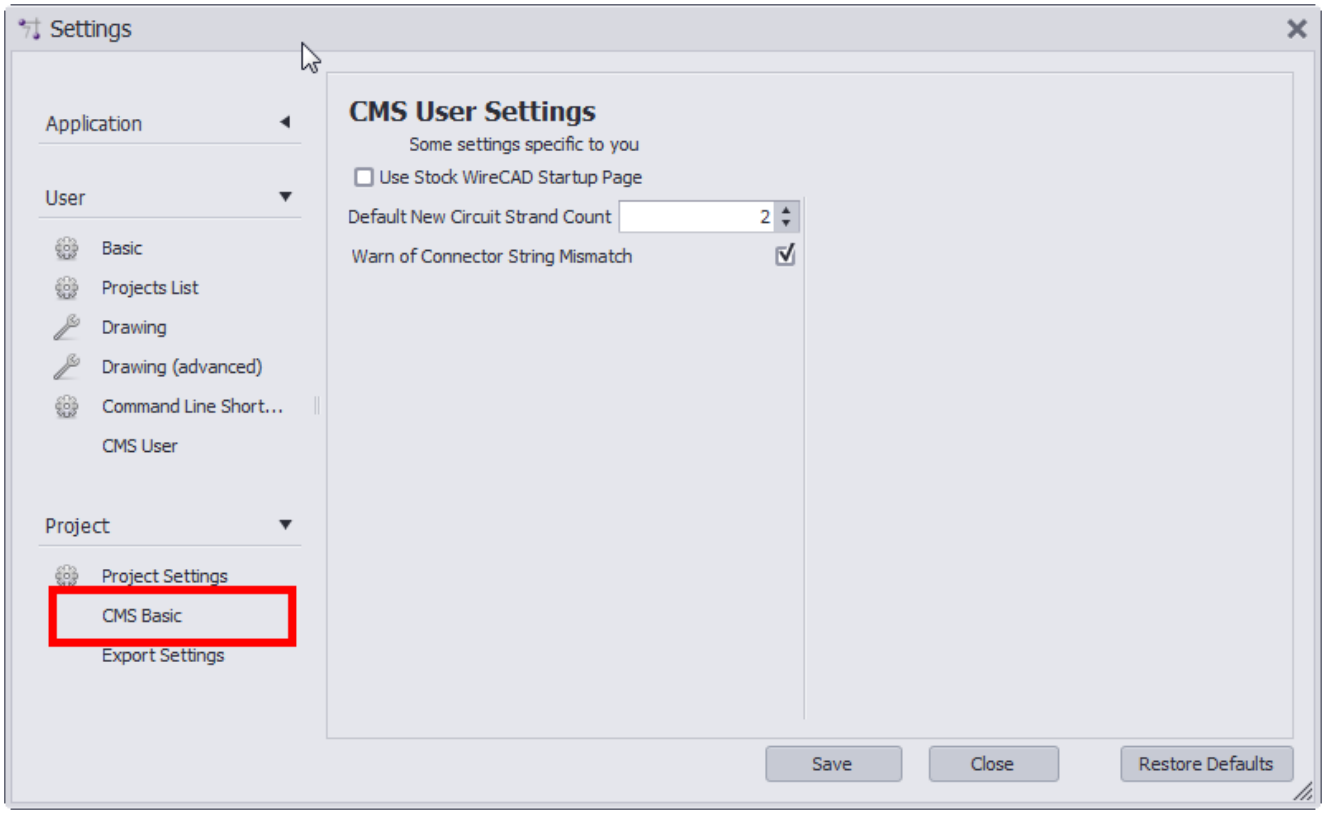
Topic Sub Sections

User Settings 189
Project Settings 191

3.3.1 User Settings

These are the additional user settings that pertain specifically to the CMS module.

Application Menu > Settings[User][CMS User]



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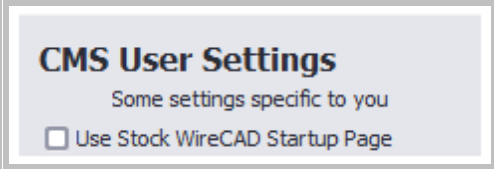
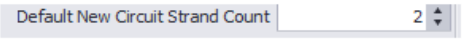
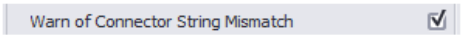
Use Stock WireCAD Startup Page Note: Doing this will remove all buttons and functionality of the startup page requiring you to use the command line shortcuts.	 This will change your Startup page from the CMS specific page to the default WireCAD page.
Default New Circuit Strand Count	 When creating a new circuit, a default strand count for jumpers is created. This will change that strand count to a different value.
Warn Of Connector String Mismatch	 Having this box checked will allow a warning message to display anytime WireCAD detects that 2 ports being connected have a different connector type.

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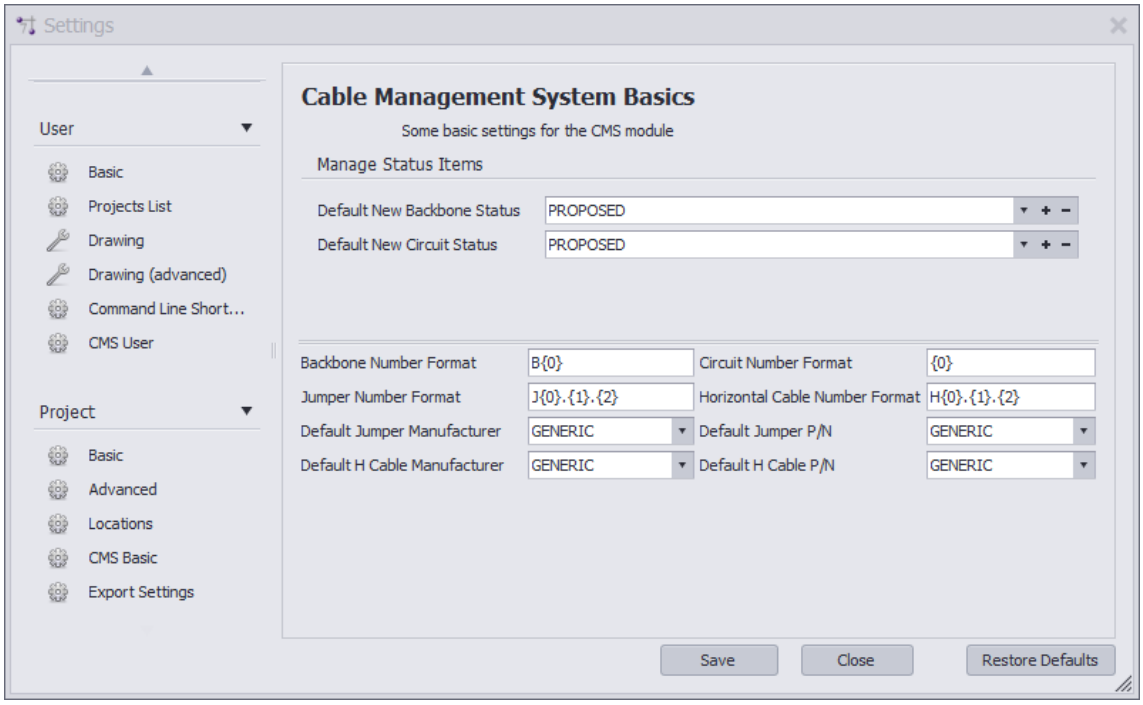
3.3.2 Project Settings

These are the additional project settings that pertain specifically to the CMS module.

Note: You will need to have an open project in order to access these settings.

Note: These settings are project specific and will need to be created for each new project.

Application Menu > Settings[User][CMS User]



Default New Backbone Status	When creating a backbone, you have the ability to mark a "status" on that backbone such as "In Use", "Proposed" ETC. Using the **[+]** button, you can create new status items. Selecting a status will cause that to become the default for all backbones in this project.

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Default New Circuit Status	 Just like above, when creating a Circuit, you have the ability to mark a status on that circuit. Again, using the [+] button, you can create a new status.

Backbone Number Format	The variable **{0}** contains the next number in the Next Numbers grid for Backbones. Define the string format of the next Backbone number.
Circuit Number Format	The variable **{0}** contains the next number in the Next Numbers grid for Circuits. Define the string format of the next Circuit number.
Jumper Number Format	The variable **{0}** contains the Circuit base number. The variable **{1}** contains the Strand Number of the circuit for this jumper The variable **{2}** contains the Ordinal Number of the circuit for this jumper. Define the string format of the next Jumper number.

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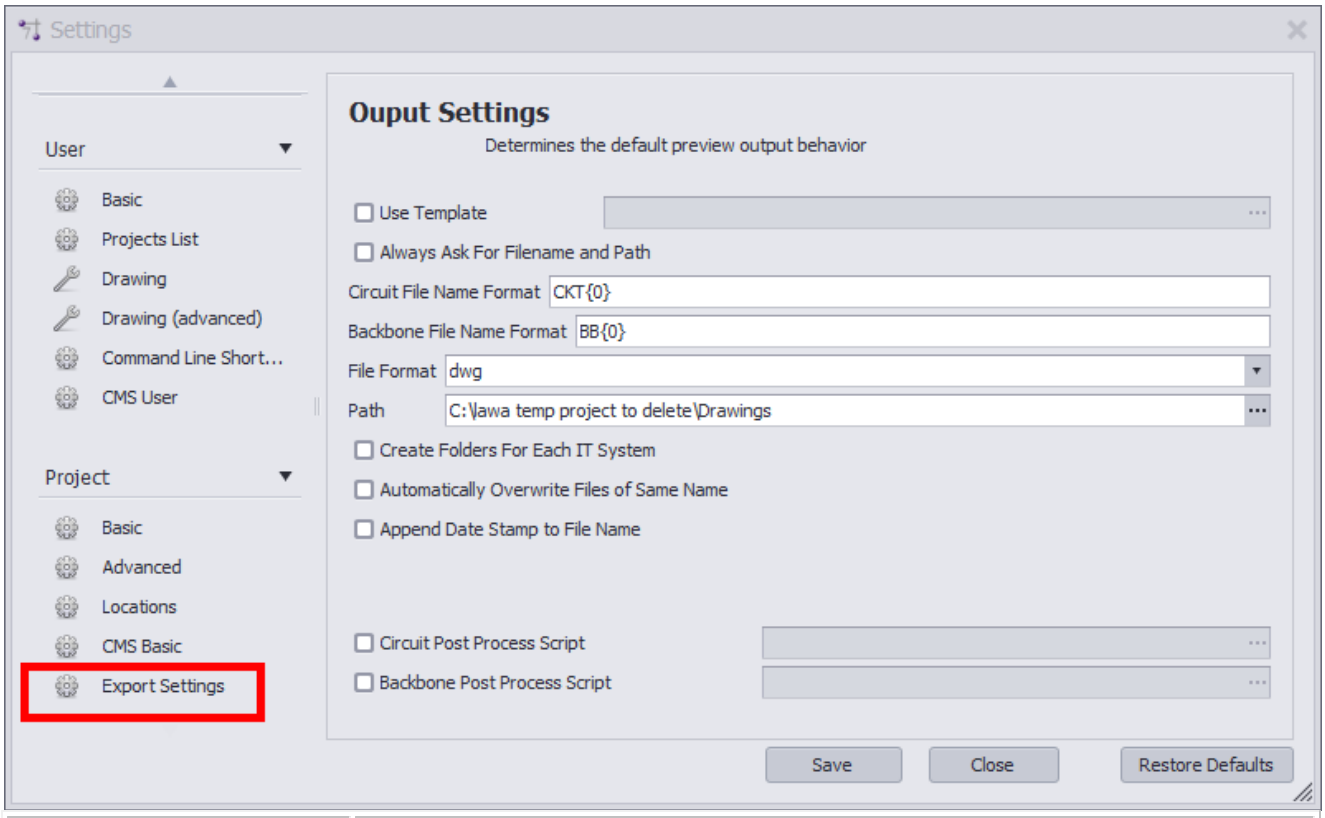
3.3.3 Output Settings

Application Menu > Settings[Project][Export Settings]



Use Template	Path to to a template drawing that the output will be exported into. Your template drawings can contain any page borders or layouts and settings that you wish.
Always Ask for Filename and Path	You are involved in the filename selection and path
Circuit File Name Format	Sets the file name format for Circuit output. {0} = Circuit Name
Backbone File Name Format	Sets the file name format for Backbone output. {0} = Backbone Number
File Format	Presets the output format.
Path	Where do we output.

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Create Folders for Each IT System	Create a new folder for each IT System and output the preview to that folder.
Automatically Overwrite Files of Same Name	Self-explanatory
Append Date Stamp to File Name	
Circuit Post Process Script	Path to a c# file which will be run post export but pre write-to-disk. See the Post Process Scripts 194 topic for more information.
Backbone Post Process Script	

3.3.4 Post Process Scripting

Post Process Scripting of the output of the Visualizers in WireCAD allow you to customize the final appearance of the created document.

What follows are two example scripts, one for the Circuit output and the other for the Backbone output. The process is the same for both. Only the method signature is changed.

Circuits Export Script Example

```
//////////////////////////////////////////////////////////////////////////////
using System;
using System.Data;
using System.Text;
using System.Windows.Forms;
using System.Diagnostics;
using System.Reflection;
using System.IO;
using WireCAD;
using WireCAD.Interfaces;
using VectorDraw.Professional.vdObjects;
using VectorDraw.Professional.vdFigures;
using VectorDraw.Professional.vdPrimaries;
using VectorDraw.Professional.vdCollections;
using WireCAD.ProjectFile.DAL;
using VectorDraw.Geometry;

/// <summary>
/// Fill your titleblock with your data
```

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```
/// </summary>
//Your class name
public class TitleBlockFiller
{
	//the method signature is key so this next line must appear as shown
	public static void Run(Workspace ws, Circuits c, vdDocument doc)
	{
		string drawingName = Path.GetFileName(doc.FileName);

		//change this next line to be your titleblock name
		string BlockNameToUpdate = "ansi";

		//Get the layout by name that we want to update
		vdLayout layOut = doc.LayOuts.FindName("ANSI_B");

		//loop through the entities in the layout
		foreach (vdFigure figure in layOut.Entities)
		{

			//if we find a viewport let zoom it to the extents of our model
			if(figure is vdViewport)
			{
				vdViewport vp = figure as vdViewport;
				vp.ZoomExtents();
				vp.Update();
			}

			//now look for our titleblock
			if (figure is vdInsert)
			{
				//cast our base figure into an insert object so we can access its
properties
				vdInsert insert = (vdInsert) figure;
				//now we will test to see if the insert name is one that
				//we know to be a titleblock
				//Modify this to meet your needs
				if (insert.Block.Name.ToLower().Contains(BlockNameToUpdate))
				{
					//need to fix it.
					//this next bit makes it insert get the latest version from
the blocks table
					insert.Update();
					insert.Invalidate();

					//we got one so let's set the attributes
					//we will use the safeSetAttribute function so that if the
attribute doesn't exist it won't
					//fail
					//Modify this to meet your needs
					//Enter your Attribute names and the values you want to fill
them with


					ws.Utilities.SafeSetAttributeValue(insert, "SHEET", layOut.
Name);
					ws.Utilities.SafeSetAttributeValue(insert, "Drawing_Name",
Path.GetFileNameWithoutExtension(drawingName));
					ws.Utilities.SafeSetAttributeValue(insert, "DWG_Number", c.
```

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```
CktNO);
                                    ws.Utilities.SafeSetAttributeValue(insert, "COMPANY", "Slate
Gravel Co");
                                    ws.Utilities.SafeSetAttributeValue(insert, "ADDRESS",
"Number 1 Quary Way");
                                    ws.Utilities.SafeSetAttributeValue(insert, "ADDRESS2",
"Bedrock - The World");
                                    ws.Utilities.SafeSetAttributeValue(insert, "DATE", DateTime.
Now.ToShortDateString());
                                    ws.Utilities.SafeSetAttributeValue(insert, "Scale", "NTS");
                                    insert.Update();
                                    insert.Invalidate();
                                    doc.Redraw(true);

                              }
                        }

              }

              //Now create a text item that displays our circuit number in the upper righthand
corner
              vdText t = new      vdText(doc);
              t.TextString = string.Format("CKT - {0}\n{1}",c.CktNO, c.CktDescription);
              t.HorJustify = VectorDraw.Professional.Constants.VdConstHorJust.VdTextHorRight;
              Box bb = layOut.Entities.GetBoundingBox(true,true);
              t.Height = .25d;
              t.InsertionPoint = new gPoint(bb.Right-3,bb.Top-2);
              layOut.Entities.AddItem(t);

              doc.ActiveLayOut = layOut;


       }
}
```

Backbones Export Script Example

The only difference in the two examples is the method signature. Use the code above replacing:

```
public static void Run(Workspace ws, Circuits c, vdDocument doc)
```

With:

```
public static void Run(Workspace ws, CMSSettings settings, vdDocument doc)
```

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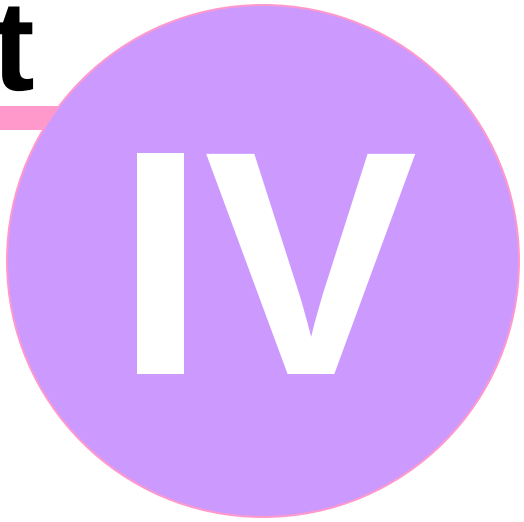
Part



4 Reference

4.1 Ribbon Tabs and Dialogs

This section provides a reference to the individual controls in the dialogs accessed in the Ribbon Toolbar.

Only dialogs that need explaining are documented

Please note that although this reference is quite complete, only dialogs that really need explaining are documented. For example, we assume that you can figure out what menu entries like Save and Save As do for yourself.

This also applies to simple dialogs whose functions are explained elsewhere. Some of these dialogs are listed, but only with references to the relevant topics in the Procedures sections.

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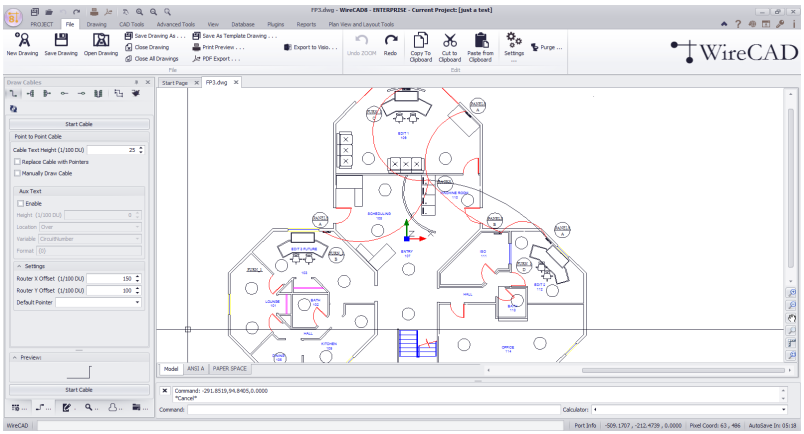
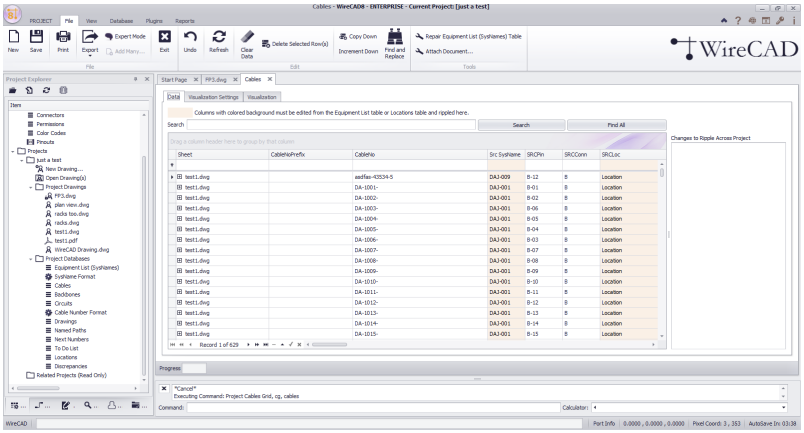
4.1.1 The Workspace

The WireCAD workspace has four main components: The Application Menu at the top of the screen, the Ribbon Toolbar where you access all program functions, the Tool Panels collection for navigating and managing your projects and the Main Window where you edit the content of your projects. The Main Window can display four distinct environments:

1. The Drawing environment



2. The Data environment



3. The Reporting environment

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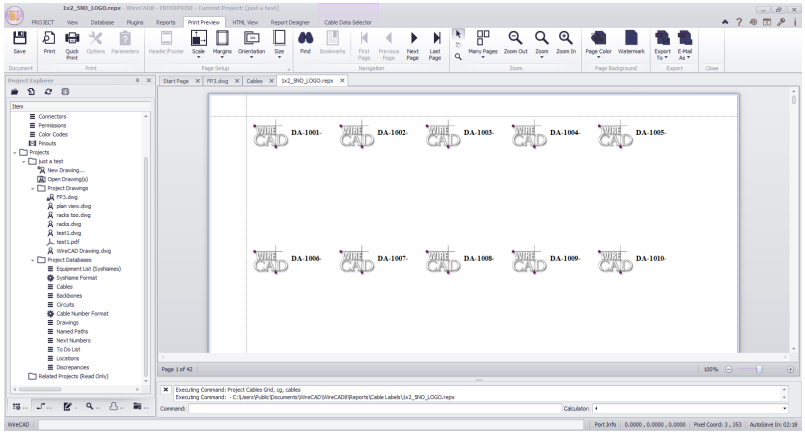
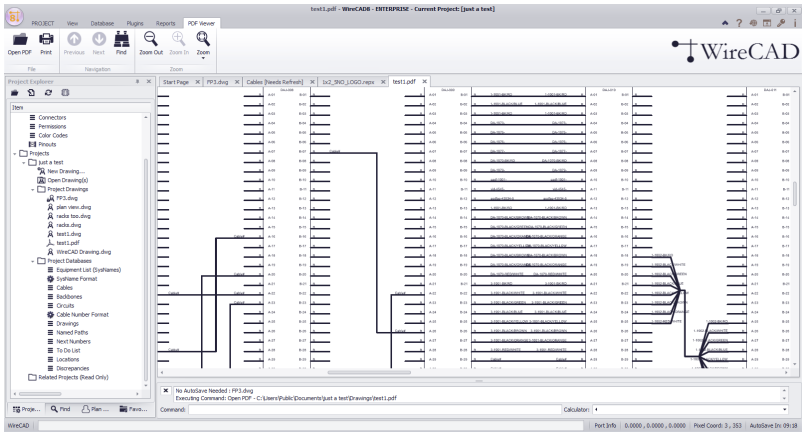
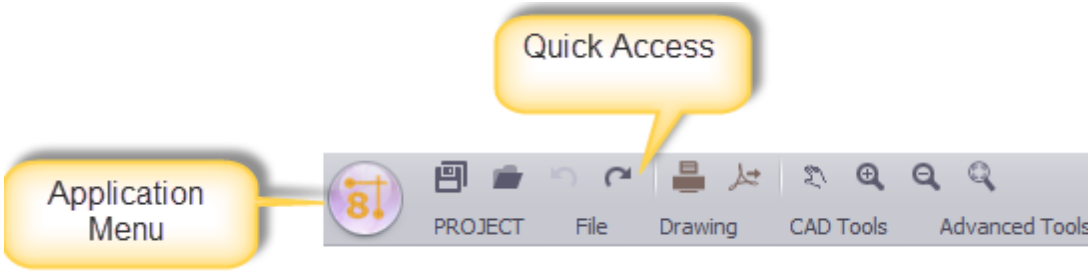


4. The PDF viewer environment



The Application Menu and Quick Access Toolbar



The Application Button in the top left corner of the Help & Manual window is one of the most important controls. It provides access to the functions normally accessed in the File menu in menu-based programs. This is where you open existing projects, create new projects, save your projects under other names and so on.

The Quick Access Toolbar next to the Application Button is a place for frequently-used tools.

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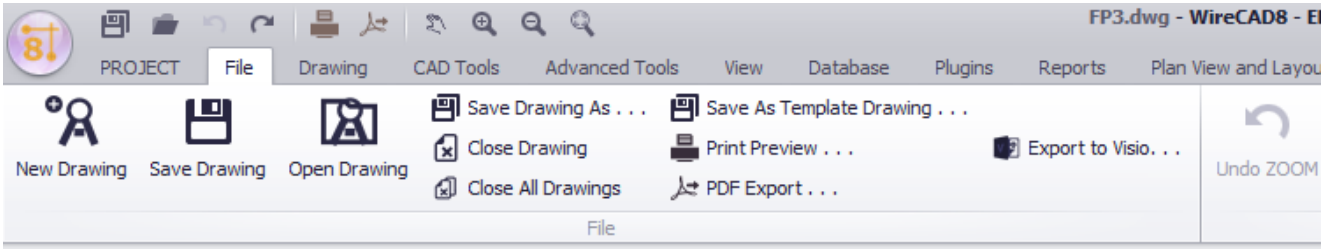
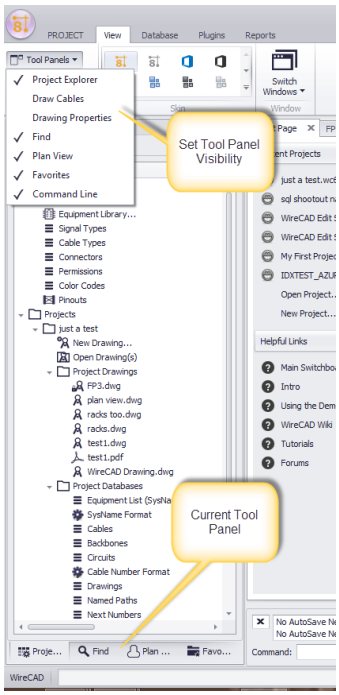
The Ribbon Toolbar



The Ribbon Toolbar is the control center where you access virtually all of WireCAD's functions. If you use Microsoft Office 2007 you will already be familiar with the Ribbon interface. It is context-sensitive, automatically displaying functions relevant to what you are currently doing.

Tip: The Ribbon can also be operated almost entirely via the keyboard. To display the accelerator keys just press and release the ALT key once – the keys will be displayed in icons superimposed on the Ribbon.

Tool Panels



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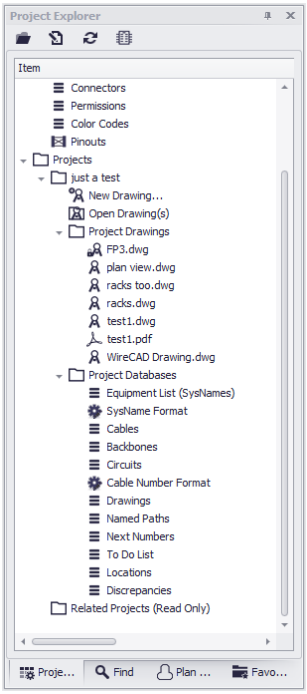
Tool Panels are organizations of controls. There are different Tool Panels depending on the current environment.

The Project Explorer Tool Panel

The Project Explorer is like Windows Explorer for WireCAD projects. When you load or create a project all its contents are displayed here, including both the Global Equipment tables and the Project Databases and files.



Note: This tool panel is active at all times.

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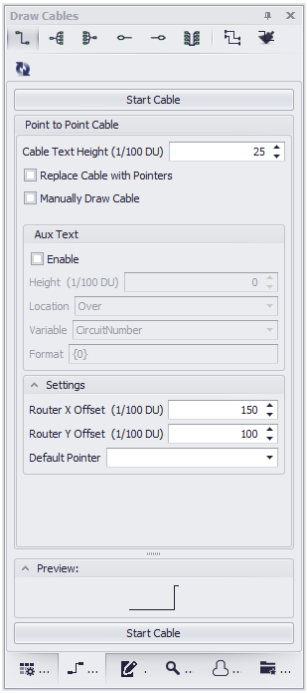
The Draw Cables Tool Panel

The Draw Cables Tool Panel contains all the tools for drawing cables. You can draw cables with different relationships. You can also set the drawing behaviour of cables.



Note: This tool panel is only active when the current environment contains a drawing.

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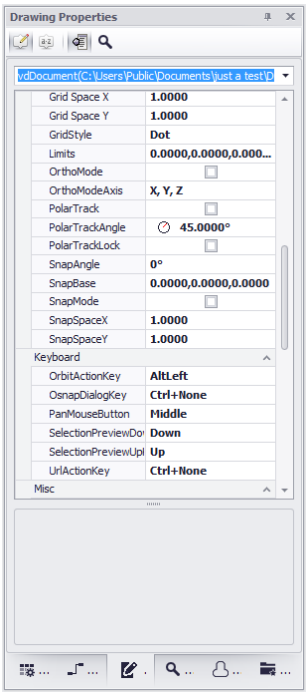
The Drawing Properties Tool Panel

The Drawing Properties Tool Panel allows editing of granular drawing settings. If no entity selection exists in the drawing the Drawing Properties window will display the general document properties.



Note: This tool panel is only active when the current environment contains a drawing.

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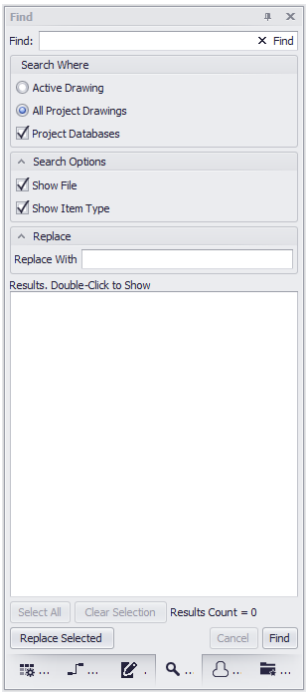
The Find and Replace Tool Panel

The Find and Replace Tool Panel allows you to search the current drawing, all drawings and the project databases for text and replace that text with your entered values.



Note: This tool panel is active at all times.

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The Plan View Tool Panel

The Plan View Tool Panel allows you to place plan view symbols in your drawing.

Note: This tool panel is only active when the current environment contains a drawing.

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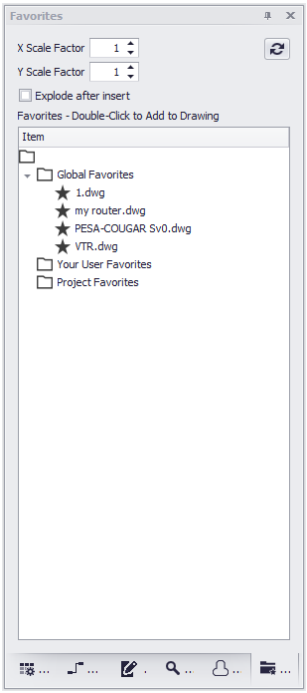
The Favorites Tool Panel

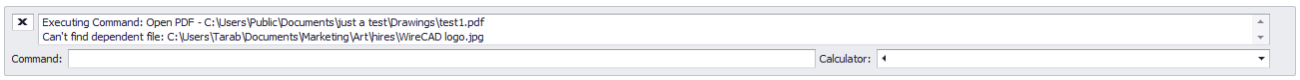
The Favorites Tool Panel holds blocks that you have saved as favorites **(right-click entity in drawing>Add to Favorites).**



Note: This tool panel is only active when the current environment contains a drawing.

The Command Line Interface

The Command Line Interface allows you to see the command history, receive prompts from the application and execute commands directly. For a full list of command line command you can view/edit the Application Menu>Settings[User][Commandline Shortcuts] grid.



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4.1.2 Ribbon Tabs

4.1.2.1 Application Menu

The Application Menu contains the following static menu functions:

Top Menu	Sub Menu	Description
New Project...		Displays the New Project Wizard. 233
Open Project		Display a file open dialog. Browse to and select a *.wc6plf file to open the WireCAD Project.
Save Project As...		Displays the Save Project As 239 dialog. Use this to create a copy of the current project in a different location.
Close Project		Closes the current project.
Frequently Used Folders	**Project Folder**	Opens the root folder of the current project in a window explorer window.
	Global Data Folder	Opens the global data folder. C:\Users\Public\WireCAD\WireCADx
	User App Data Folder	Opens C:\Users\<YOUR USER NAME>\AppData\Local\WireCAD\WireCADx
Security Tools	**View Permissions**	Shows the permissions grid.
	Manage Security...	Shows the Users Groups and Permissions dialog 242.
Check In/Out	**Pack Up / Check Out**	Packup/check 246 out utility. Collects all info for the project and makes is portable.
	Unpack Project ...	Unpack a project. 248

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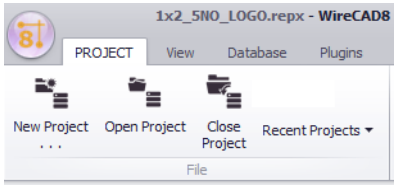
	Check In Project	Check in a Checked Out project 250.
Project Info		Project specific info 410 like the current revision and related projects list.
Account Info		Who is the project for 410.
Application Setup		Displays the Application Setup Wizard 252. This is show once on startup but you can review and change settings here.
Settings		Displays the main Settings 261 dialog.
Exit		Exits the program.

4.1.2.2 Project



The Project Ribbon Tab is a static menu structure. It does not change with environment changes.

The Project Ribbon Tab contains the following menu items:

Menu Item	Sub Menu	Description
New Project ...		Display the New Project Wizard 233
Open Project		Display a file open dialog. Browse to and select a *.wc6plf file to open the WireCAD Project.
Close Project		Close the current project
Recent Projects		Most recently used projects list. This is selection is based on the **Project List** setting in the **Application Menu>Settings[Project List]**

Other

While WireCAD does not currently merge any other tools with the Project menu, authors of WireCAD plugins have the ability to merge their own tools onto this ribbon tab. Consult their documentation for information.

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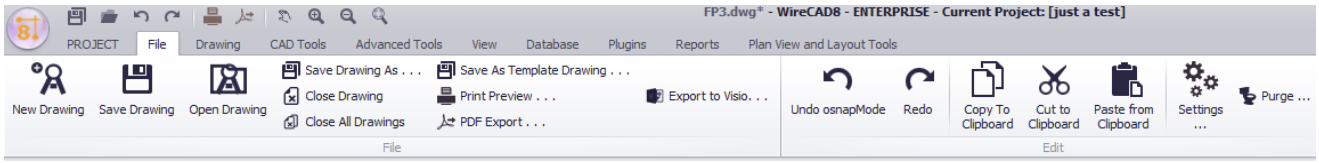
4.1.2.3 File

The File Ribbon Tab is a dynamic menu that changes its structure with the current environment.

Drawing Environment



Again, we will not explain the obvious ones.

Menu Item	Sub Menu	Description
New Drawing ...		Shows the New Drawing Wizard 291
Save Drawing		
Open Drawing		Browse to a drawing.
Save Drawing As		
Close Drawing		
Close All Drawings		
Save As Template Drawing		Any drawing may be used as a template from which other drawings may be created. Simply Save As Template Drawing to make your drawing usable in the New Drawing Wizard as a starter drawing.
Print Preview ...		Display the Print Preview 293 dialog.

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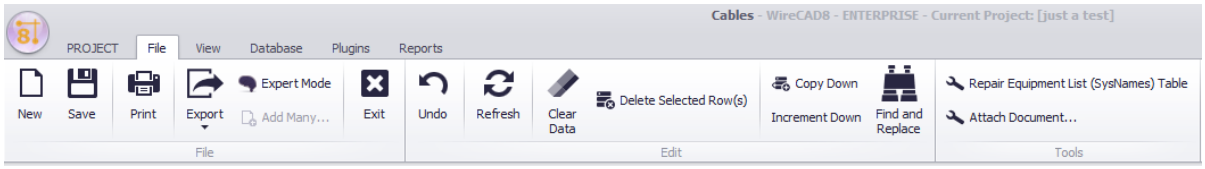
PDF Export ...		Display the PDF Export 295 dialog.
Export to Visio		Create smart Visio drawings 297 where the WireCAD cable become live active Visio connections.
Undo		
Redo		
Clip Copy		
Clip Cut		
Clip Paste		
Settings ...		Display the main Settings 261 dialog. Same as clicking Application Menu>Settings.
Purge ...		Purge 319 unused entities from the drawing.

Data Environment



Menu Item	Sub Menu	Description
New		A new item in the collection.
Save		
Print		
Export	**XML**	
	HTML	
	TEXT	
	XLS	
Exit		

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Undo		
Redo		
Refresh		
Clear Data [Del]		
Delete Selected Rows		
Copy Down [Ctrl]+[D]		
Increment Down [Ctrl]+[I]		
Find and Replace		
Tool1		See Grid Specific Functions for a listing of the tools available to each data grid.
Tool2		
Tool3		
Tool4		

Other

While WireCAD does not currently merge any other tools with the File menu, authors of WireCAD plugins have the ability to merge their own tools onto this ribbon tab. Consult their documentation for information.

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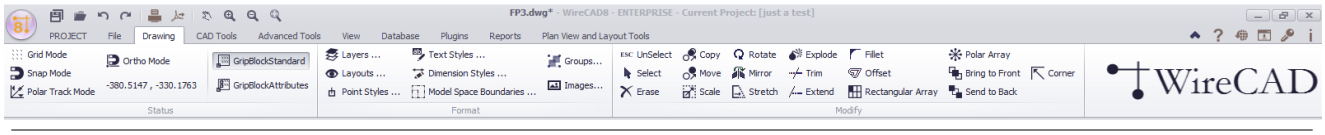
4.1.2.4 Drawing

Active only when the current environment is a drawing.



Menu Item	Sub Menu	Description
Grid Mode		Toggle the visible grid **[F7]**. Note: the visible grid is rendered only for the **Drawing Limits** which can be set in the Drawing Properties Tool Panel.
Snap Mode		Toggle the invisible snap grid **[F9]**. The invisible snap grid is based on the **SnapX** and **SnapY** settings in the Drawing Properties Tool Panel.
Polar Track Mode		Toggle PT mode. When enabled and in a function requesting a point from the drawing the selectable polar angle will be restricted to the **Polar Track Angle** in the Drawing Properties Tool Panel.
Ortho Mode		Toggle restrict movement to horizontal/vertical only.
Coordinate		Displays the cursor position in current coordinates. Coordinates are expressed in drawing units (DU).Drawing units do not express particular units (meters,inches etc). In this part user have to make some assumptions in order to define that the coordinates of the drawing mean particular units(meters,inches etc). For example: For a mechanical drawing we can make the assumption for example: where one drawing unit defines one millimeter(1 D.U=1mm) For a architectural/technical drawing we can make the assumption for example: where one drawing unit defines one meter(1 D.U=1m) or one foot. This can be very helpful in designing,dimensioning,retrieving information from the drawing(distances,area calculations)
GripBlockStd		Show only one grip per insert.
GripBlockAtts		Show one grip per attribute in the selected insert.
Layers ...		Shows the Layers 299 dialog.

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Layouts ...		Shows the Layouts 302 dialog.
Point Styles ...		Shows the Point Styles 304 dialog.
Text Styles ...		Shows the Text Styles 306 dialog.
Dim Styles ...		Shows the Dimension Styles 308 dialog.
Model Space Bounds		Shows the Model Space Boundaries 310 dialog.
Groups ...		Shows the Groups 312 dialog.
Images ...		Shows the Images 314 dialog.
UnSelect		Clears the current selection. Same as pressing {esc}
Select		Start a selection
Erase		Erase the current selection. If no selection then you will first be prompted to select entities.
Copy		Copy the current selection. This is a base-point or offset copy and is preferred over [Ctrl][C] then [Ctrl][V] if copying in the same drawing as it is lighter weight. If no selection then you will first be prompted to select entities.
Move		Move the current selection. If no selection then you will first be prompted to select entities.
Scale		Scale the current selection. If no selection then you will first be prompted to select entities.
Rotate		Erase the current selection. If no selection then you will first be prompted to select entities.
Mirror		Mirror the current selection. If no selection then you will first be prompted to select entities.
Stretch		Stretch polylines in the current selection. If no selection then you will first be prompted to select entities.

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Explode		Explode the current selection. This function will reduce complex object to their primitive constituent parts. For example; exploding an insert unlinks all of the entities back one level. Exploding a polyline reduces the polyline to a collection of line segements. If no selection then you will first be prompted to select entities. **Entities that can been exploded:** • vdDimension explode to vdLines, vdText(s), and vdInserts (the arrows). • vdInsert explode to the entities that is consist of. (If there are Inserts inside Blocks then you may need to apply more than 1 explode to get the base entities). • vdPolyHatch explode to vdPolyline(s). • vdPolyline explode to vdLine(s) and/or vdArc(s). • vdRect explode to vdPolyline. • vdText explode to vdPolylines(only texts with fontfile SHX).TTF(true type font) texts are not exploded
Trim		Trim objects at a cutting edge defined by other objects the current selection. First select the objects that define the cutting edges at which you want to trim an object and then the object. Objects that can be trimmed include arcs, circles, elliptical arcs, lines. Notice that the trim command do not function if the objects do not intersect. At the example below there are some lines that were trimmed.
Extend		Extend lines,arcs,polylines until they intersect with some other object which is used as limit of the extension. Firstly you have to select the objects that consist the limits of the extension. Then you have to choose a point at an object that you want to extend. If the object you want to extend does not intersect with above objects then nothing will happen.

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Fillet		Connect two lines , two arcs, or one arc with a line(these two objects must have at least one common point either visible, or in their extension) , with an arc with a specific radius. The value of the radius has some restrictions depending the position of the objects. If radius=0 then simply the objects are either extended until they intersect each other in one point(if there was not an intersection point) either trimmed(if an intersection point is visible).
Offset		Create a new object in parallel direction and in specified distance from the original object which is used as pattern for the new object. When you execute offset command , you are prompted to select an object. Then you have to specify the offset distance which is the distance that the new object will be drawn from the original object. Then you have to set the side that the object will be draw because there are two sides.
R Array		Creates multiple copies of objects in a rectangular pattern. Shows the Rectangular Array 318 dialog. With the rectangular array you can create an array defined by a number of rows and columns of copies of the selected object. First you have to select the objects.Then you have to define number of rows and number of columns of the rectangle, the distance between rows and the distance between columns. If no selection then you will first be prompted to select entities.
P Array		Same as R Array but copies radially around a center point. Select the objects to copy.Then set the center point and next define the numbers of the copy objects that will be created and the fill angle. Lastly choose if the object will be rotated or not.
BTF		Bring to front. This changes the Z order of the objects in the render engine bringing the current selection to the front. If no selection then you will first be prompted to select entities.
STB		Send the current selection to the back of the Z order. If no selection then you will first be prompted to select entities.
Corner		Causes lines that can intersect to intersect. Start the command then select the first line then the second line.

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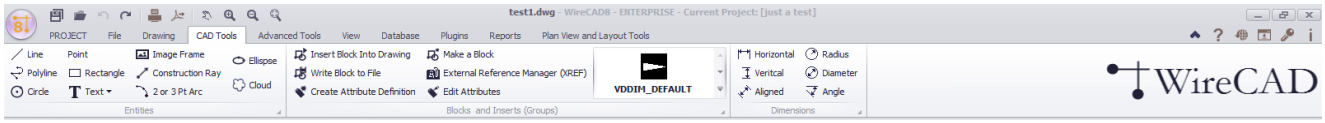
4.1.2.5 CAD Tools

Active only when the current environment is a drawing.



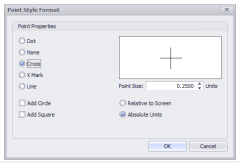
Menu Item	Sub Menu	Description
Line		A single line segment. Lines can be one segment or a series of connected segments, but each segment is a separate line object.
Polyline		2D/3D line composed of line and arc (bulges) segments. Polyline is specified by an array of Vertexes (points). When the Polyline has thickness then the extrusion vector of the polyline defines the direction of the thickness. Polylines can be Open or Closed, can be SPLine and be filled with a color or a hatch.
Circle		A full circle is defined by its CenterPoint and its Radius. Circle is drawn in the plane that is defined by CenterPoint and ExtrusionVector.
Point		An object which occupies a single point in the coordinate system. The display of the point is inherited from the document Point Style property and can be set by clicking **Drawing>Point Styles...** 
Rectangle		A rectangular object defined by an insertion point, height and width.
Text	**Single Line of Text**	Text inherits its style from the document **Text Styles** collection which can be edited by clicking **Drawing>Text Styles...** Text entities do not have font properties directly but inherit the font and font properties from the associated Text Style.
	Multiline Text (MTEXT)	

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Image Frame		Used to render images in the document. Images may either be linked or imbedded in the drawing file. The image frame defines the location and size of the displayed image. To imbed an image you must edit the document Images collection **Drawing>Images.**
Construction Ray		
2 or 3 Pt Arc		A circular arc defined by the center point, the radius, the start angle and the end angle. An arc is always drawn anti-clockwise from the StartAngle to the EndAngle. The StartPoint and EndPoint properties of an arc are calculated through the StartAngle, EndAngle and Radius properties. The ExtrusionVector is always vertical to the arc. Arc is drawn in the plane that is defined by CenterPoint and ExtrusionVector
Ellipse		Draw an Ellipse.
Cloud		Draw a cloud
Insert Block Into Drawing		Opens the Inserts 320 dialog. You can then insert an existing block into the drawing or browse to another file to insert in the drawing.
Write Block to File		Writes the selected insert out to its own file prompting you for the file save as name and location as well as the new basepoint for the drawing.
Create Attribute Definition		A tag/value data pair that can be included in a block to display editable text.
Make a Block		Select entities and group them into a unit called a block. The block resides in the document Blocks table. To display a block we Insert an instance of the block into the drawing at some point, scale, and rotation.

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External Reference Manager		Other drawings may be displayed within the drawing space and maintained as separate files. These are called Externally Referenced (XREFS) drawings. The externally referenced drawing cannot be edited in the current drawing, only viewed, positioned, scaled and rotated. This function opens the External Reference Manager 321 dialog.
Edit Attributes		Allows editing of the attributes of the selected insert of a block
Blocks Gallery		Visual gallery of the document Blocks collection. Clicking on an item starts the Insert process.
Horizontal Dimension		Dimensioning is the process of adding measurement annotation to a drawing. There are many ways to dimension objects and many ways to format dimensions. You can create dimensions for a wide variety of object shapes in many different orientations. You can create dimension styles to format dimensions quickly and ensure that dimensions in your drawing conform to industry or project standards. Dimensions show the measurements of objects, the distances or angles between objects, or the distance of a feature from an origin you specify. There are three basic types of dimensioning: linear, radial, and angular. Dimensions can be horizontal, vertical, aligned, rotated,angular. A linear dimension measuring the distance between two points which is displayed parallel to the points being measured. In aligned dimensions, the dimension line is parallel to the extension line origins. The extension line origins are specified using the DefPoint1 and DefPoint2 properties.
Vertical Dimension		
Aligned Dimension		
Radius Dimension		
Diameter Dimension		
Angle Dimension		

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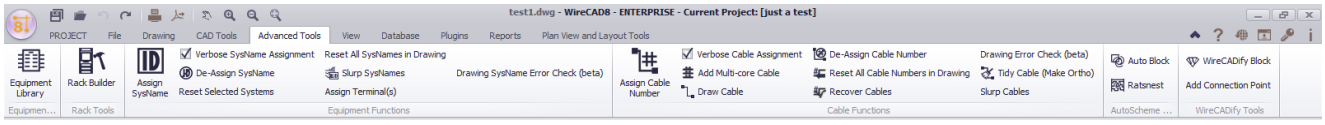
4.1.2.6 Advanced Tools

Active only when the current environment is a drawing.



Menu Item	Sub Menu	Description
Equipment Library		Opens the Equipment Library 323.
Rack Builder		Opens the Rack Builder 345 tool.
Assign SysName		Assigns a SysName 347 to all selected inserts that are assignable.
Verbose SysName Assignment		When checked displays the SysName Assignment 347 dialog. Otherwise the assignment proceeds with all default information.
De-Assign SysName		De-Assign will remove the SysName data from the insert and mark the record in the database deleted/available.
Reset Selected SysName		Reset will remove the SysName data from the insert and do nothing with the database. The Reset functions are useful if you need to reuse a drawing and reassign new numbers.
Reset All SysNames		
Slurp SysNames		Gets all of the SysName data from the drawing and adds it to the database if not found in the database.
Assign Terminal(s)		Starts the terminal assignment dialog for the current selection of assignable terminals
Drawing SysName Error Check		Shows the Drawing SysName Error Check 351 dialog.

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Assign Cable Number		Assigns the cable[349] a number based on several factors: • The Project Settings[Starting Number] • Project Cable Number Format tool • Next Number sequence The process of assignment will update drawing with the number as well as place an entry in the project Cables table
Verbose Cable Assignment		When checked displays the Cable Assignment[349] dialog. Otherwise the assignment proceeds with all default information.
Add Multicore Cable		Displays the Add Multi-core Cable[352] dialog. There you select the cable type number base, etc. and build an entry in the Cables table for every core in the associated cable type marking the records available.
Draw Cable		Starts the Draw Cable[477] function.
De-Assign Cable Number		De-Assign will remove the Cable data from the drawing and mark the record in the database deleted/available.
Reset All		Reset All Cable Numbers in Drawing will remove the Cable data from the drawing and do nothing to the database. The Reset functions are useful if you need to reuse a drawing and reassign new numbers.
Recover Cables		The Recover Cables function does the following: • Gets all cable data from the drawing • Compares it to the Cables table of the project • Updates the Cable Number information in the drawing for matches. A match is found when the source and destination SysNames, Locations, and Portnames match.
Drawing Error Check		Shows the Error Check[353] dialog.
Tidy Cable		Forces the selected cable to be orthogonal (horizontal or vertical only).
Slurp Cables		Gets all of the Cable data from the drawing and adds it to the Cables table if not found in the database.

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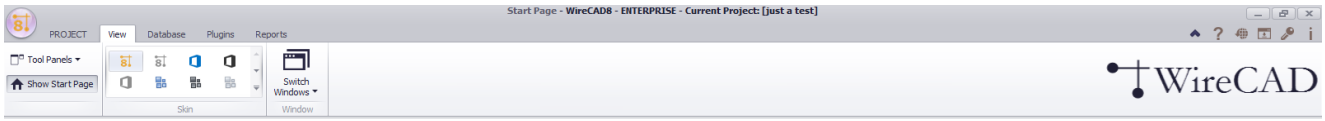
Auto Block		Shows the Auto Block 354 dialog. With Auto Block you can place functional blocks in the drawing on a grid simply by selecting which SysName to place.
Ratsnest		Shows the Ratsnest 357 dialog. Used in conjunction with Auto Block to wire the placed blocks. Pulls cable data from the Cables table, searches the drawings for matches and when found places a cable.
WireCADify Block		Shows the WireCADify Block 359 dialog. Add the WireCAD attribute set to your CAD blocks. You do not need to use this command on any WireCAD generated block.
Add Connection Point		Shows the Add Connection Point 361 dialog. Add WireCAD Connection Points you blocks that you have WireCADified. You do not need to use this command on any WireCAD generated block.

4.1.2.7 View

The View tab is dynamic. It merges tools from the current environment.

Static View



Menu Item	Sub Menu	Description
Tool Panels	**Project Explorer**	Toggle the visibility of the Project Explorer 475 Tool Panel
	Draw Cables	Toggle the visibility of the Draw Cables 477 Tool Panel

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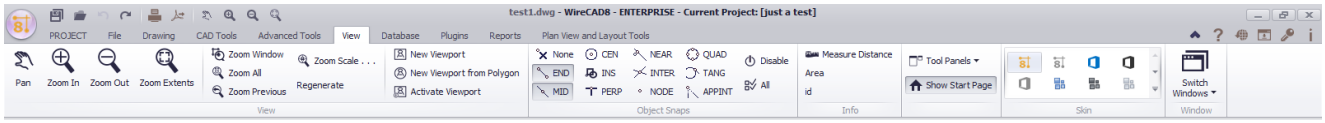
	Drawing Properties	Toggle the visibility of the Drawing Properties 479 Tool Panel
	Find and Replace	Toggle the visibility of the Find and Replace 482 Tool Panel
	Plan View Tools	Toggle the visibility of the Plan View Tools Tool Panel
	Favorites	Toggle the visibility of the Favorites Tool 487 Panel
	Command Line	Toggle the visibility of the Command Line 489 Tool Panel
Show Start Page		Toggle the visibility of the Start Page
Skin Gallery		Select the look and feel of the application
Switch Windows	**{Current Window Set}**	Toggle the active window

Drawing Environment View



Menu Item	Sub Menu	Description
Pan		Reposition of the view. This can be better done with the mouse wheel of your mouse. Depress the mousewheel to click the button underneath it to activate the PAN mode. NOTE: this relies on your mouse driver middle button set to default.
Zoom In		Zoom command allows the user to increase or decrease the apparent size of objects , so the user can control the part of the drawing that is included in the screen.
Zoom Out		
Zoom Extents		

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Zoom Window		Zoom command is a transparent command. Transparent commands are commands that can be invoked when another command is active. Remarks There are several ways to execute the zoom command: "E"(Extends) Zooms to display the drawing extents "P"(Previous) Zooms to display the previous view "W"(Window) Zooms to display an area specified by two opposite corners of a rectangular window. User must specify these two corners. "A"(All) zooms to the drawing limits or current extents, whichever is greater.
Zoom All		
Zoom Previous		
Zoom Scale		Show the Zoom Scale dialog. Zooms the display at a specified scale factor. For example, entering 2 doubles the apparent display size of any objects from what it would be if you were zoomed to the limits of the drawing. Entering 0.5 causes each object to be displayed at half its current size on the screen.
Regenerate		Re render the entire drawing.
New Viewport		Viewports are areas that display different views of your model. As you work, you can split the drawing area into one or more adjacent rectangular views known as model viewports. In large or complex drawings, displaying different views reduces the time needed to zoom or pan in a single view. Also, errors you might miss in one view may be apparent into others. ViewPorts are treated as rectangle drawing objects which display views and can be moved or resized. They can be created only a layout and not in Model space. You can also attach viewports to closed polygons (polylines, circles, ellipses, rectangles).
New Viewport from Polygon		
Activate Viewport		
None		Turn off all object snaps. An object snap(Osnap) mode specifies a snap point at an exact location on an object. Osnap specifies running object snap modes, which remain active until you turn them off.
End		End Point snap

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Mid		Mid Point snap
Center		Center snap
Ins		Insertion Point snap
Perp		Perpendicular To snap
Near		Nearest snap. This one overrides all others.
Inter		Intersection snap
Node		Point snap
Quad		Quadrant snap
Tang		Tangential To snap
AppInt		Apparent Intersection snap
Disable		Toggle currently selected OSnap state
All		Enable/Disable all.
Measure Distance		Measure the distance in Drawing Units(DU) between two points selected from the drawing.
Area		Measure the area of a selected object.
ID		Get the drawing ID of the selected object.

Other

While WireCAD does not currently merge any other tools with the View menu, authors of WireCAD plugins have the ability to merge their own tools onto this ribbon tab. Consult their documentation for information.

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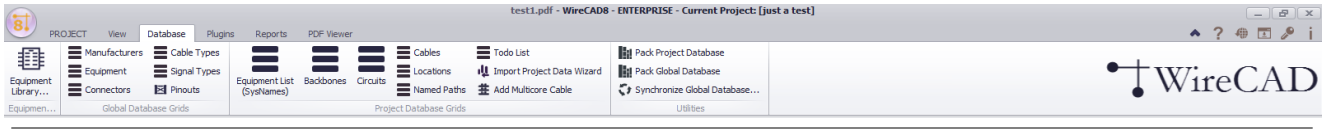
4.1.2.8 Database

No environments currently merge with this tab



Menu Item	Sub Menu	Description
Equipment Library		Show the global Equipment Library 323
Manufacturers		Show the global Manufacturers 411 Grid
Equipment		Show the global Equipment 413 Grid
Connectors		Show the global Connectors 417 Grid
Cable Types		Show the global Cable Types 419 Grid
Signal Types		Show the global Signal Types 415 Grid. **This grid defines many default behaviours like cable color and default cable type.**
Pinouts		Show the global Pinouts 422 tool (PRO) and above.
Equipment List		Show the project Equipment List 442. This is the collection of all SysNamed equipment across all drawings in the project.
Backbones		Show the project **Backbones** grid. (ENT ONLY). This is the collection of all **Backbones** in the project.
Circuits		Show the project **Circuits** grid. (ENT ONLY). This is the collection of all **Circuits** in the project.
Cables		Show the project Cables 446 grid. This is the collection of all **Cables** in the project.
Locations		Show the project **Locations** grid. This is the collection of all **Locations** in the project.

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Named Paths		Show the project **Named Paths** grid. This is the collection of all **Named Paths** in the project.
Todo List		Show the project Todo List
Import Project Data Wiz		Show the project **Import Data Wizard**. This tool allows you to import cable and equipment data from other sources.
Add Multicore Cable		Displays the Add Multi-core Cable 352 dialog. There you select the cable type number base, etc. and build an entry in the Cables table for every core in the associated cable type marking the records available.
Pack Project Database		This file base database utility will compress and reorganize your project database.
Pack Global Database		This file base database utility will compress and reorganize your global database.
Synchronize Global Database		Show the global database Synchronizer 394 tool. This tool allows you to import/export/merge two global databases of either SQL,VISTA, or SQL Azure.

4.1.2.9 Plugins

This tab is dynamic. Depending on product level and installed third party or WireCAD plugins these menu items are subject to change.

Menu Item	Sub Menu	Description
Plugin Manager		Shows the Plugin Manager 402 dialog where you can control which plugins are loaded.

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Script Editor Runner		Shows the Script Editor/Runner[404] dialog. This tool allows you to create custom scripts to perform tasks. You can view/edit existing scripts that show how to do a bunch of things by browsing to the script folder in c:\users\public\wirecad\wirecadx\scripts. Therein you will find many example scripts. Scripts are written in C# and the editor provides intellisense hints.
Translation Manager		Shows the Translation Manager. While not technically a plugin we have always shown it here so why break with tradition. All text (strings) in WireCAD are held in a dictionary. The dictionary is editable through the Translation Manager. All strings default to english if the machines current culture cannot find a translation in the dictionary. You have the ability to change the displayed messages, column headings, and all other strings.
Batch Plot		Show the Batch Plot tool. This tool allows you to scan the drawings for layouts and select the layouts to print/plot in a batch. You can save/load your settings for the next time around.
Brother P-Touch!		Show the Brother P-Touch! plugin to print directly to P-Touch! printer with USB ports that support direct print. (NOTE: not all P-Touch! printers with USB ports support direct print).
PatchVerx		If you have installed PatchVerx on your machine this icon will be present so you can run the worlds best patchbay designation strip tool inside of WireCAD and pull data directly from your Cables table and place in on your patchbay label.
Extract All Blocks		Extracts all blocks from the active drawing and writes them out as individual dwg files to the selected folder.
Bulk Block Fixer		If you want to use someone elses CAD blocks you will need to fix them so they work with WireCAD. This is the tool.
DWG Diff		Drawing Differencing tool. Compare two similar drawings and create three views A not B, B not A, and Common to Both. Compares geometry and drawing collections like layers, linetypes, etc.

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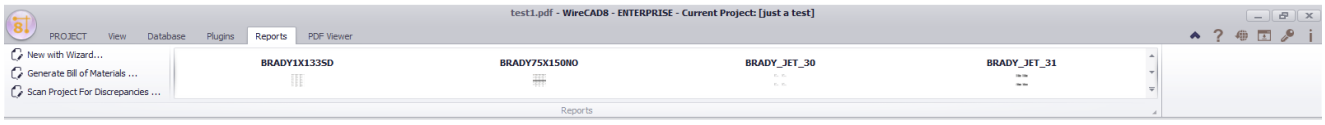
4.1.2.10 Reports

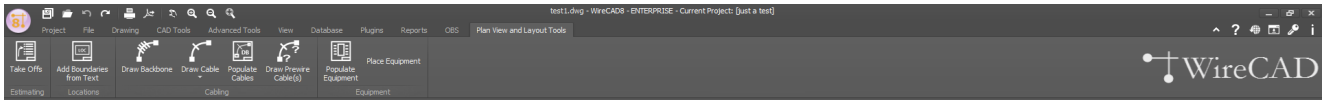
Items on this tab are static and always display.



Menu Item	Sub Menu	Description
New with Wizard...		Create a new report using the New Report Wizard. We recommend that you find a report in the existing Reports Gallery that is close and save that as your new name then edit your changes there. You will save a bunch of time.
Generate Bill of Materials		Shows the BOM generator 472 which counts equipment, cable, and connectors in the project. NOTE be sure to run this tool before you run any of the BOM reports or they will be empty.
Scan Project for Discrepancies		Scan for common problems. Shows the Discrepancy Scanner 400 dialog. When it finishes you can see the results in the Project Discrepancy list from the Project Explorer.
Reports Gallery		Lists all reports in the %REPORTS% support path and its subdirectories. Clicking a gallery item will load the report into a report form for preview/design/ export.

4.1.2.11 Plan View and Layout Tools

Active only when the current environment is a drawing.



Menu Item	Sub Menu	Description
Take Offs		Show the Take Offs 364 tool. This tool assists in counting items in the drawing.

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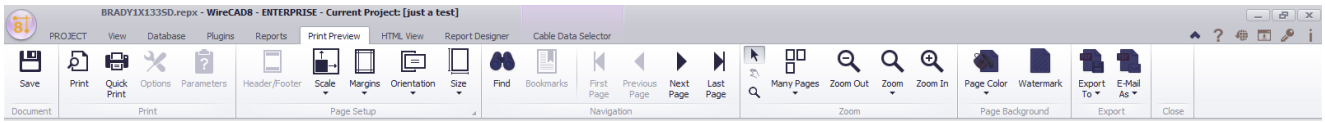
Add Boundaries from Text		Add Location Boundaries 453 using a text entity to derive the location name. Once you select a text entity the Boundaries form is displayed allowing you to set the remainder of the properties.
Draw Backbone		Draw a polyline representing the backbone in the plan view space. Then assign a number, cable type, source and destination ports and add that to the database.
Draw Cable		Drawing a polyline representing a cable from a location boundary to another location boundary or from placed equipment to placed equipment. Cable information is then created in the Cables table.
Populate Cables		Automatically places arched cables from location to location as defined in the Cables table.
Draw Prewire Cables		Draw a polyline representing prewire cables and add the data to the Cables table marking the IO as PREWIRE. Later, you can assign cables to those PREWIRE entries.
Populate Equipment		Automatically place SysNamed equipment in the drawing in the Location Boundaries if found.
Place Equipment		Place unnamed plan view equipment in the drawing. Preferably after Location Boundaries have been defined.

4.1.2.12 Print Preview

Visible only when the active environment is a report.



Related Topics

Print Preview Reports Form 459

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4.1.2.13 HTML View

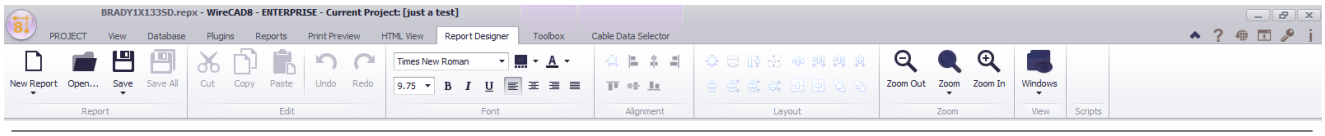
Visible only when the active environment is a report.

Related Topics

HTML Preview Reports Form 461

4.1.2.14 Report Designer

Visible only when the active environment is a report.



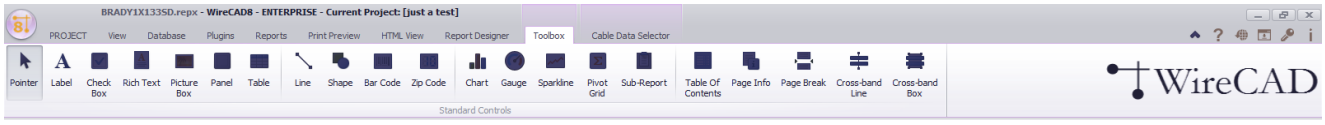
Related Topics

Report Design Form 462

A discussion on report design can be found here 93.

4.1.2.15 Toolbox

Visible only when the Report Designer Tab is active.



Related Topics

Report Design Toolbox Form 465

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4.1.2.16 Cable Data Selector

Visible only when the active environment is a report.

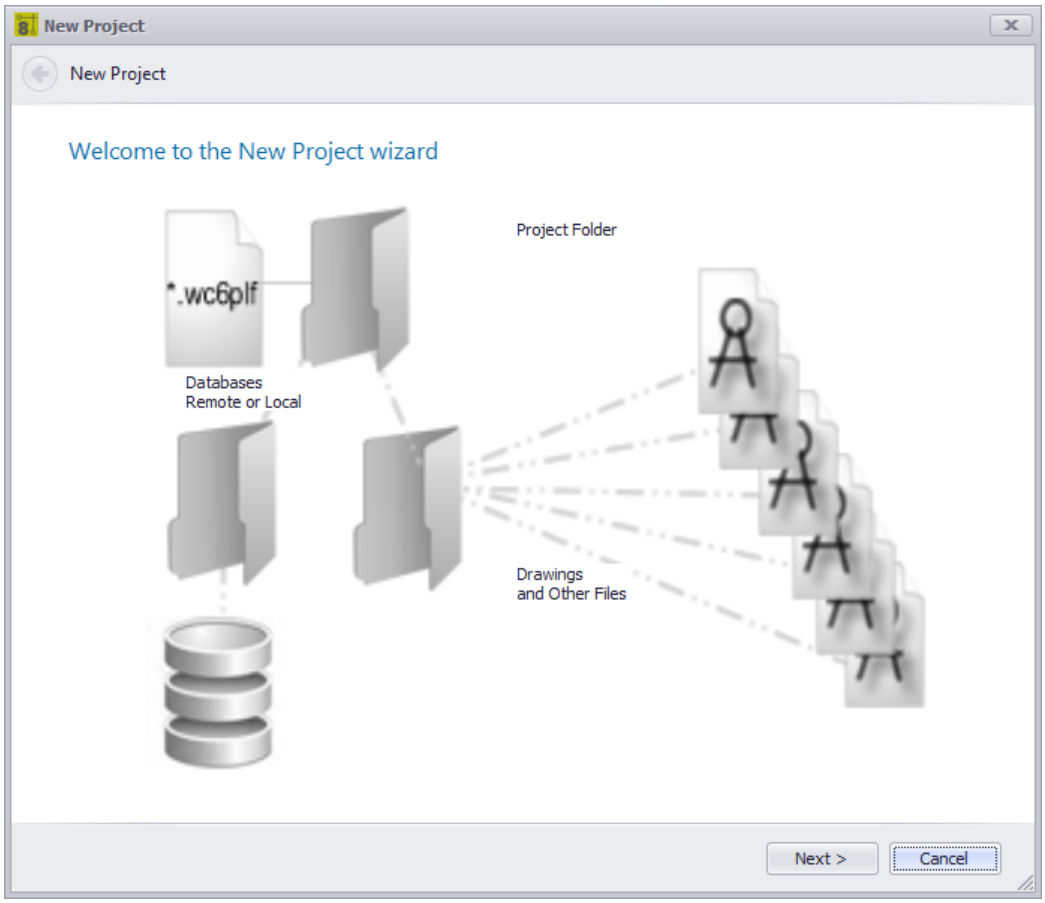
Related Topics

Cable Data Selector Form 470

4.1.3 Dialogs

4.1.3.1 Application Menu Dialogs

4.1.3.1.1 New Project Wizard



Application Menu > New Project...

Commandline: np

Explanation

WireCAD Projects are a loosely coupled collection of files, folders and databases. The New Project Wizard will guide you through the steps of creating a new Project with several different options for different database types.

- Choose Database Page Options 235
- Name, Description, Location Page Options 236
- Database Host Page Options 238
- Project Settings - Basic
- Project Settings - Advanced

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- Project Settings - Locations
- Finalization 238

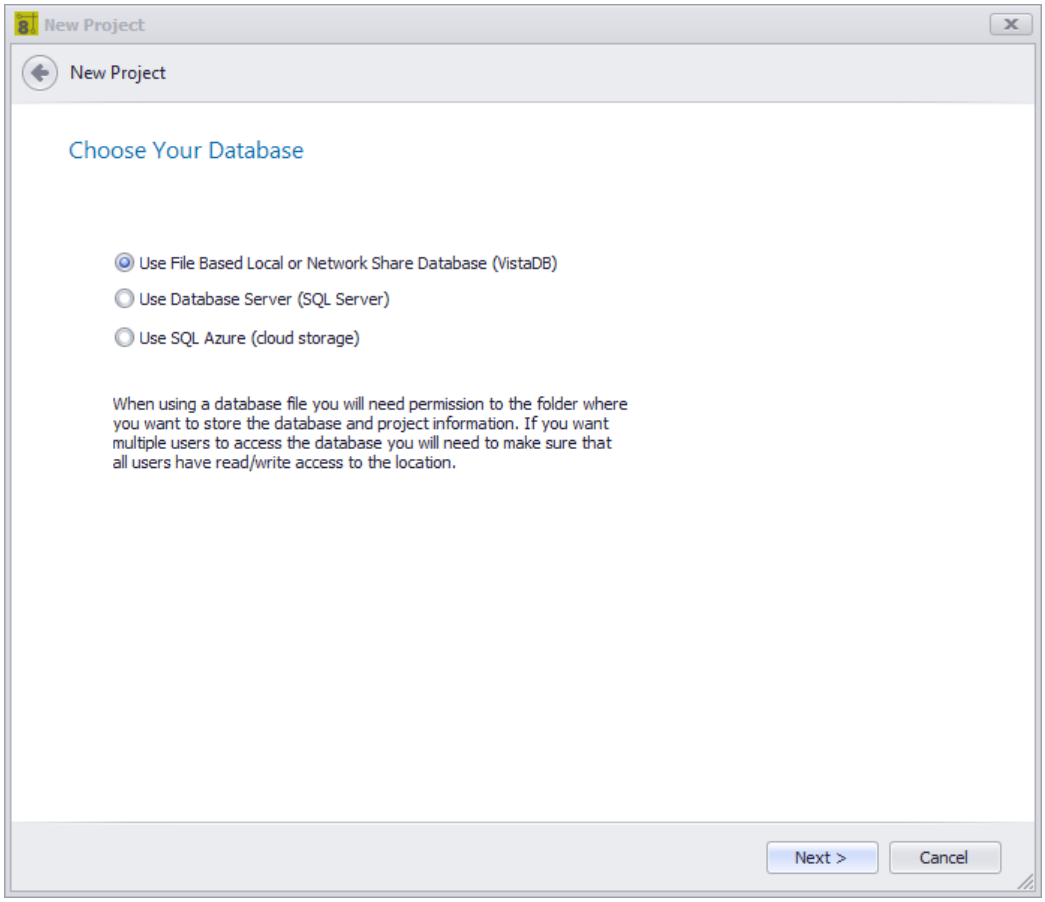
Related Topics

Create a new Project 38

Create a new SQL Project 183

Dialog Options

Item	Description
Navigate Forward	Next >
Navigate Backward	



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Explanation

Related Topics

Choose your Database Type 117

Choose Database Page Options

Item	Description
Use File Based Local or Network Share Database (VISTADB)	File based databases.
Use Database Server (SQL Server)	You will need the host name and log in info to proceed.
Use SQL Azure (cloud storage)	You will need a Microsoft Azure account for this option. Don't have one? Contact us. We can help.

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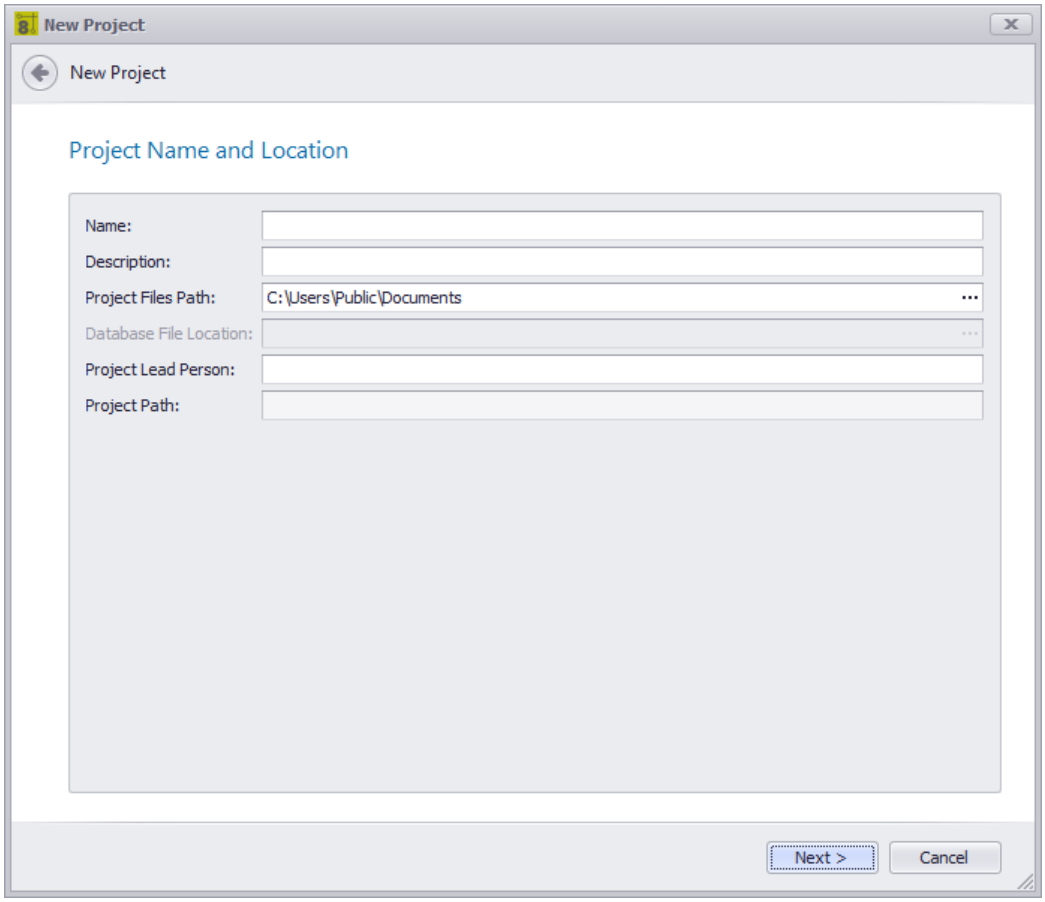

Explanation

Name, describe and locate the project.

NOTE: SQL, and SQL Azure do not like project names that start with a number.

Related Topics

Default Project Location 267

Name, Description, Location Page Options

Item	Description

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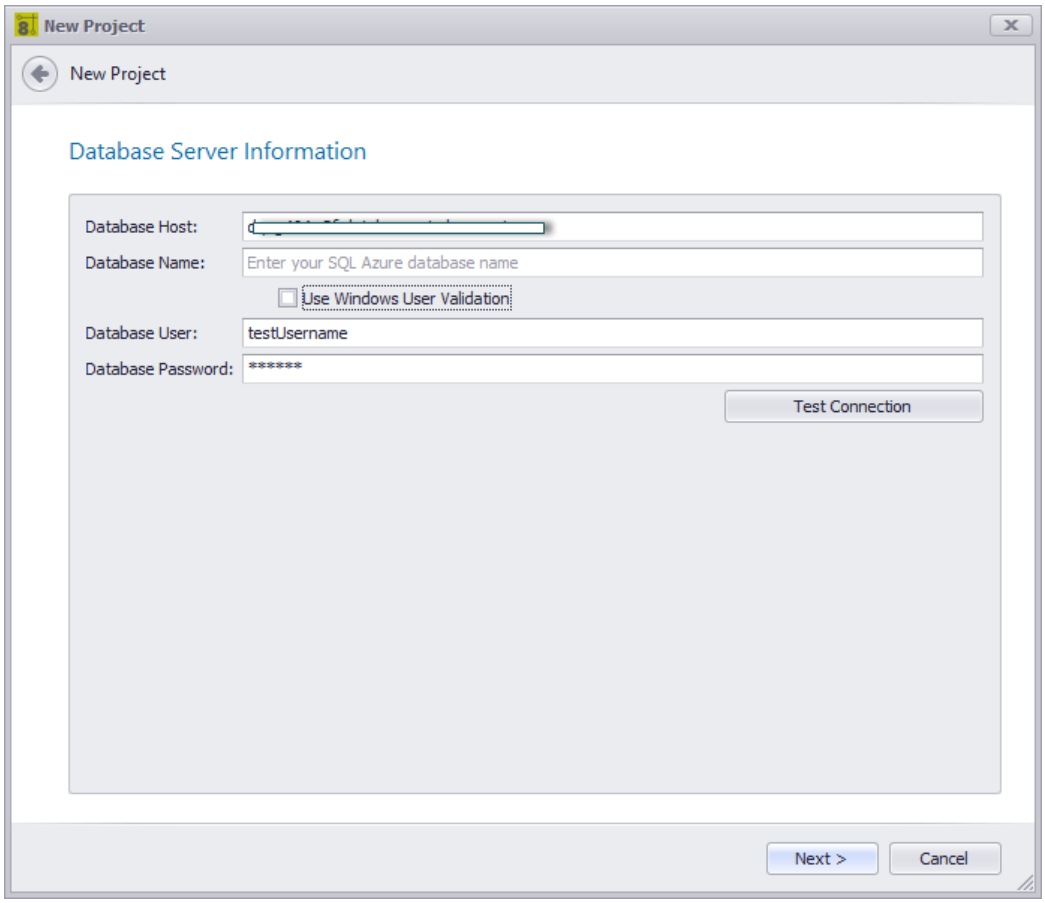
Name	50 Characters max. Must not have any operating system illegal characters. We also recommend not using the ['] apostrophe.
Description	Required
Project Files Path	Pulled from the Settings, you can change it here.
Project Lead Person	Who is in charge here.



Explanation

How do we log in to the SQL Server. There is a subtle distinction to be made between SQL And SQL Azure:

- SQL Server the database name will be the Project Name.
- SQL Azure the database name will be the name you gave your SQL Azure database. We will create a schema on that database with the project name as the schema name.

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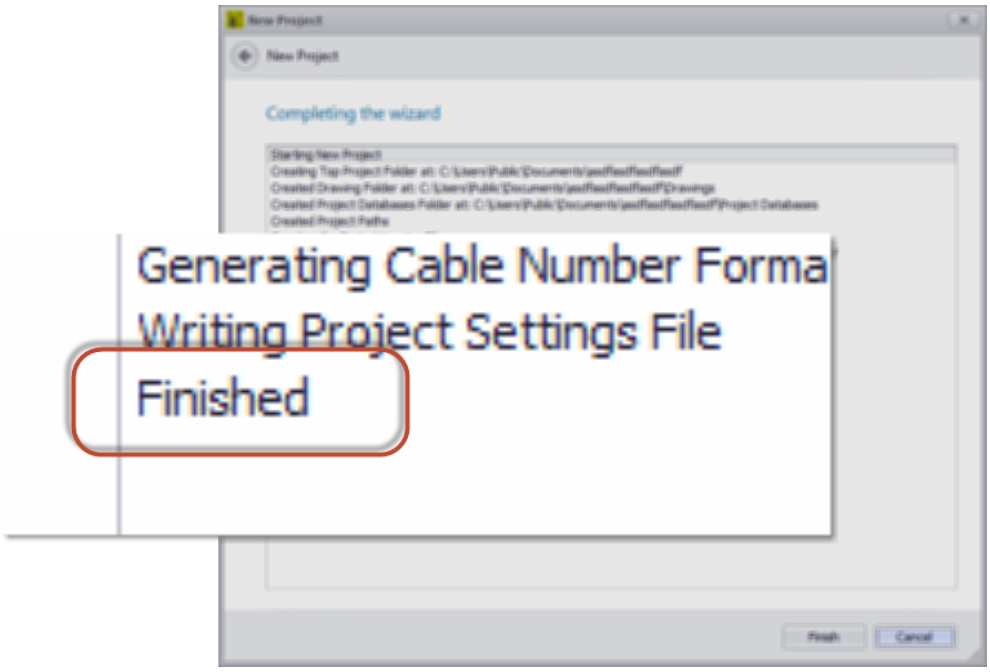
Related Topics

Choose your Database Type 117

Database Host Page Options

Item	Description
Host Name	The host name and instance of your SQL Server
Database Name	The database name. See the explanation above.
Use Windows Security	Not valid on SQL Azure.
User Name and Password	
Test	Can we connect?



Finalization

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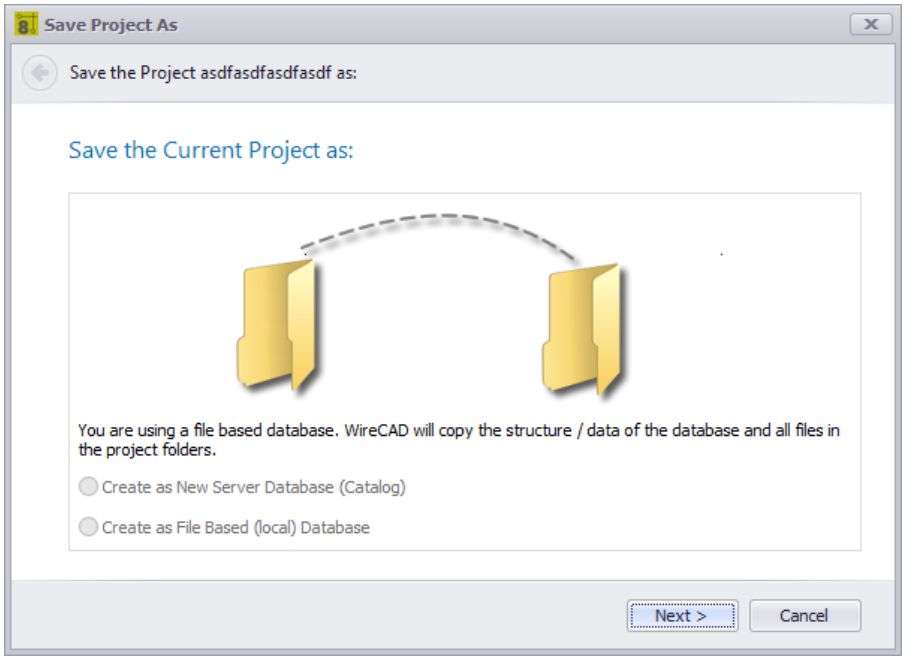
Clicking Finish starts the project creation process. Make sure that at the end the log tells you that it finished. If not the project was not properly created and you may experience errors later.

4.1.3.1.2 Project Save As



Application Menu > Save Project As ...

Commandline: save project as

Explanation

This tool allows you to save a project as a new name in a new location. SQL projects may be saved as new SQL databases or file based databases. A File Based database may only be saved as a file based database.

Related Topics

Dialog Options

Item	Description
Navigate Forward	Next >

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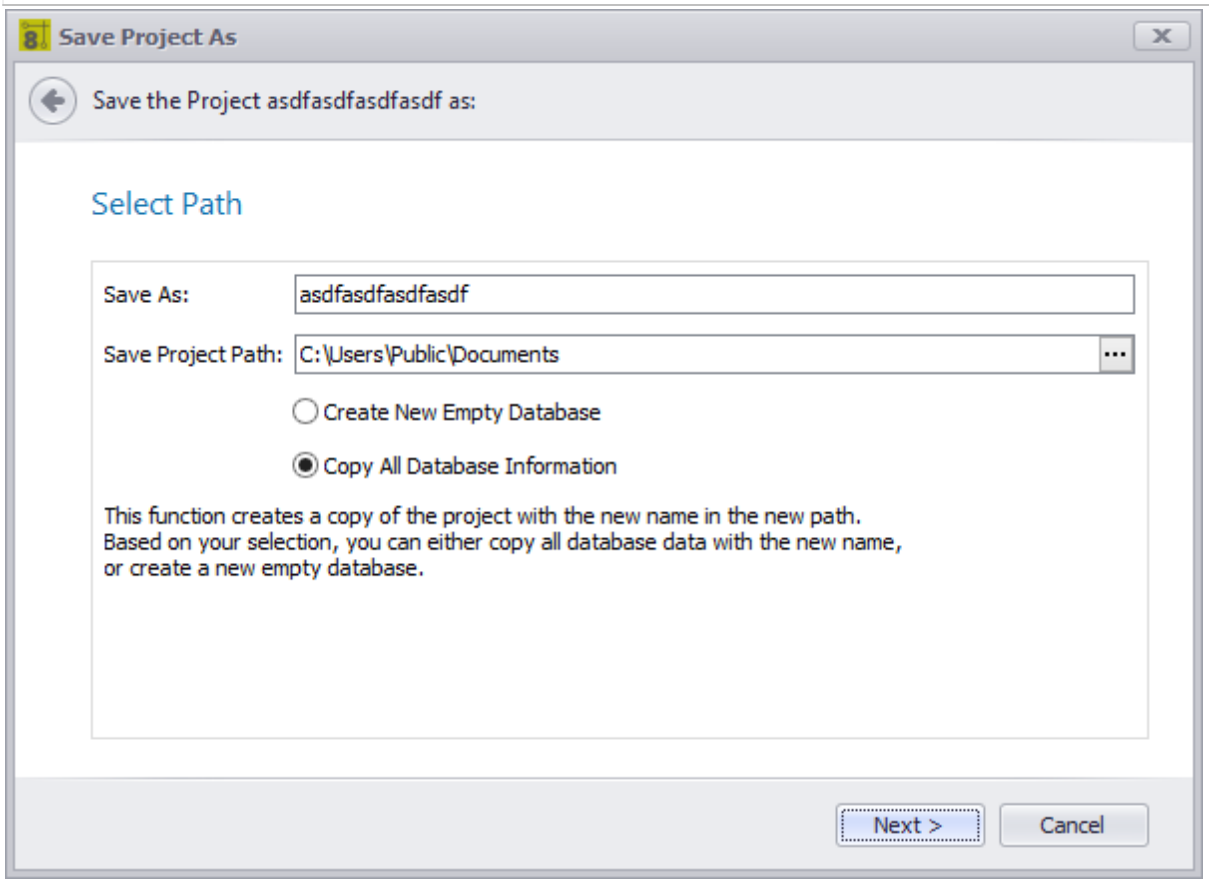
Navigate Backward	
Create a New Server Database	SQL Project Only.
Create as File Based (local) Database	



Explanation

Select the location and whether we copy the data from the database.

Related Topics

Dialog Options

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Item	Description
Save As	Follow file naming conventions.
Project Path	
Create New Empty Database	
Copy All Data	

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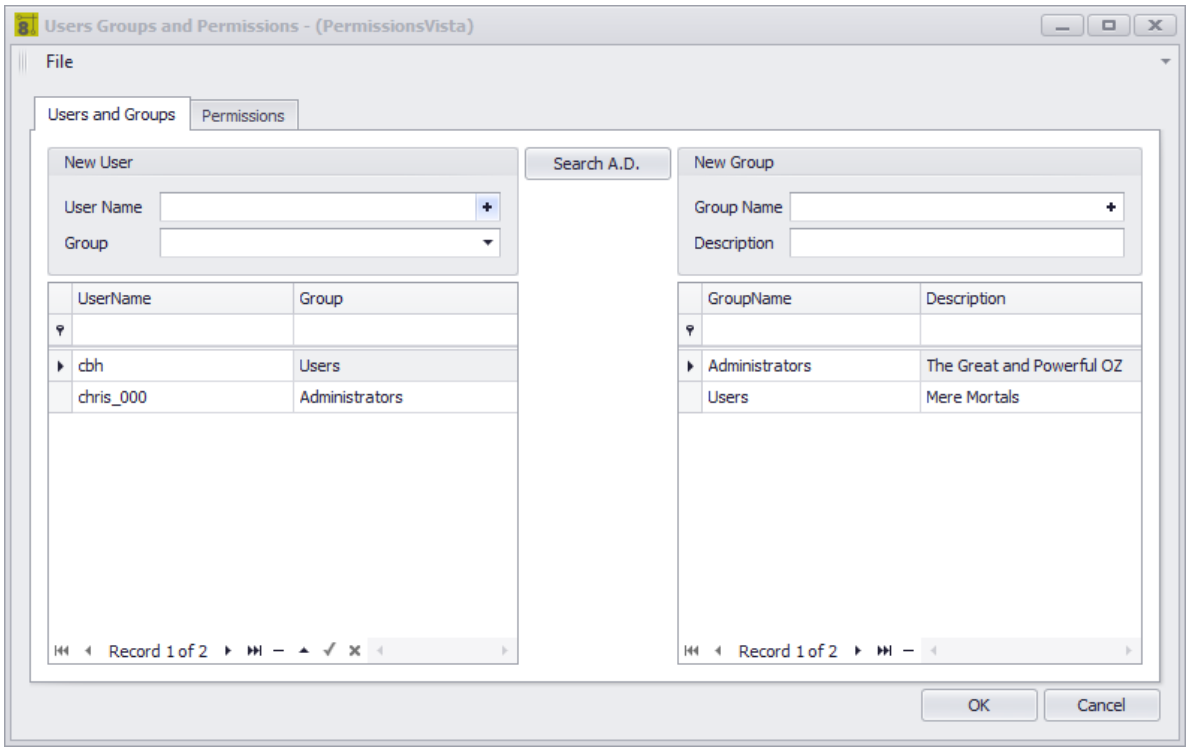
4.1.3.1.3 Manage Security



Application Menu > Security Tools > Manage Security ...

Commandline: security

Explanation

Administrators can manage users, groups and permissions. If WireCAD Security is enabled (see related topics). The person that enabled the Security option is the Administrator (the Great and Powerful Oz). All other users will be added automatically to the Users (mere mortals) group. Oz may:

- Change the group to which the user belongs.
- Create new groups.
- Modified group permissions.
- Create other Ozes.

So to be clear. Users belong to Groups. Groups have Permissions.

NOTE: No action is required to add a user. They simply need to open WireCAD. If their user profile does not yet exist in the WireCAD Security database it will be add to the Users group.

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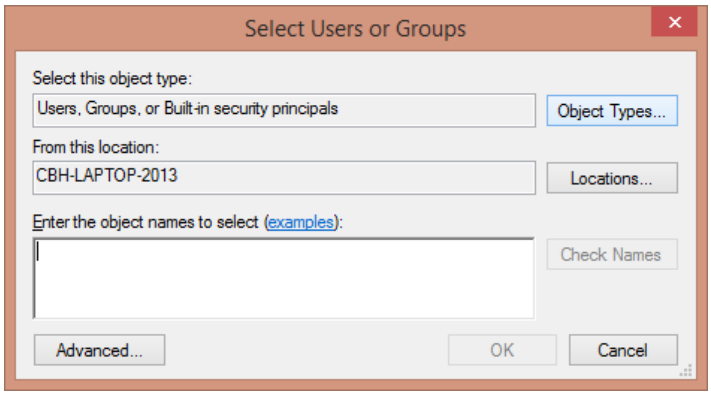
NOTE: Oz can proactively add users by searching the Active Directory and adding the user to the group of his choosing.

Related Topics

[Application Setting - WireCAD Security](#) 264

[Application Setup Wizard](#) 258

Users and Groups Tab Options

Item	Description
New User	Create a new user and assign to a group
New Group	Create a new Group and associate Permissions set. After creating the new Group, switch to the Permissions tab and set the permissions on the collections and drawings.
Search Active Directory	 **The Standard AD Search Box**
User Grid	Assign the User to a Group
Groups Grid	Describe the group

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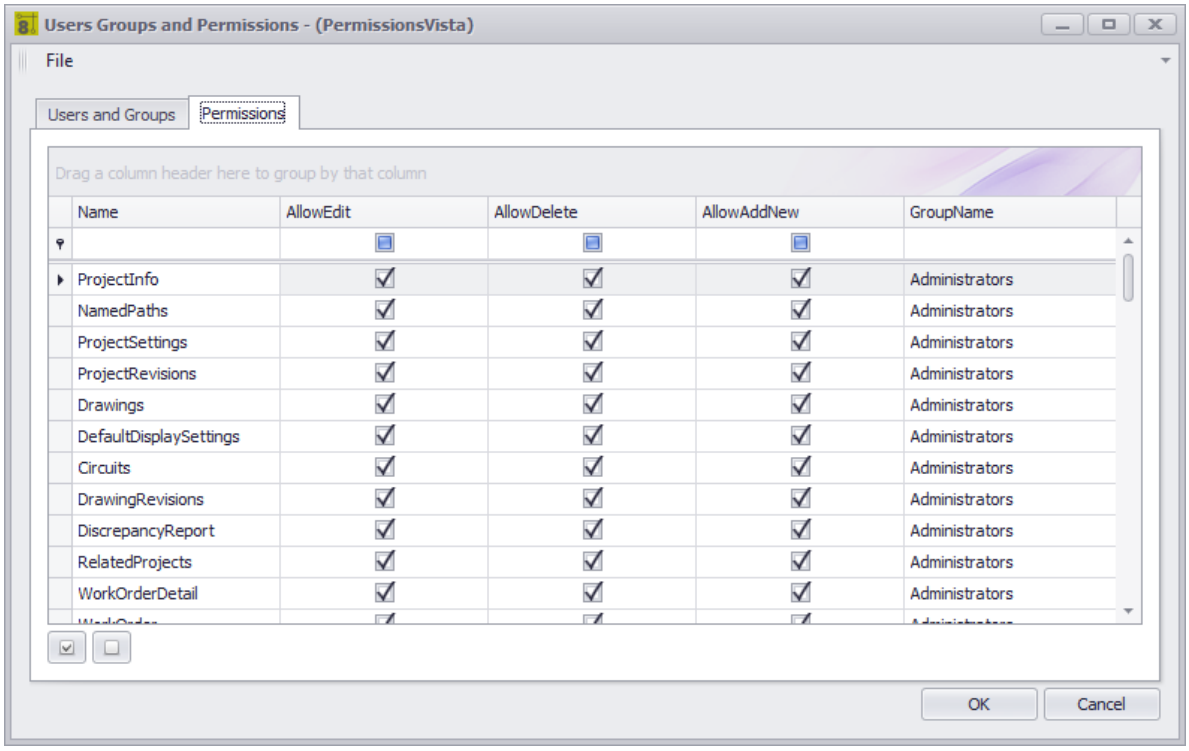

Explanation

Each data collection in WireCAD has Edit, Delete, and Create permissions. This grid enumerates each collection for each group.

Related Topics

Grid Basics 79

Permissions Tab Options

Item	Description
Collection Name	Obvious.
AllowEdit	
AllowDelete	
AllowAddNew	

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GroupName	You may find it handy to filter by group name then set the permissions for the group.
Select All	
Clear Selection	

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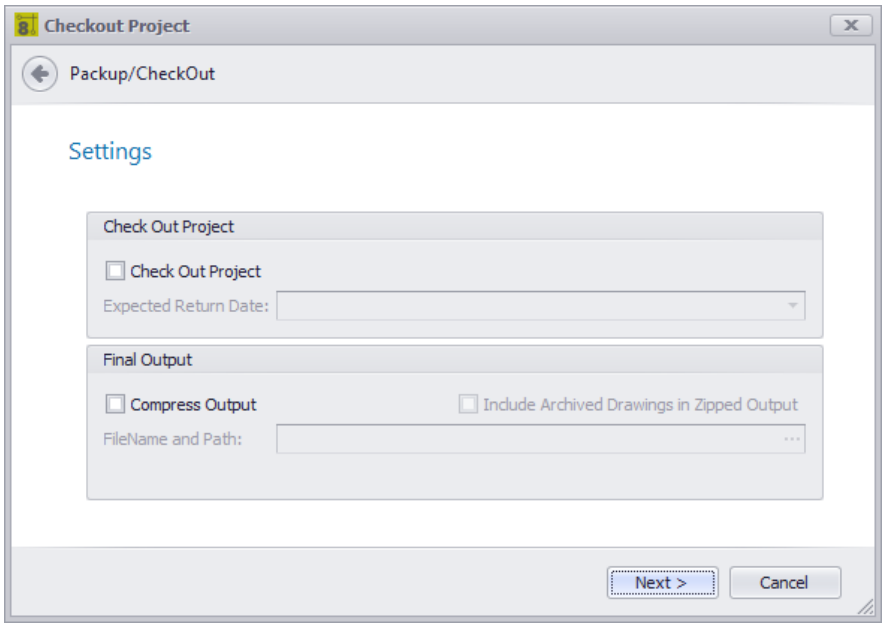
4.1.3.1.4 Packup / Checkout



Application Menu > Check In/Out > Pack up /Check Out ...

Commandline: packup

Explanation

A WireCAD project is a loosely coupled group of files, databases and settings. The global database is maintain separately from the project database, and drawings may have linked images. In order to move the project to another machine we will need to gather all of the resources used to create the project into a central location (the project folder).

The Packup / Checkout Tool performs the following functions:

- Copy a file based version of the Global Database into the Project\Project Databases folder and sync it will the SQL Server version if necessary.
- Copy all linked images to the drawings directories.
- If check-out the flag the project as read only.
- If compress the zip all the project folder items into a single zipped file with the project_name.zip

NOTE: This process can take some time on large projects.

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Related Topics

Moving Projects 108

Dialog Options

Item	Description
Check Out Project	Flag the Project Read Only. This is useful if the project is going out into the field for commissioning. The version that stays in the office should not be edited.
Expected Return Date	Let the people in the office know when you think you will have the project checked in.
Compress Output	Zip it.

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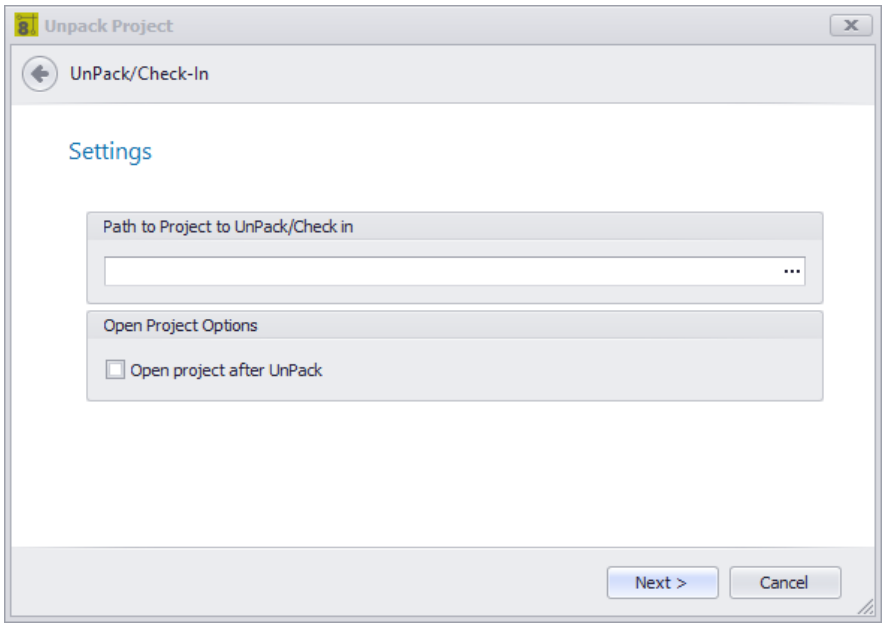
4.1.3.1.5 Unpack Project



Application Menu > Check In/Out > Un Pack ...

Commandline: unpack

Explanation

The complementary function to the Pack Up is the Un Pack. This function performs the following:

- Unzip the compressed file (if necessary).
- Sync the local Global Database with the one found in the incoming Project Databases folder.
- Open the project for use.

NOTE: This process can take some time on large projects.

Prerequisites

A project that has been Packed Up. Using the Pack Up / Check Out tool.

No project can be open or the tool will not run.

Related Topics

Pack Up / Check Out 246

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Moving Projects 108

Dialog Options

Item	Description
Project Path	Browse to the zipped file or the .wc6plf file
Open project after unpack	

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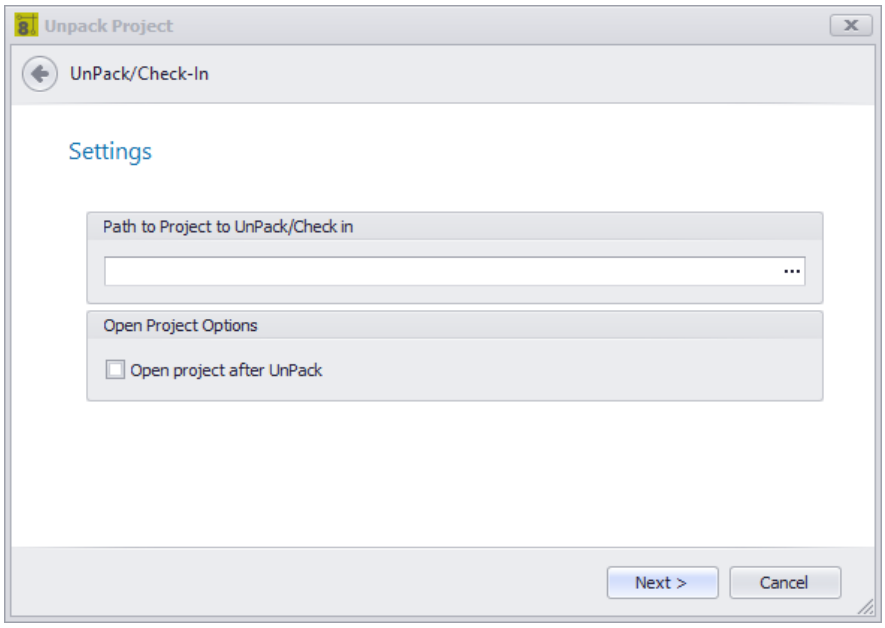
4.1.3.1.6 Check in Project



Application Menu > Check In/Out > Check In...

Commandline: packup

Explanation

The complementary function to the Check Out is Check In. This function performs the following:

- Unzip the compressed file (if necessary).
- Sync the local Global Database with the one found in the incoming Project Databases folder.
- Syncs the Project Database of the incoming project with the location database.
- Overwrite all drawings with the incoming ones.
- Remove Read Only flag.

NOTE: This process can take some time on large projects.

Prerequisites

A project that has been Checked Out. Using the Pack Up / Check Out tool.

The Checked Out local project must be open before this tool will run.

The project names of the local and incoming projects must match or the tool will fail.

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Related Topics

Pack Up / Check Out 246

Moving Projects 108

Dialog Options

Item	Description
Project Path	Browse to the zipped file or the .wc6plf file
Open project after unpack	

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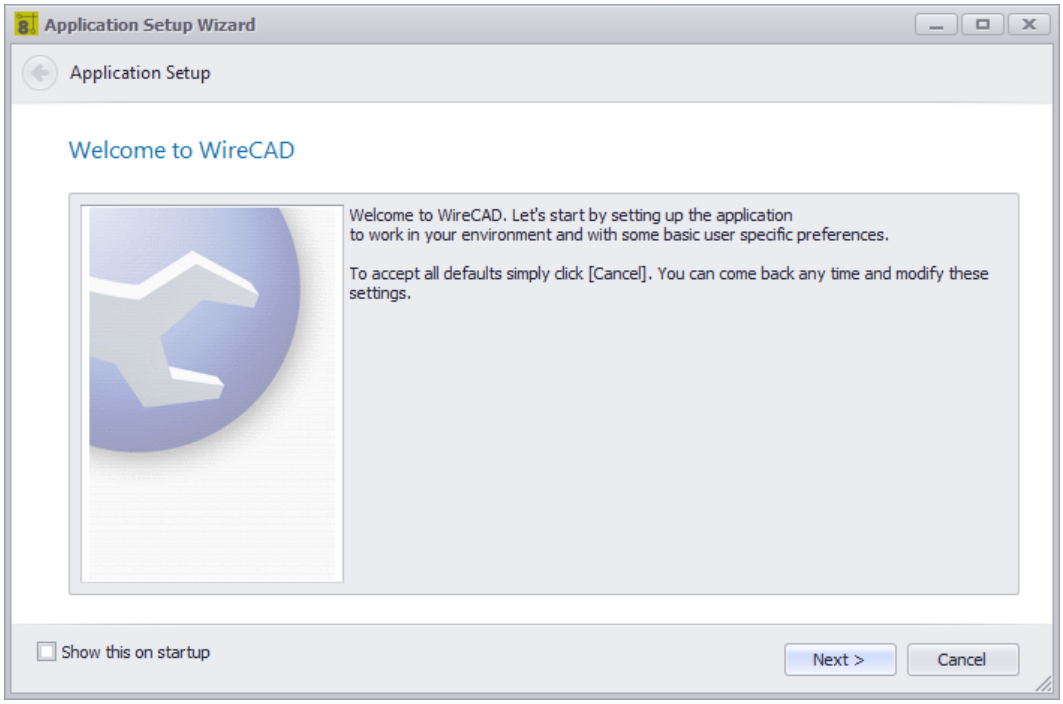
4.1.3.1.7 Application Setup Wizard



Application Menu > Application Setup Wizard...

Commandline: showappsettings

Explanation

This wizard runs once at the start of WireCAD. You can always run it again to change the settings, but most of the settings in the wizard are contained in the Settings dialog.l

- Global Database Location Page Options 253
- Database Path Page Options 254
- Database Host Info Page Options 255
- Create Tables and Add Data Page Options 256
- WireCAD Community Server Contribution Mode Page Options 257
- Use WireCAD Security Setting Page Options 258
- Found Previous WireCAD Version 259

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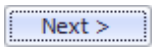
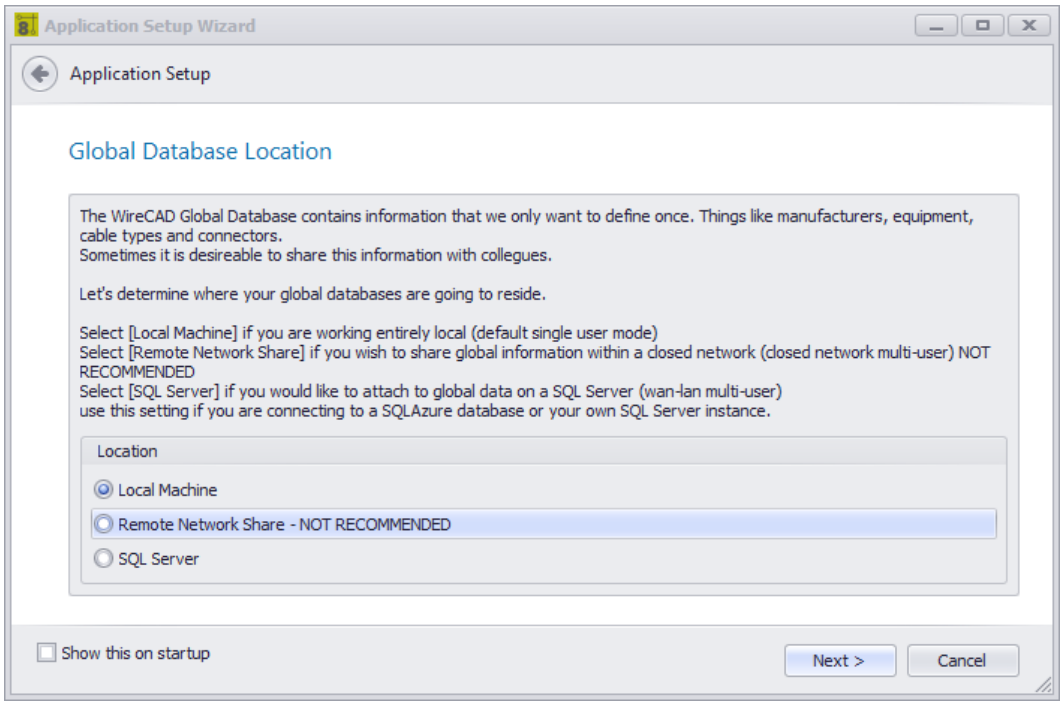
Dialog Options

Item	Description
Navigate Forward	
Navigate Backward	
Show This Again	Show this dialog again.



Global Database Location Page Options

Item	Description
Local Machine	The default location is c:\users\public\WireCAD\WireCADx\WireCADGlobalEquipment.vdb3. You may rename the file in order to better organize your global data by client. See this topic on the Global Database Location 266.

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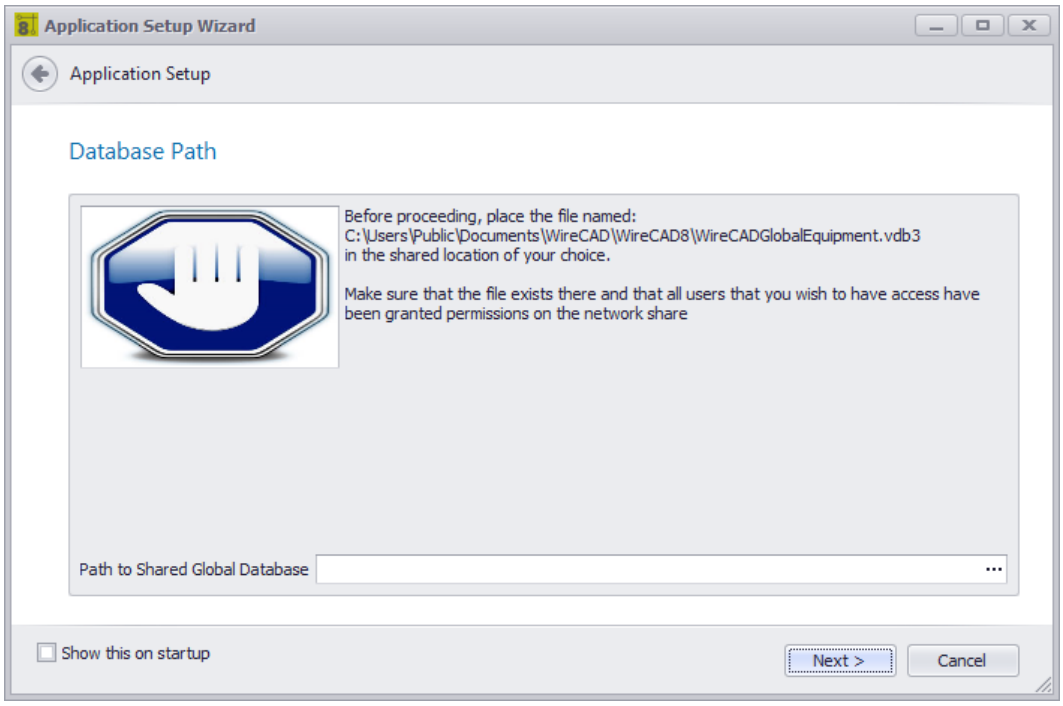
Remote Network Storage	This is not recommended but is possible. Why do we do this? Well we hate to limit you. Here are the ramifications of using file based storage over a network: • The file is not network fault tolerant like SQL Server. • Data can become locked and in some cases corrupt. • You may find yourself having to Pack (compact and repair) the database if you get locked out of it.
SQL Server	This is the best option for shared storage, but you lose portability.



Database Path Page Options

Show if the first selection is Remote Network Storage

Enter the Path to the WireCADGlobalEquipment.vdb3

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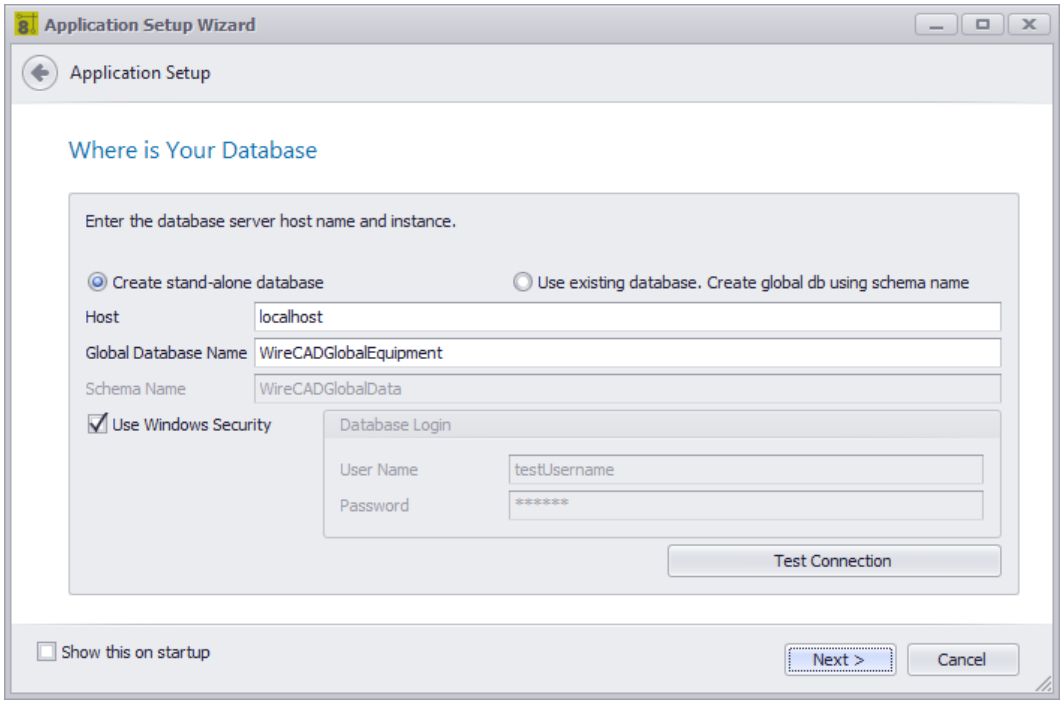

Show only if the initial selection is SQL Server.

Database Host Info Page Options

Item	Description
Create stand-alone database	
Use existing database. Create global db using schema name.	
Host	
Global Database Name	
Schema Name	
Use Windows Security	
User Name	
Password	

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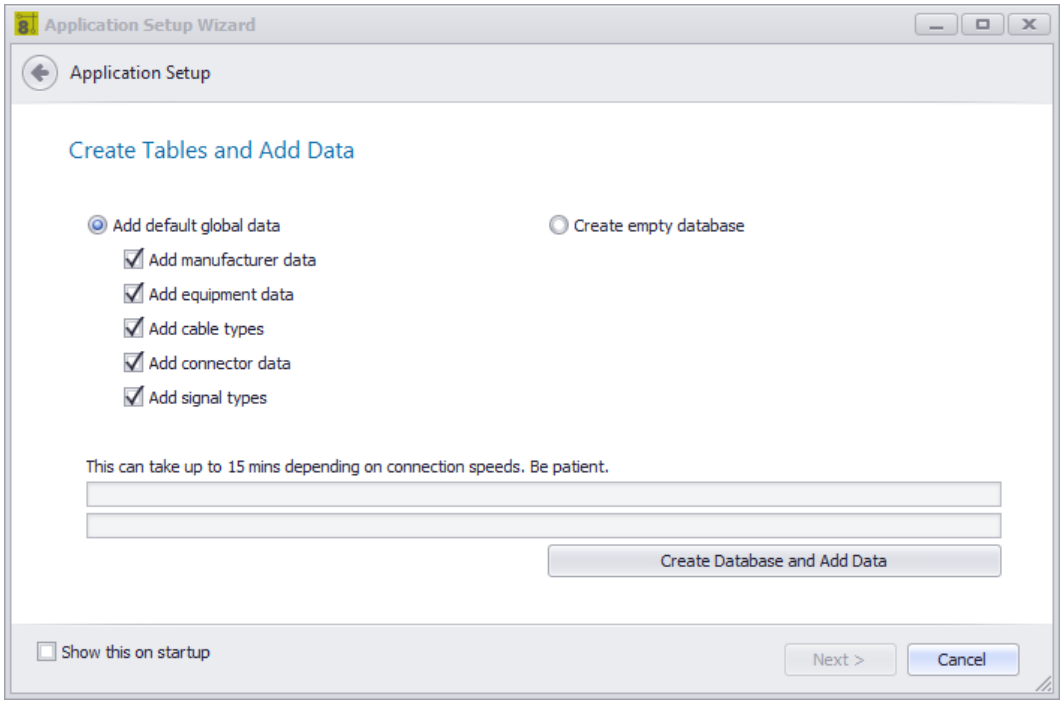
Test	



Shown only if the SQL Server Option is selected.

Create Tables and Add Data Page Options

Item	Description
Add default global data	Create the database on the host and add the selected default data.
Create empty database	Create the database on the host with no data.
Which data to add	
Create Database and Add Data	Do It!

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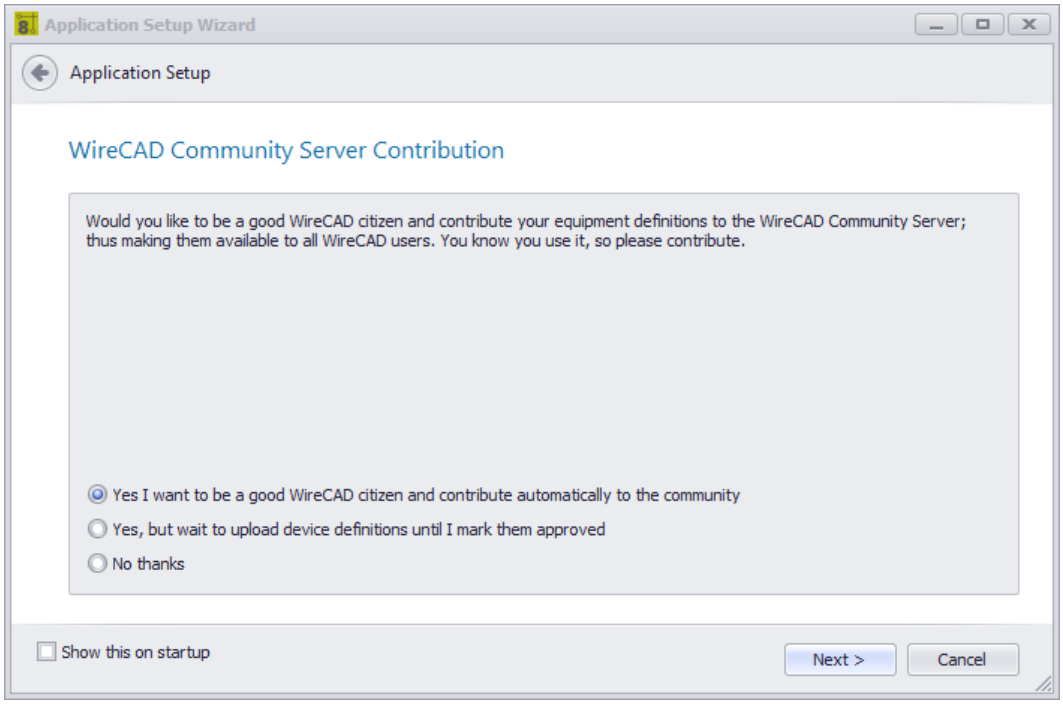

WireCAD Community Server Contribution Mode Page Options

Item	Description
Yes I want to contribute	
Yes but wait until I check the Approved field	
No Thanks	You can still manually upload from the Equipment Library in this mode.

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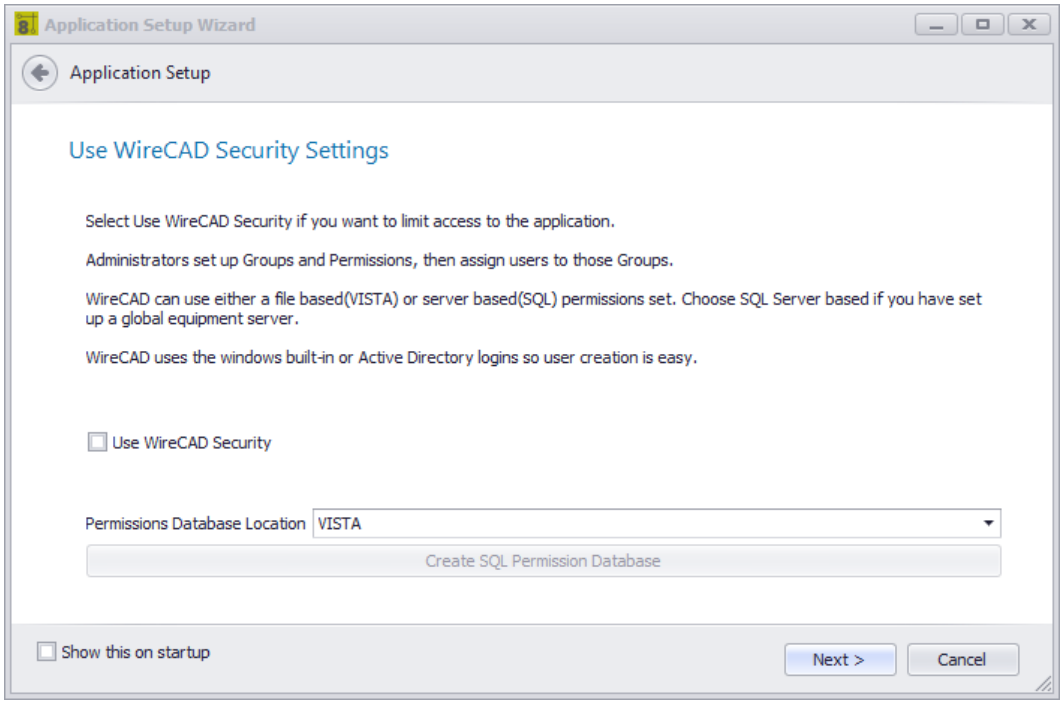

Explanation

WireCAD Security is used to resrict user access to key application sections and functions. If enabled, the user launching WireCAD will be subject to the rules of the group to which they belong. The user that initiates WireCAD security will be the only Administrator and will need to assign all other user permissions. This is managed through the Manage Security 242 dialog.

Use WireCAD Security Setting Page Options

Item	Description
Use Security	
Database Type	VISTADB - while you can use VISTADB as the security database it is only application to this machine. SQL - we will create the permissions database on your SQL Server using the SQL host and login information.

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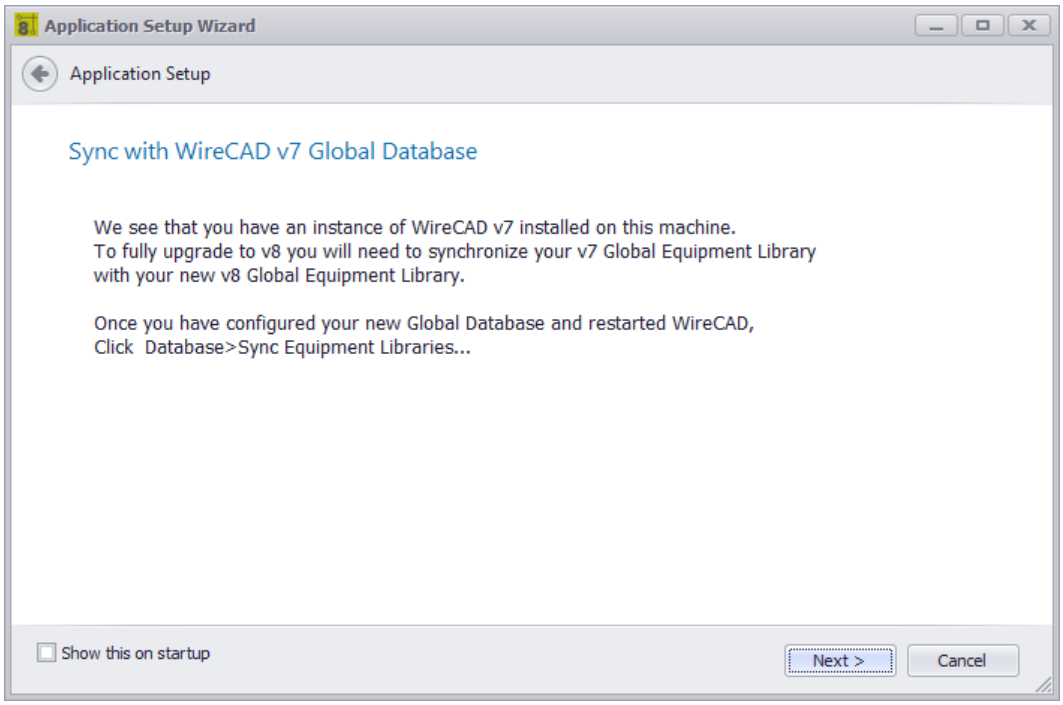
Create SQL Permissions Database	Do It!



Explanation

We found a WireCAD previous version. In order to use the work that you have already done you will need to synchronize with the previous version Global Database. There are many variables that can be configured to locate the Global Database elsewhere. When you finish the Application Setup Wizard restart WireCAD then launch the Database >Sync Global Database tool and set the remote database to look at your previous instance.

Related Topics

Synchronizing with Another Global Database 112

Sync Global Database dialog 394

Found Previous WireCAD Version Page Options

None

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4.1.3.1.8 The Settings Dialog

Application Menu > Settings

Commandline: set

Explanation

The Settings dialog is comprised of the following sections:

- Application - settings that determine the behaviour of WireCAD for this machine.
- Basic 263
- WireCAD Security 264
- Global Database Location 266
- Support Paths 267
- Organization 270
- Todo List 271
- User - settings specific to your user profile on this machine.
- Basic 272
- Projects List 274
- Drawing 276
- Drawing (advanced) 278
- Command Line Shortcuts 280
- Enterprise CMS (ENT Only) 281
- Project - settings specific to the current project.
- Basic 282
- Advanced 284
- Locations 286
- Enterprise CMS 287
- Export Settings 289

NOTE: These are the stock basic settings panels. Third party developers may register their own settings panels. See their documentation.

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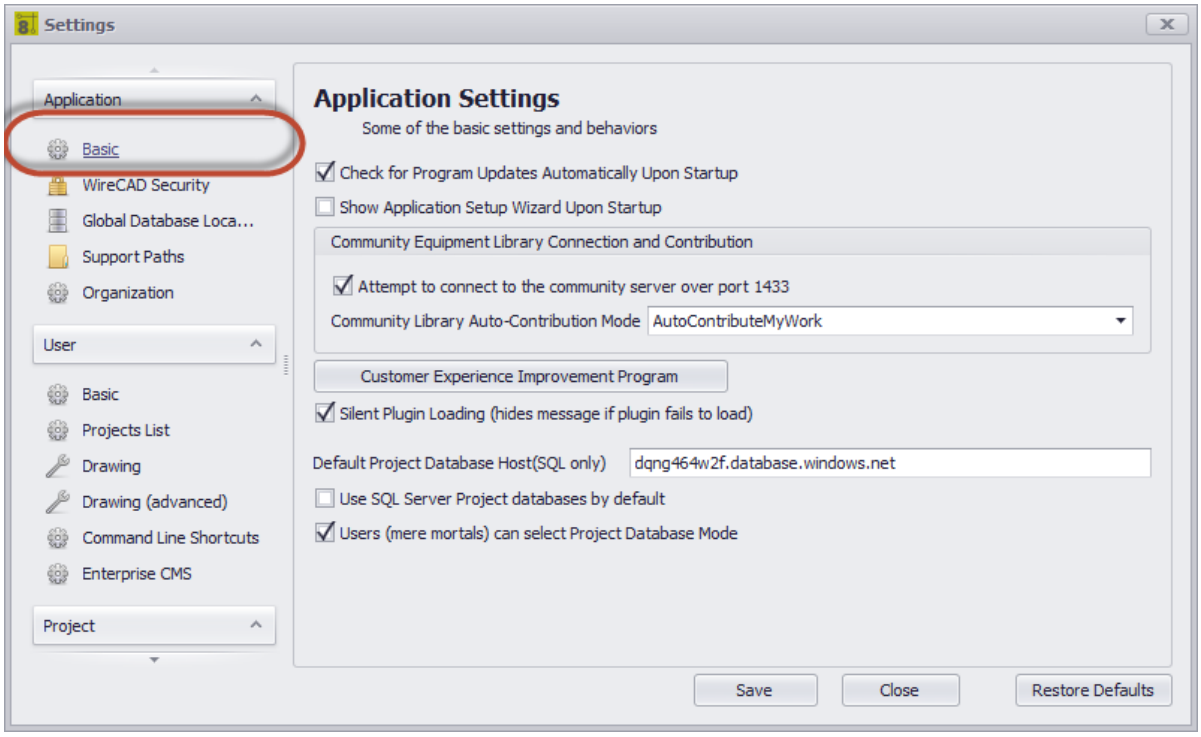
Prerequisites

None

Related Topics

Dialog Options

Item	Description
Save	Commit your changes and issue a SettingsChanged command to the application.
Close	Do nothing and discard your changes.
Restore Defaults	Restore the defaults of the current settings panel.



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Application - Basic Panel Options

Item	Description
Check for Program Updates Automatically on Startup	If updates are available you will see a banner pop up in the lower right-hand corner of the screen.
Show Application Setup Wizard on Startup	This is usually unchecked except the first run of the application. You can always start the **Application Setup Wizard** by clicking **Application Menu > Application Setup Wizard.**
Community Server Contribution	How will you contribute to the **WireCAD Community**?
Customer Experience Improvement Program	You must opt in to the **CEIP**. We will then gather usage and error data. The generic data will be uploaded to our servers and aggregated so we can bring you a better application.
Silent Plugin Load	Hide all error messages on startup.
Default Project Database Host	Applies only to SQL projects. Presets the New Project Wizard
Use SQL Server Project Databases by Default	Presets the New Project Wizard
Users (mere mortals) can select Project Database Mode	Some organizations may wish to limit selection of project database type.

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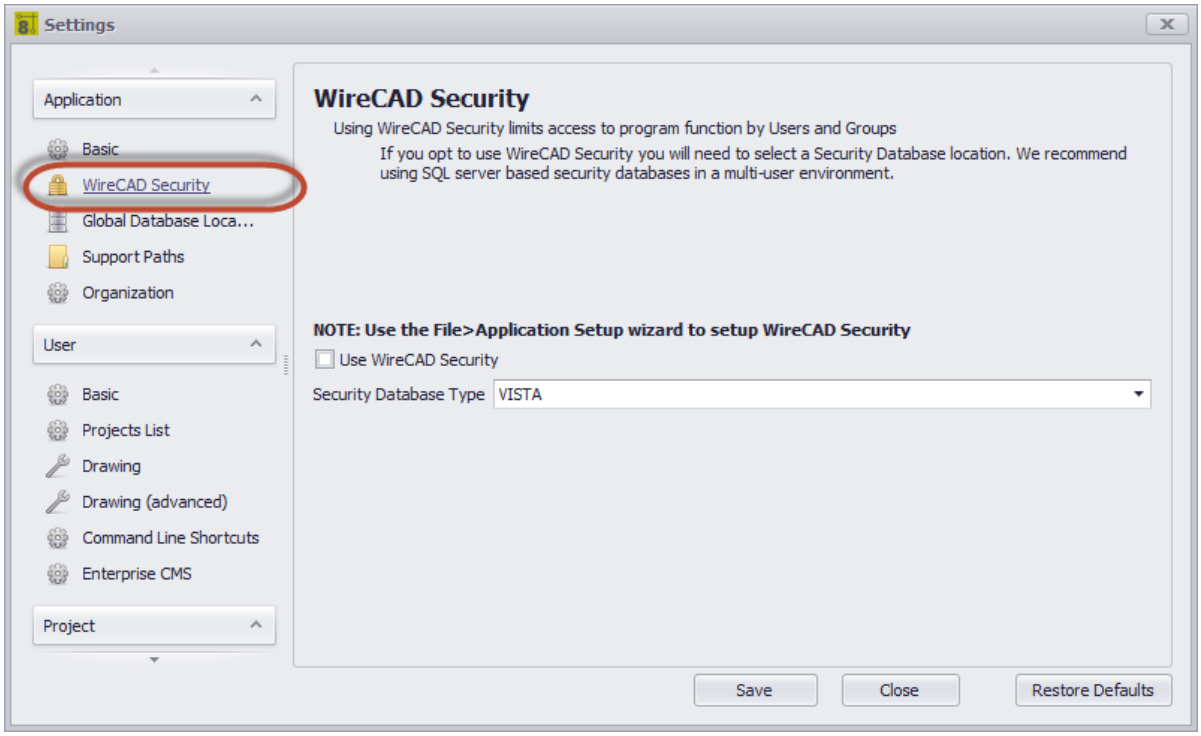

Application - WireCAD Security Panel Options

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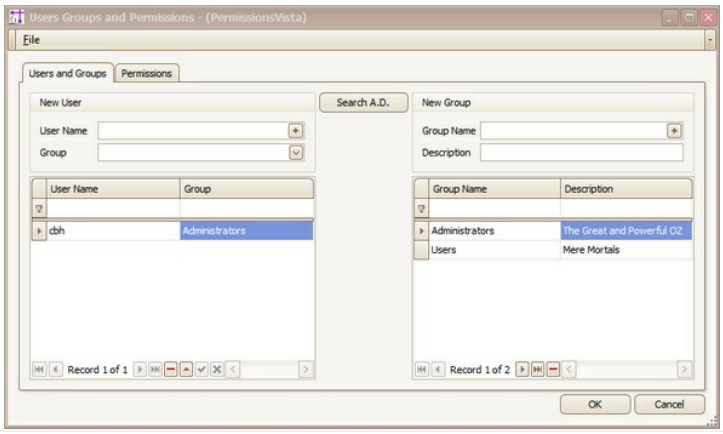
Item	Description
Use WireCAD Security	Enable Security. When enabled the WireCAD security system uses the current login to determine program access. If your user is a member of the Administrators group you will be able to control the access of other users via the Application Menu > Security > Manage Security... dialog. 
Database Type	Typically you will only use security in a multi-user environment with a SQL host, but the capability exists to use file based VistaDB databases.

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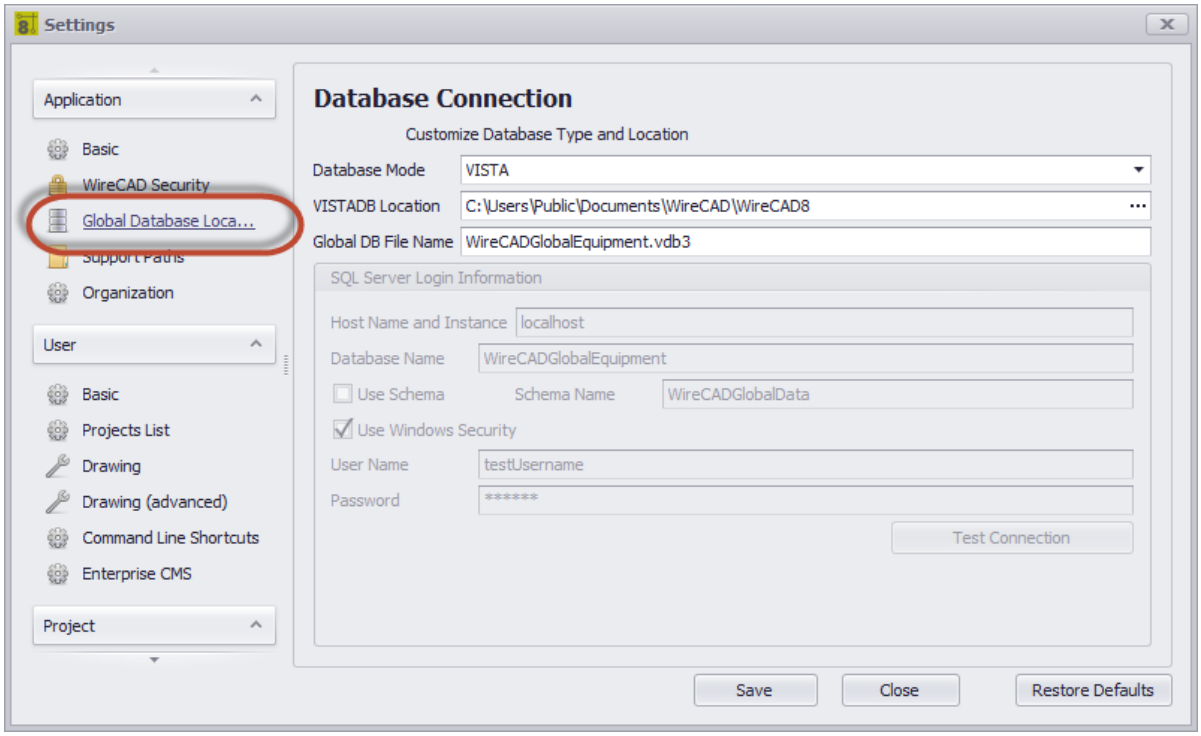

Application - Global Database Location Panel Options

Item	Description
Database Mode	VISTA/SQL NOTE: SQL will work for SQL AZURE as well. We will need the database name and schema name.
VISTADB Location	Path to the VISTADB file that is your WireCADGlobalEquipment.vdb3 file.
Global DB File Name	Note that this is the default name given to the global database file but you may change it.
SQL Server Login Info	
Host Name and Instance	This can be a fully qualified path, ip address, or host name.
Database Name	The name of the global database to connect to. This is WireCADGlobalEquipment by default but you may choose to rename it.

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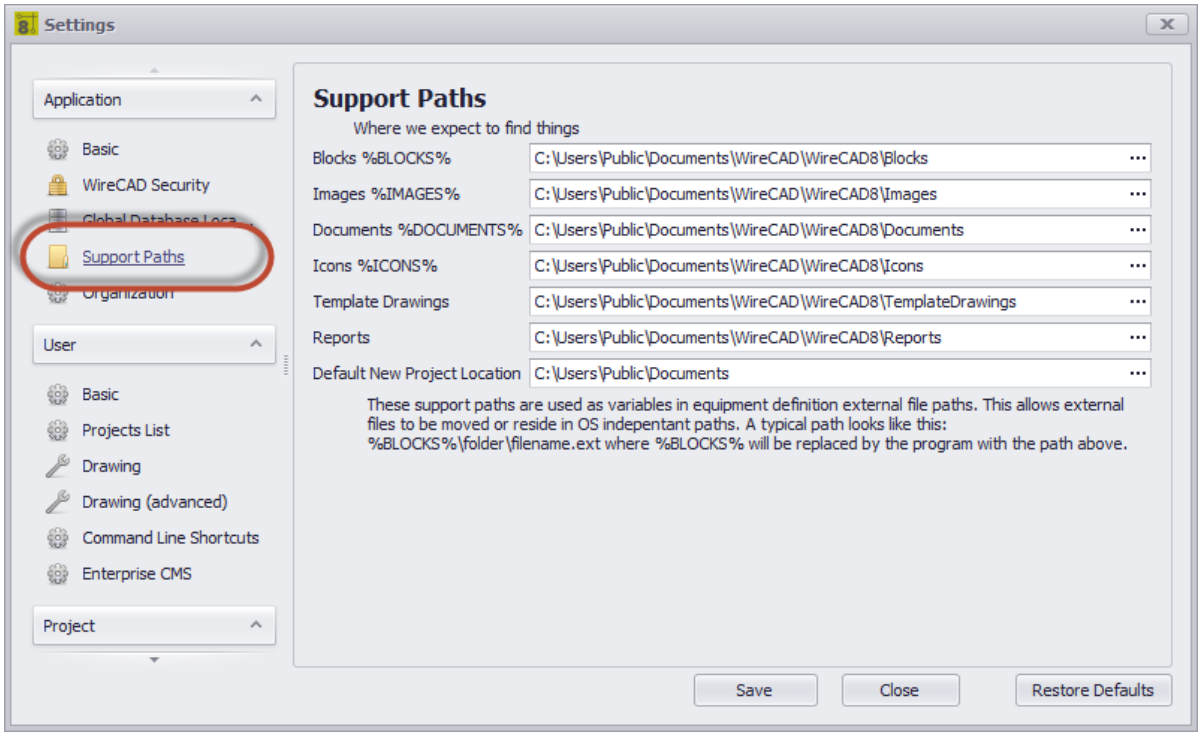
Item	Description
Use Schema	WireCAD v8 supports multiple schema in the same database file. This is useful if you are using a cloud based SQL Server service that charges by the database. You can have a schema for your global database and one for each of your project databases. All contained within the same database file.
Schema Name	
Use Window Security	Use this if you wish Windows security to manage the login. This will not work with SQL Azure.
User Name	
Password	
Test Connection	Test to see if you can connect and have the appropriate privileges.



Application - Support Paths Panel Options

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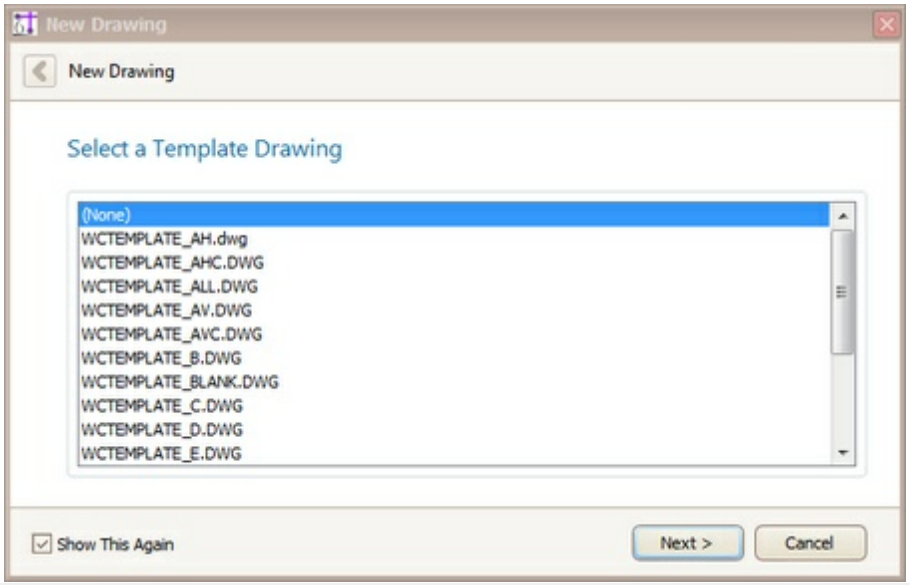
Item	Description
Block %BLOCKS%	The path that will replace the **%BLOCKS%** variable in the equipment library.
Images %IMAGES%	The path that will replace the **%IMAGES%** variable in the equipment library.
Documents %DOCUMENTS%	The path that will replace the **%DOCUMENTS%** variable in the equipment library.
Icons %ICONS%	The path that will replace the **%ICONS%** variable in the equipment library.
Template Drawings	The path to the **Template Drawings** folder. This is the folder where **Template Drawings** are saved when using the **File > Save As Template Drawing** function is used and the folder that the **New Drawing Wizard** searches to fill the Templates list: 
Reports	The path to the top reports folder. This is a recursive search and will enumerate all subfolders and files.

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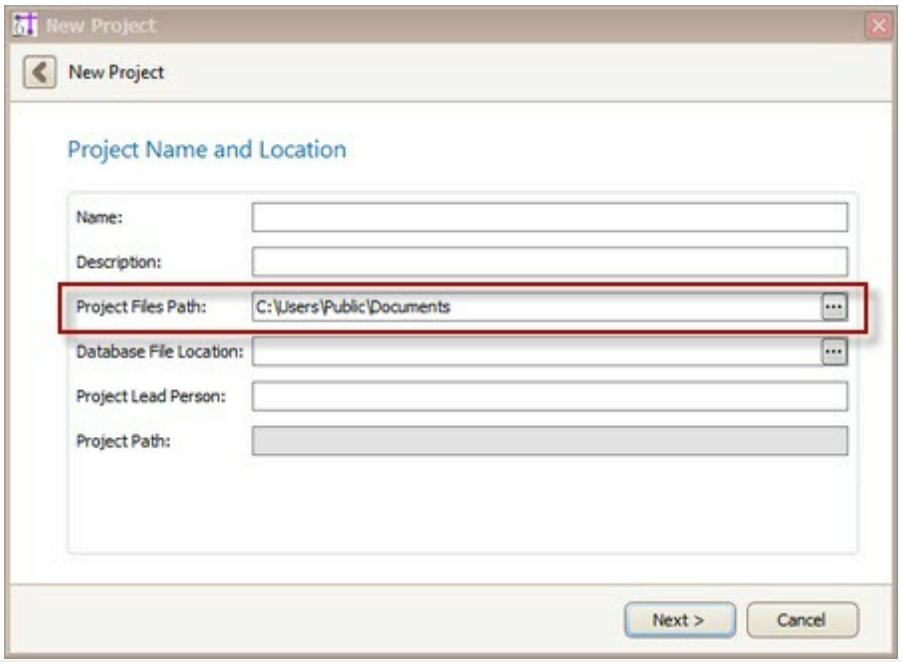
Item	Description
Default New Project Location	Presets the New **Project Wizard.** 

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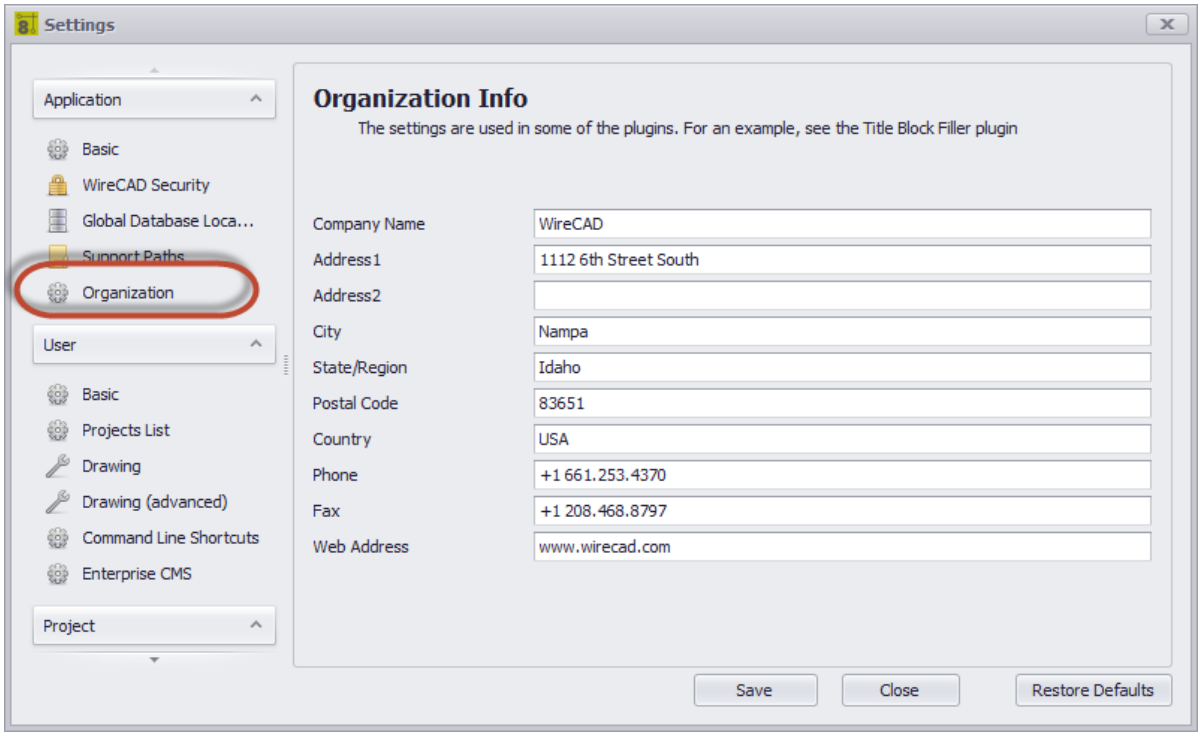

Application - Organization Panel Options

This one's self-explanatory

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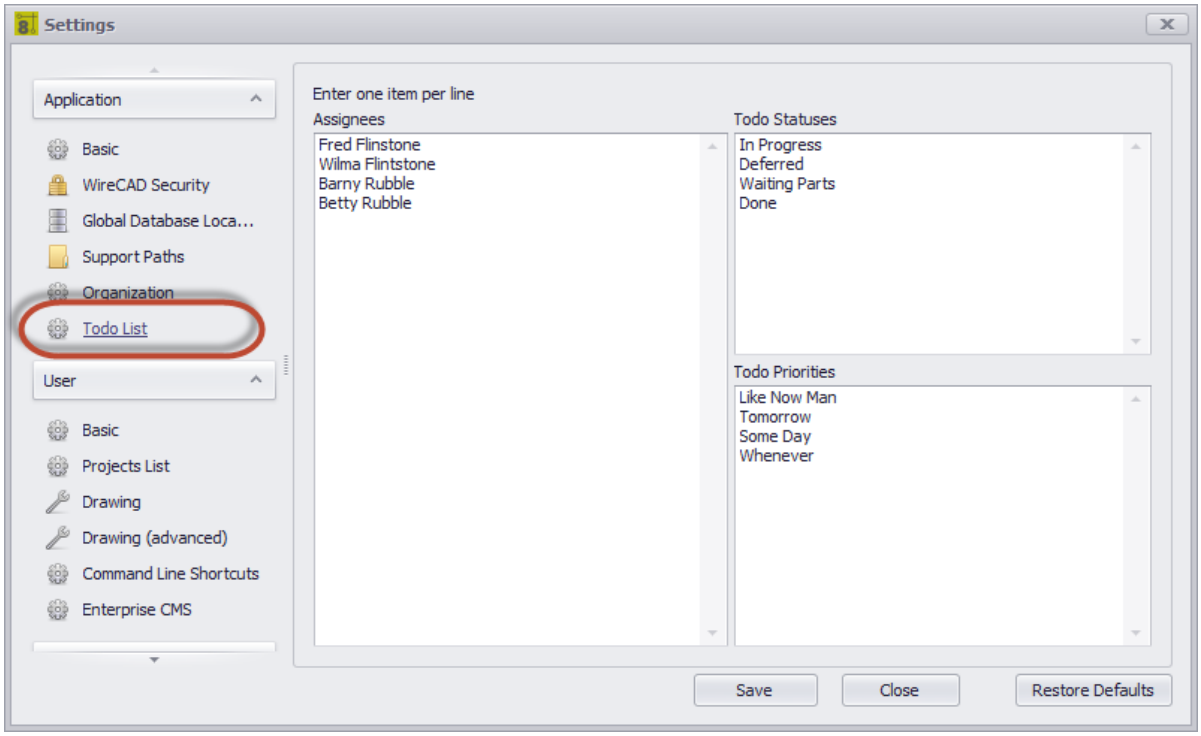

Explanation

Sets the dropdowns in the Project Todo List

Application - Todo Panel Options

Item	Description
Assignees	List of people to whom a task may be assigned.
Statuses	List of todo item statuses. Modify this to suit your needs
Priorities	List of priorities. Again, make it fit your needs.

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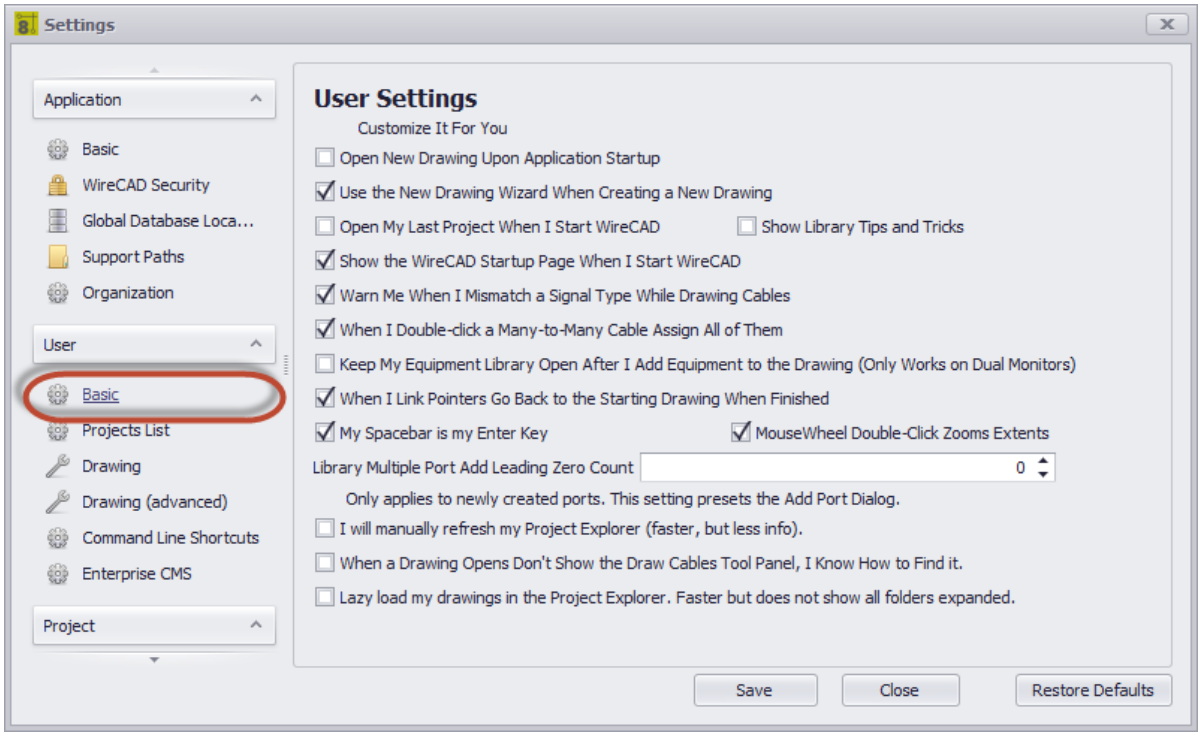

User - Basic Panel Options

Item	Description
Open New Drawing Upon Application Startup	Opens a blank new drawing when WireCAD starts.
Use the New Drawing Wizard	Shows the New Drawing Wizard when you click File > New. Allows the use of template drawings. If set to false, just creates a new drawing without a template.
Open My Last Project When I Start WireCAD	Behaves like earlier versions of WireCAD that opened the last project automatically on startup.
Show Library Tips	This shows the Tips and Tricks form in front of the Equipment Library.
Show the WireCAD Startup Page	The WireCAD Startup Page shows the latest news from the WireCAD ranch.

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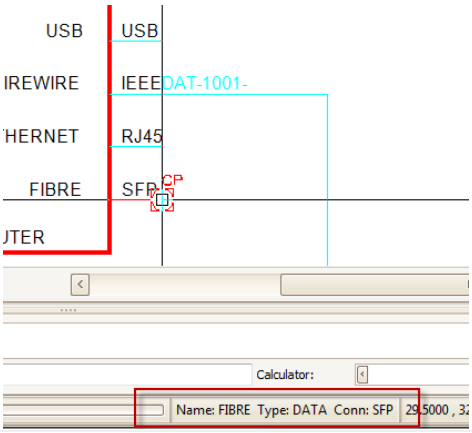
Item	Description
Warn of Signal Type Mismatch	When you finish drawing a cable WireCAD will check the source and destination port signal types and let you know if they don't match. You can use the new status panel to know the port type if you are confused. 
When I Double-click a Many-to-Many Cable Assign All of Them.	Many-to-Many cables that are set for Multiple Database Entries can either be assigned all at once by a single double-click, or if this setting is turned off a double-click will find the closest port to the cursor and assign that.
Keep Equipment Library Open	This is useful if you are using dual monitors and want to have the Equipment Library stay open on the other monitor.
When I Link Pointers Go Back to the Starting Drawing When Finished	The default Link Pointer function will leave you on the second sheet. If you set this to true it will jump you back to the first sheet.
My Spacebar is my Enter Key	This is helpful when executing command line commands
MouseWheel Double-click Zooms Extents	
Library Multiple Port Add Leading Zero Count	

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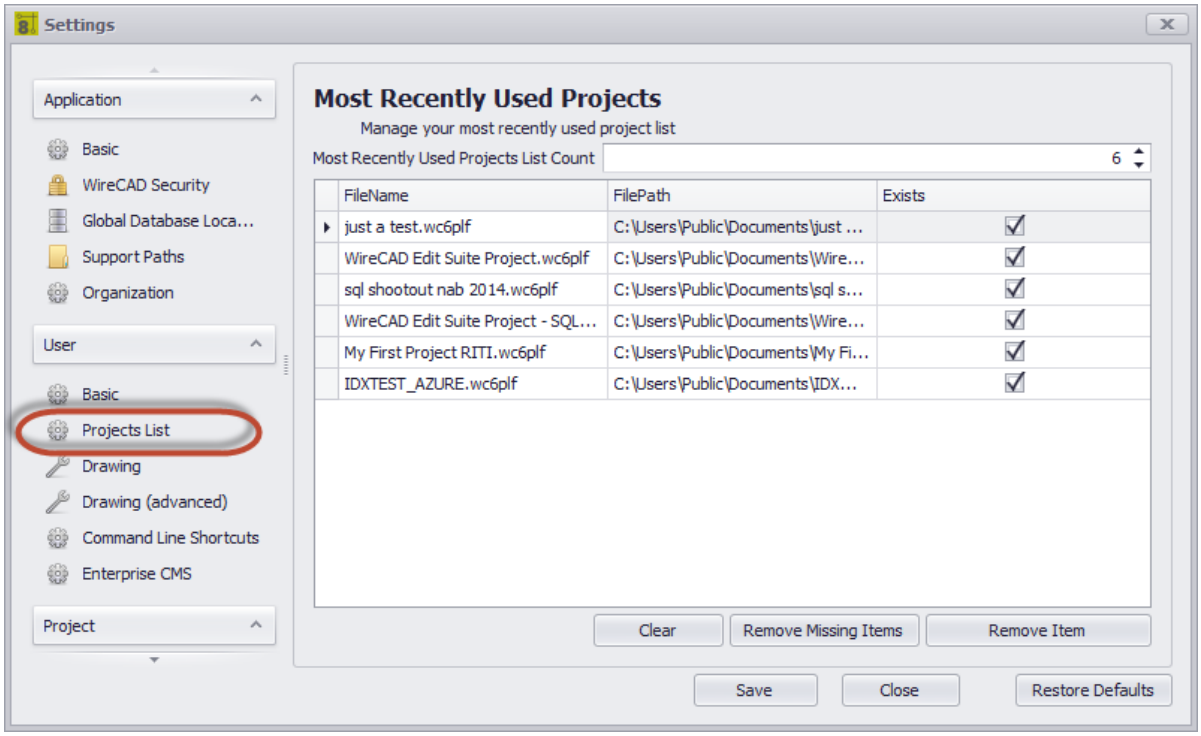
Item	Description
I Will Manually Refresh the Project Explorer	True to disable autorefresh on the Project Explorer. This may be helpful if your project grows to have hundreds of drawings.
When a Drawing Opens Don't Show the Draw Cables Tool Panel	
Lazy Load my drawings in the Project Explorer	True to disable recursive search of all drawing subfolders. This may be helpful if your project grows to have hundreds of drawings.



User - Projects List Panel Options

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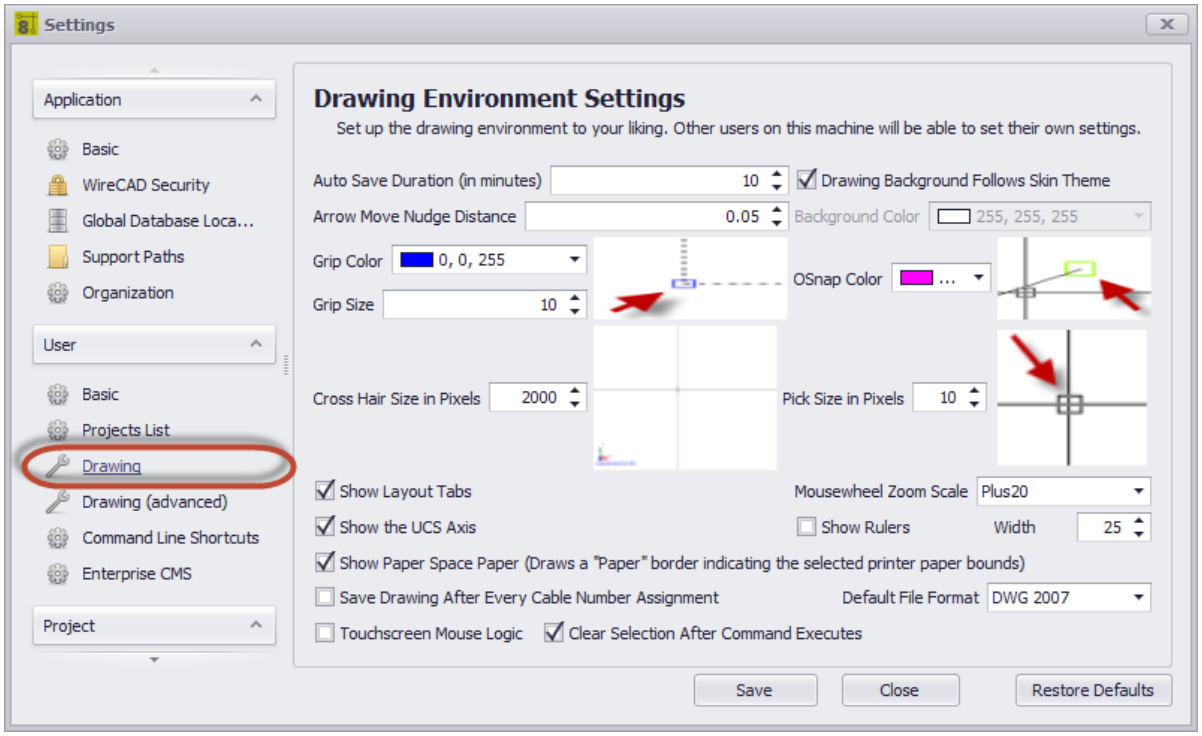
Item	Description
Most Recently Use Projects List Count	How many items allowed in the list.
Projects List	
Clear	Reset the list.
Remove Missing Items	Remove items that cannot be found because the path has changed or is currently unavailable.
Remove Item	Remove the selected row.



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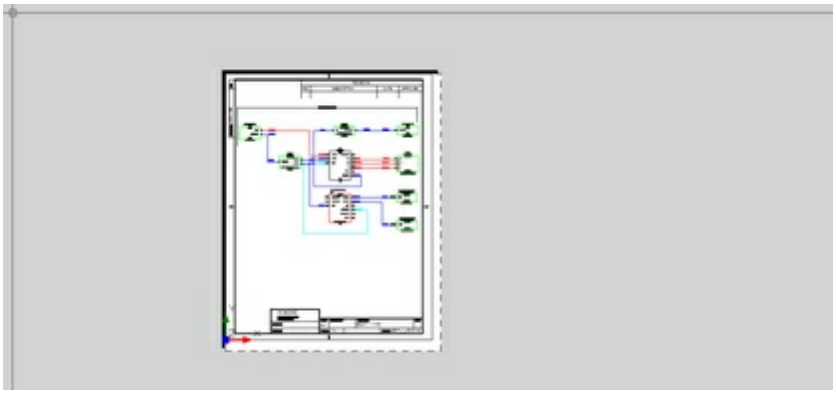
User - Drawing Panel Options

Item	Description
Auto Save Duration	Sets the Auto Save Duration. Auto Save saves only drawings that are not currently involved in a function.
Arrow Move Nudge Distance	When nudging a selection how far do we move in the direction.
Grip Color	Sets the grip color.
Grip Size	Sets the grip size in pixels.
Cross Hair Size	Sets the cross hair size in pixels.
Show Layout Tabs	Shows the layout tabs at the bottom of the drawing frame
Show UCS Axis	Shows the UCS Axis:
Show Paper Space Paper	When a layout is selected, show the current page size as returned by the selected printer as a white "page."  **True**

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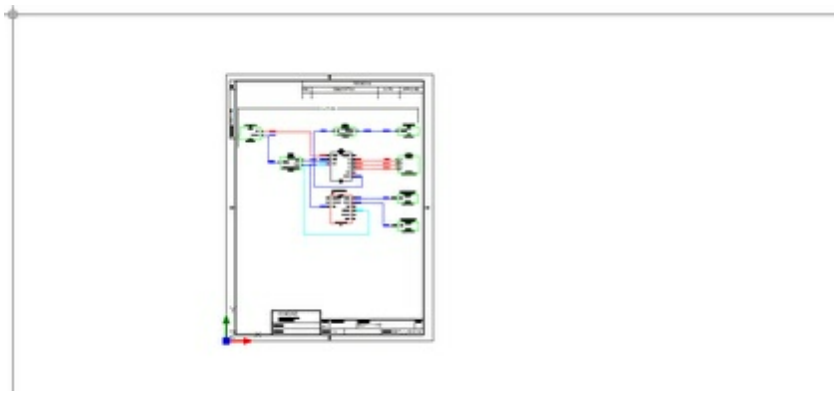
Item	Description
	 **False**
Save Drawing After Every Cable Number Assignment	Setting this to true is not recommended but will speed the assignment process. You are responsible then for saving the drawing to ensure drawing/database parity.
Touchscreen Mouse Logic	
Clear Selection After Command Executes	Overrides the default behaviour of leaving the selection set in tact after an operation.
Drawing Background Follows Skin Theme	
Background Color	Sets the background color.
OSnap Color	Sets the Object Snap Color.
Pick Size	Sets the pick size in pixels. The pick determines the search window when clicking the cursor.
Mousewheel Zoom Scale	How far do we zoom with every click of the mouse wheel
Show Rulers	
Ruler Width	In pixels
Default File Save Format	

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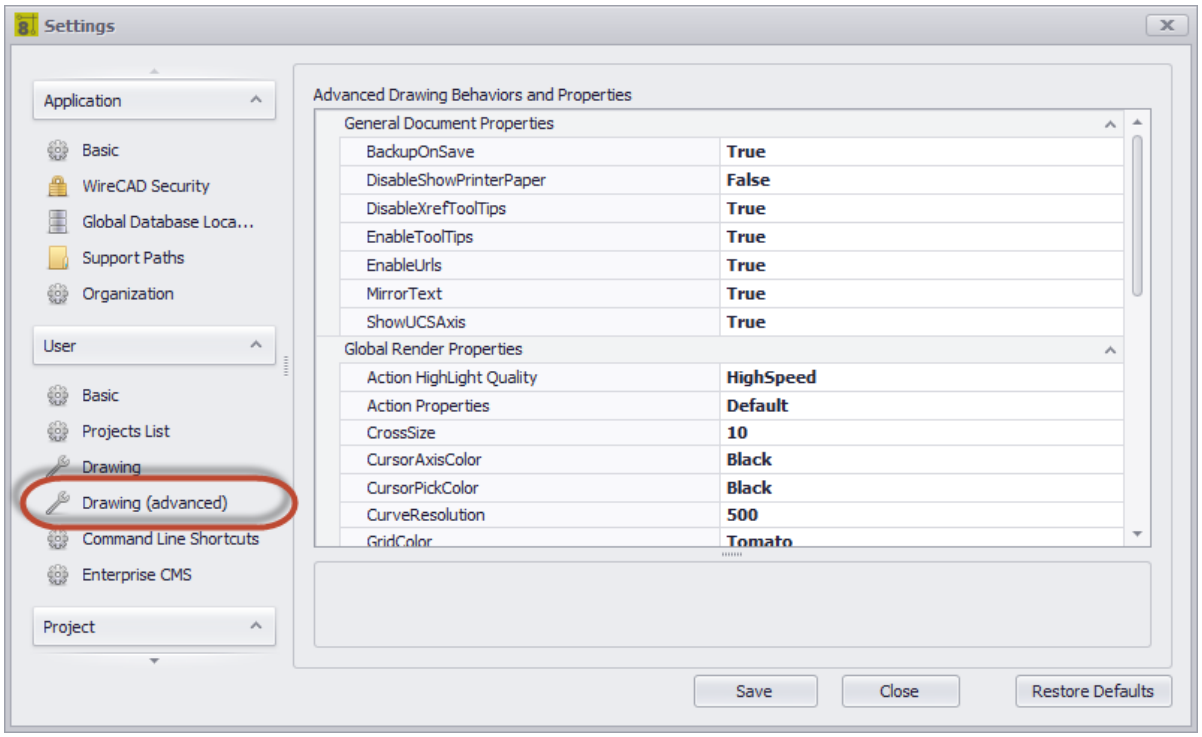

User - Drawing Advanced Panel Options

These are really granular controls of the render engine. It is beyond the scope of this manual to explain each we will hit some, but play with them if you are interested and see how they behave.

Item	Description
BackupOnSave	Saves the file with the ~.bak extension before overwriting the existing file.
DisableShowPrinterPaper	Same as **Show Paper Space Paper**
DisableXrefTooltips	Sometimes XREF tooltips can be annoying.
EnableTooltips	Show tooltips or not.
EnableURLs	URLs of object will be opened.

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Item	Description
MirrorText	Controls how the Mirror command deals with text.
ShowUCSAxis	
ActionHighlightQuality	Speed or Quality
ActionProperties	Default or HideOnLeave
CrossSize	
CursorAxisColor	
CursorPickColor	
CurveResolution	How many segments to a circle.
GridColor	
LineDrawQualityMode	Speed/Quality
MappedImageBoundWidth	Used only in 3D texture mapping.
OSnapSize	
PickAdd	Sets whether a user selection action replaces the current selection or adds to it.
ReferenceCrossColor	
RenderingQuality	Speed/Quality
RubberBandColor	
SelectActionKey	Set a key value used in combination with mouse-down to add or remove selected item(s) from a selection.
SelectingCrossColor	Crossing window select color.
SelectingWindowColor	Containing window select color.
SelectionPreviewFlag	Highlight entities that the mouse hovers over.
ShowHatches	Show hatches(filled objects).
UseGLDIBBitmap	

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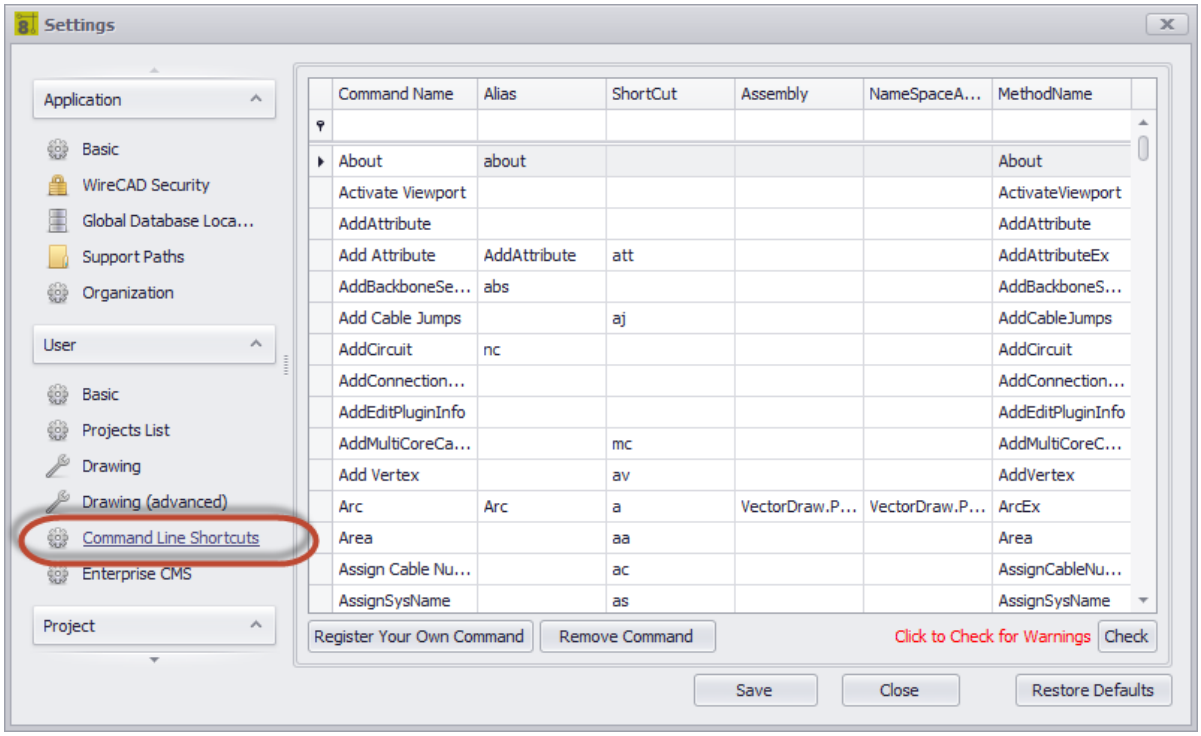
Item	Description
Tooltip Fiddling	Change the appearance and behaviour of the tooltips.



User - Command Line Shortcuts Panel Options

Item	Description
Register Your Own Command	Developer function
Remove Command	Developer function
Check	Checks the shortcuts to see if you have any duplicates.

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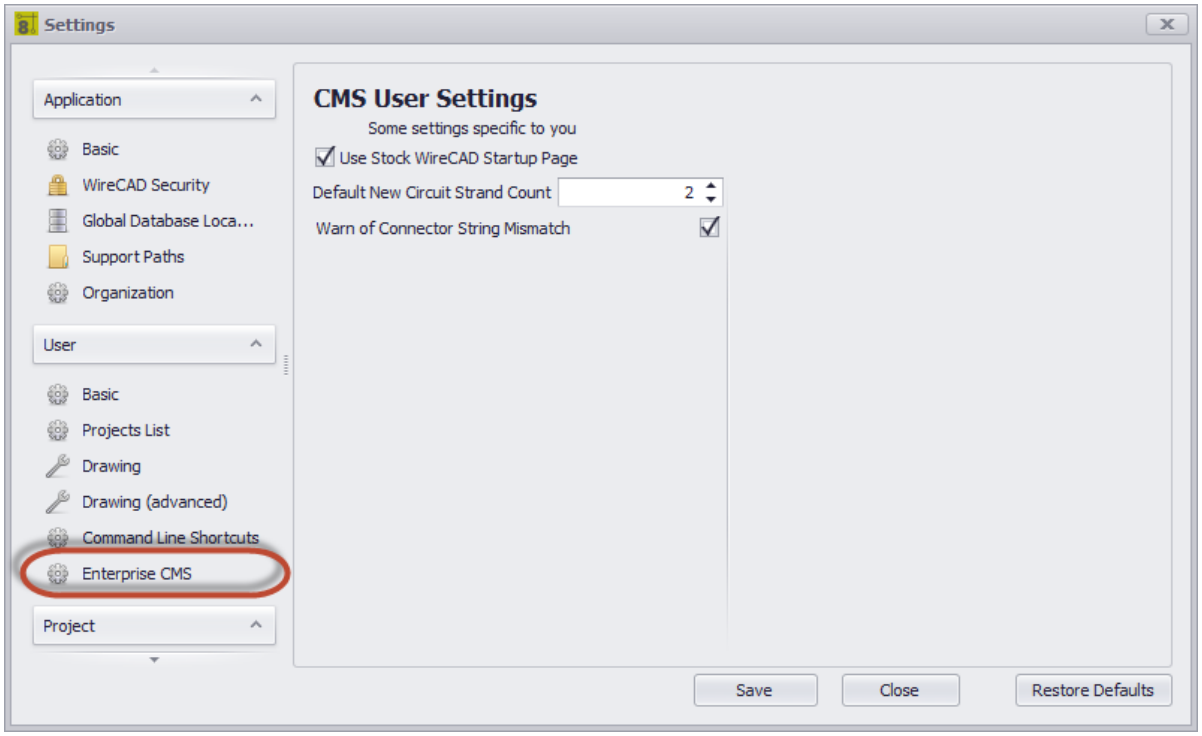
Item	Description
Commands List	You may freely edit any of the columns: • CommandName • Alias • ShortCut Even though the grid allows you to edit the following fields if you are not a developer you should **NOT** edit any of the columns: • Assembly • NameSpaceAndClass • MethodName You will break WireCAD.



User - Enterprise CMS Panel Options

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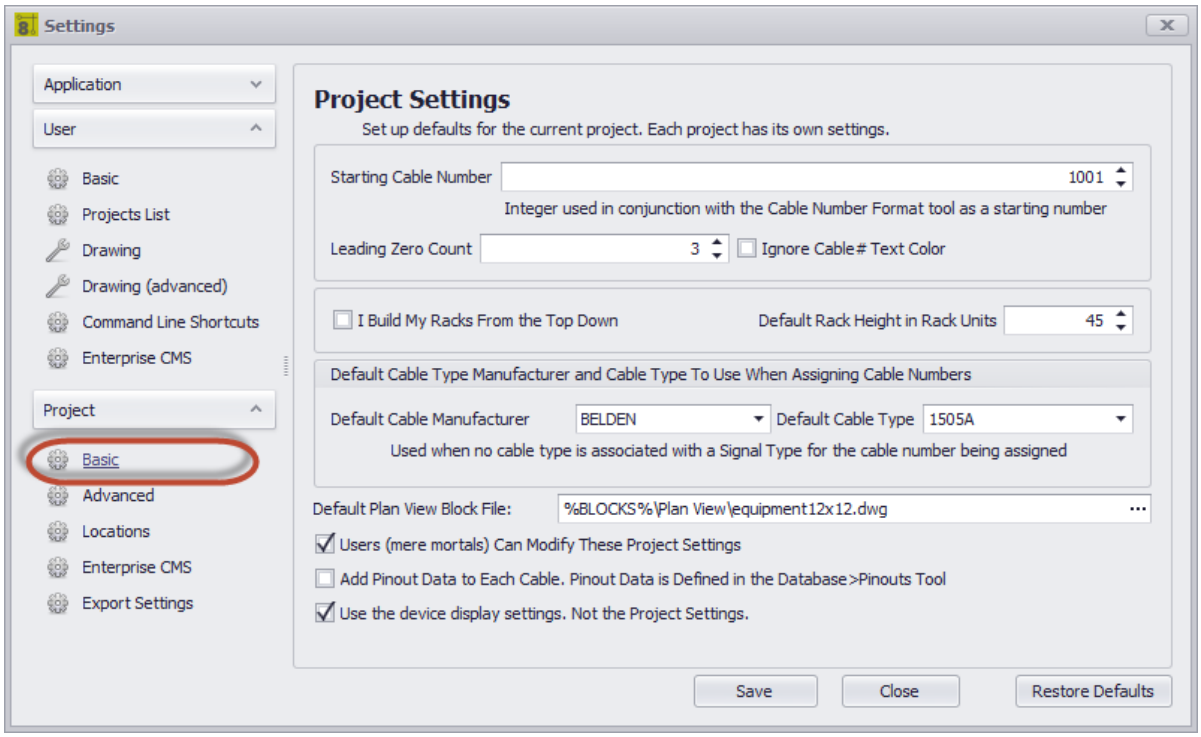
Item	Description
Use Stock WireCAD Startup Page	This will change your Startup page from the CMS specific page to the default WireCAD page.
Default New Circuit Strand Count	When creating a new circuit, a default strand count for jumpers is created. This will change that strand count to a different value.
Warn of Connector String Mismatch	Having this box checked will allow a warning message to display anytime WireCAD detects that 2 ports being connected have a different connector type.



Project - Basic Panel Options

Item	Description
Starting Cable Number	The default starting number of ALL sequences.

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Item	Description
Leading Zero Count	How many leading zeros in SysNames and Cable Numbers
Ignore Cable # Text Color	Does not color the Cable Number text entities.
I Build My Racks From the Top Down	Probably should read I number my racks from the top down.
Default Rack Height	
Default Cable Type	This is the default of defaults. The Signal Types table can override this.
Default Plan View Block File	If no Plan View File is defined on the Equipment definition then this will be used by the Populate Equipment function in the Plan View Tools.
Users (mere mortals) Can Modify These Project Settings	If you can see and edit this you are a WireCAD Administrator or have not set up WireCAD Security.
Add Pinout Data to Each Cable	Allow pinout data to be attached to a cable as it is being assigned. The pinout criteria must match in order to be a candidate for inclusion in the list of available pinouts for a cable.
Use the device display settings	This setting prioritizes any Equipment Library device settings saved with the device over the settings saved for the project.

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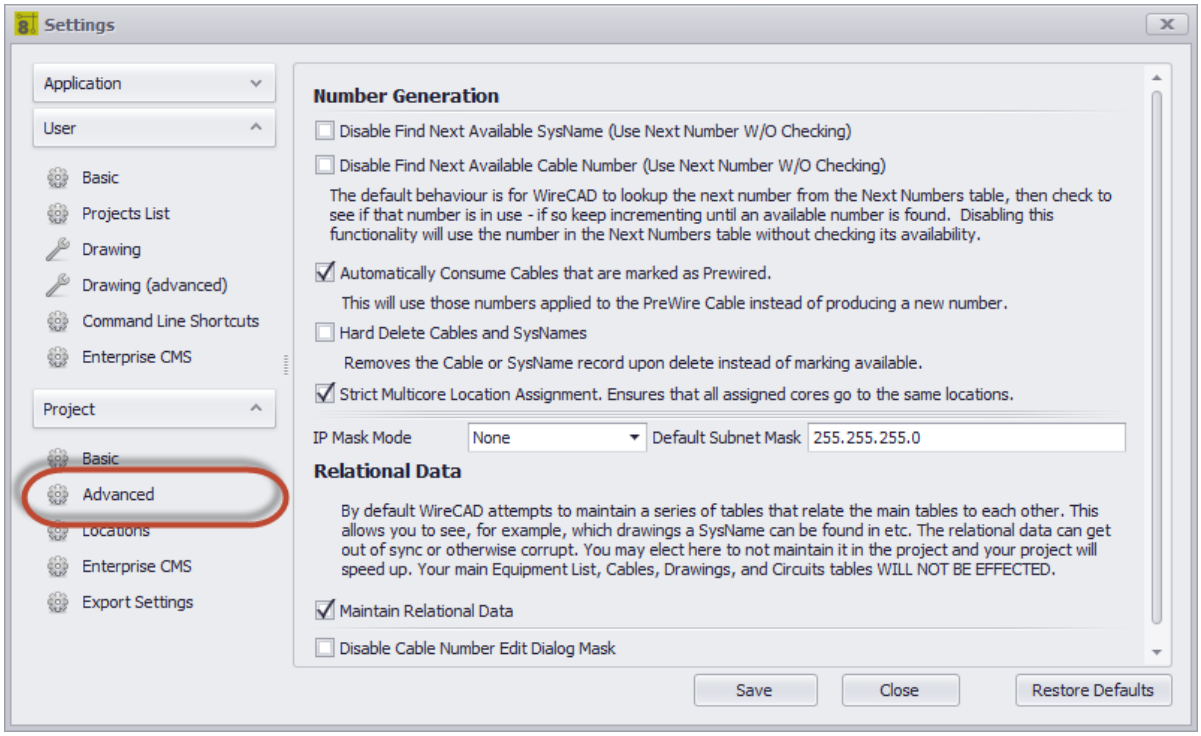

Project - Advanced Panel Options

Item	Description
Disable Find Next Available SysName	The default behaviour is for WireCAD to lookup the next number from the Next Numbers table, then check to see if that number is in use - if so keep incrementing until an available number is found. Disabling this functionality will use the number in the Next Numbers table without checking its availability.
Disable Find Next Available Cable Number	
Automatically Consume Prewire Cables	This will use those numbers applied to the PreWire Cable instead of producing a new number.
Hard Delete Cables and SysNames	Overrides the default behaviour which is to mark a deleted cable Available=true and place Deleted in key fields. Enabled this removes the row from the table upon deletion.

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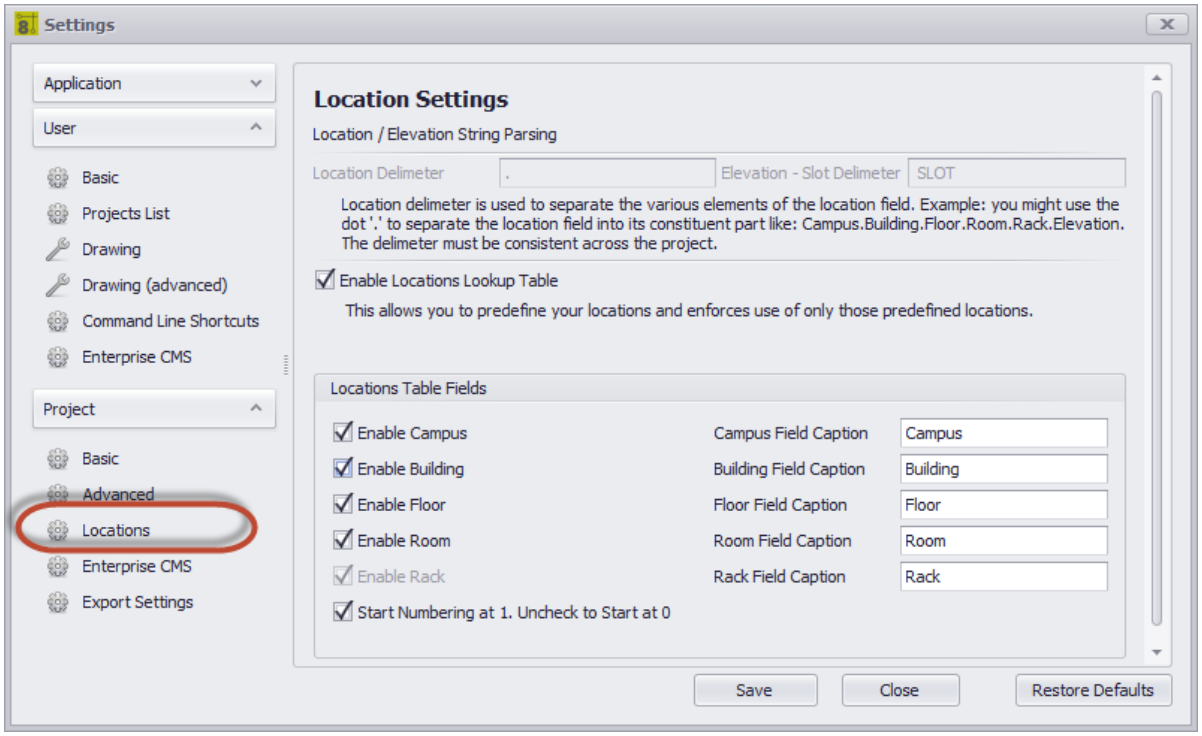
Item	Description
Strict Multi-core Assigment	Enforces a policy that all cores in each end of a multi-core cable must originate from the same location.
IP Mask	
Maintain Relational Data	By default WireCAD attempts to maintain a series of tables that relate the main tables to each other. This allows you to see, for example, which drawings a SysName can be found in etc. The relational data can get out of sync or otherwise corrupt. You may elect here to not maintain it in the project and your project will speed up. Your main Equipment List, Cables, Drawings, and Circuits tables WILL NOT BE EFFECTED.
Disable Cable Number Edit Dialog Mask	If you find the masking of the Edit Cable Data Cable Number textbox to be cumbersome you can disable it here.



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Project - Locations Panel Options

Item	Description
Location Delimiter	Settable on project creation only this is the delimiter that separates CAMPUS from BUILDING, BUILDING from FLOOR, etc. The default is a [.]. This will create Qualified Locations in the form of: Campus.Building.Floor.Room.Rack
Elevation-Slot Delimiter	The delimiter that separates the elevation numeric from the slot numeric. For example: a device located in elevation 20 at slot 5 with a delimiter of a dash [-] would be typed and 20-5.
Enable Locations Lookup	If disabled the locations field may be typed into directly. This may lead to confusion or referencial issues, ie; user a calls something Rack 1 and user b calls the same thing RK 01.
Locations Table Fields	Enable those that you will use.
Start Numbering at 1	Only applies if you are auto generating locations.

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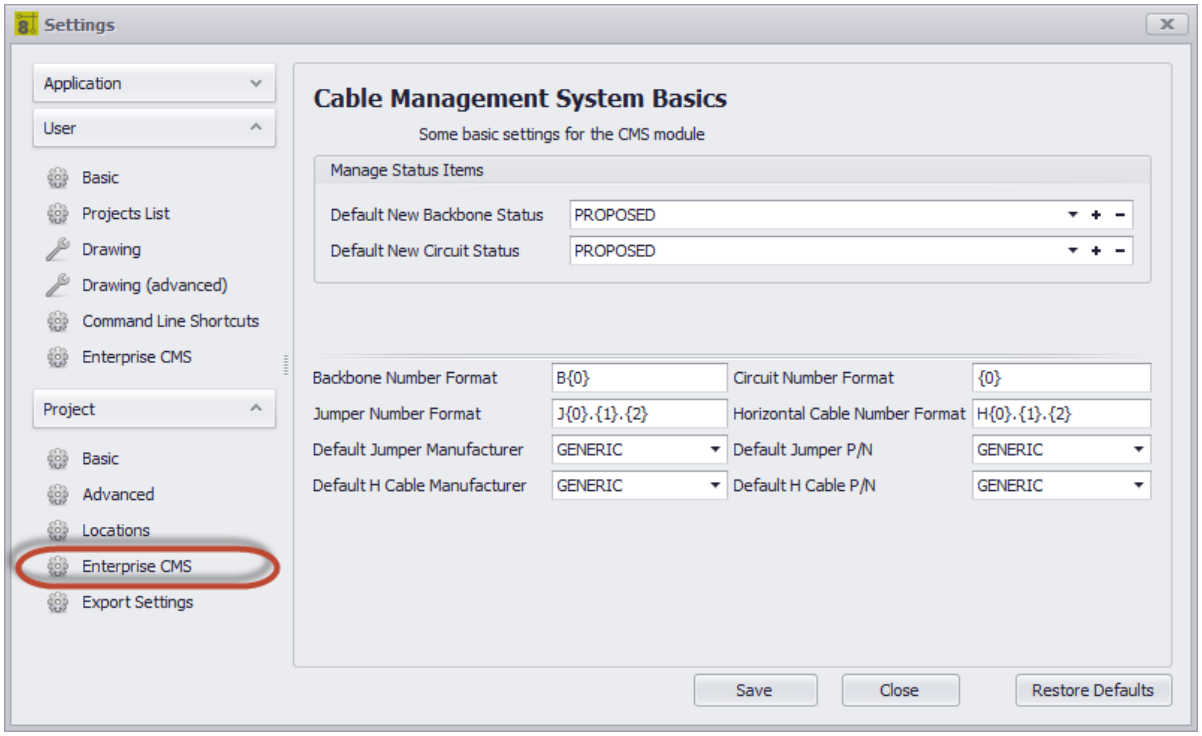

Project - Enterprise CMS Panel Options

Item	Description
Manage Status Items	When creating a backbone, you have the ability to mark a "status" on that backbone such as "In Use", "Proposed" ETC. Using the [+] button, you can create new status items. Selecting a status will cause that to become the default for all backbones in this project.
Backbone Number Format	The variable {0} contains the next number in the Next Numbers grid for Backbones. Define the string format of the next Backbone number.

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Item	Description
Jumper Number Format	The variable {0} contains the Circuit base number. The variable {1} contains the Strand Number of the circuit for this jumper The variable {2} contains the Ordinal Number of the circuit for this jumper. Define the string format of the next Jumper number.
Default Jumper Manufacturer and P/N	
Default Horizontal Cable Manufacturer and P/N	
Circuit Number Format	The variable {0} contains the next number in the Next Numbers grid for Circuits. Define the string format of the next Circuit number.
Horizontal Cable Number Format	The variable {0} contains the next number in the Next Numbers grid for Horizontal Cables. Define the string format of the next Horizontal Cable number.

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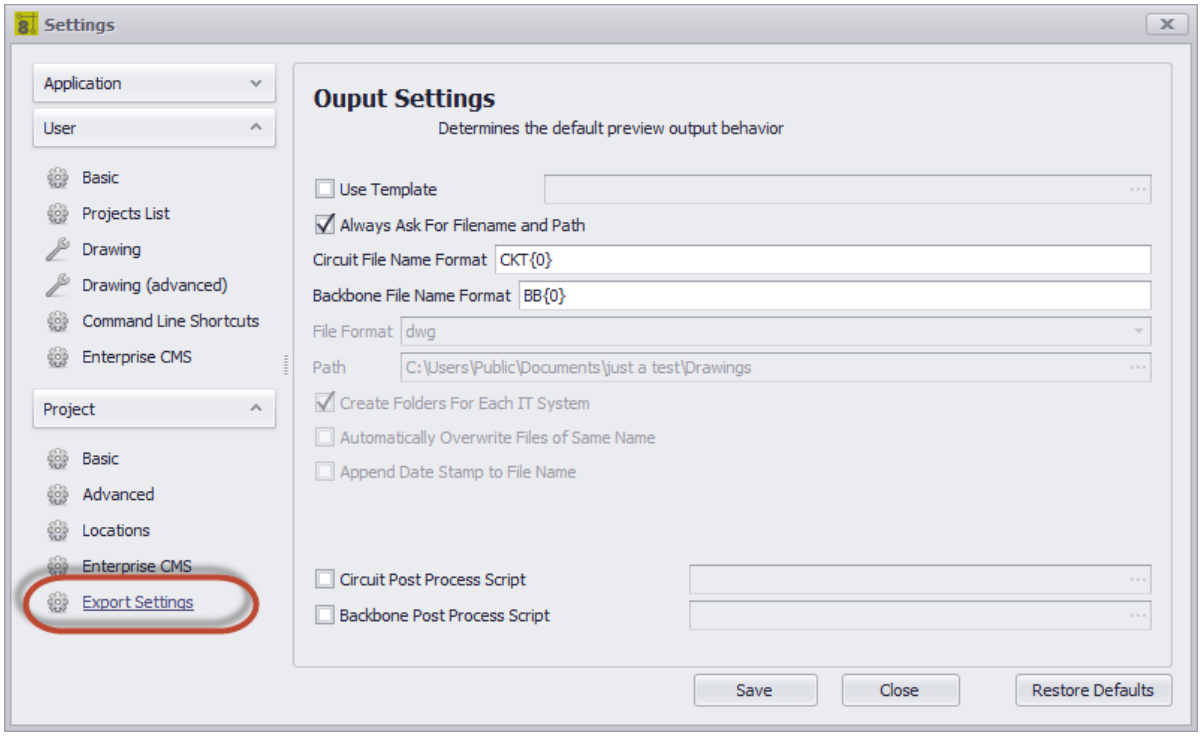

Project - Export Settings Panel Options

Item	Description
Use Template	Path to to a template drawing that the output will be exported into. Your template drawings can contain any page borders or layouts and settings that you wish.
Always Ask for FileName and Path	You are involved in the filename selection and path
Circuit FileName Format	Sets the file name format for Circuit output. {0} = Circuit Name
Backbone FileName Format	Sets the file name format for Backbone output. {0} = Backbone Number
File Format	Presets the output format.
Path	Where do we output.

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Item	Description
Create Folder for Each IT Systems	Create a new folder for each IT System and output the preview to that folder.
Automatically Overwrite Files of Same Name	Self-explanatory.
Append Date Stamp to FileName	
Circuit Post Process Script	Path to a c# file which will be run post export but pre write-to-disk. See the Post Process Scripts 194 topic for more information.
Backbone Post Process Script	

4.1.3.2 Drawing Dialogs

4.1.3.2.1 CAD Dialogs

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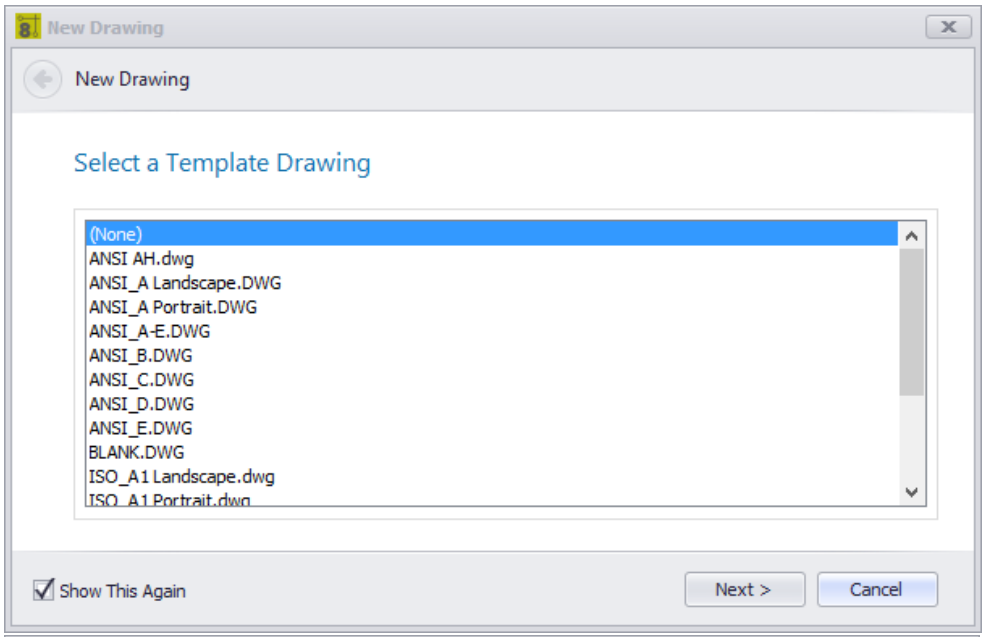
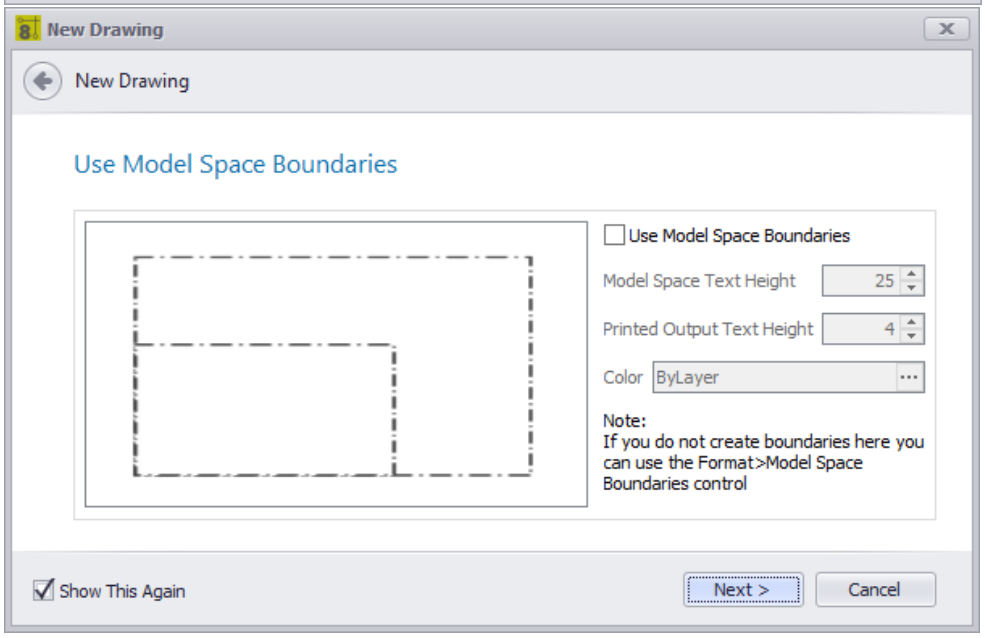
4.1.3.2.1.1 New Drawing Wizard





Drawing > File > New

Commandline: nd

Explanation

Create a new drawing for the project.

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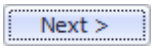
Dialog Options

Item	Description
Template Drawings List	Drawings placed in the the %TEMPLATEDRAWINGS% support path. Any drawing is a candidate for saving as a template.
Model Space Boundaries	See this topic on Model Space Boundaries 310
Navigate Forward	
Navigate Backward	
Show This Again	Show this dialog again.

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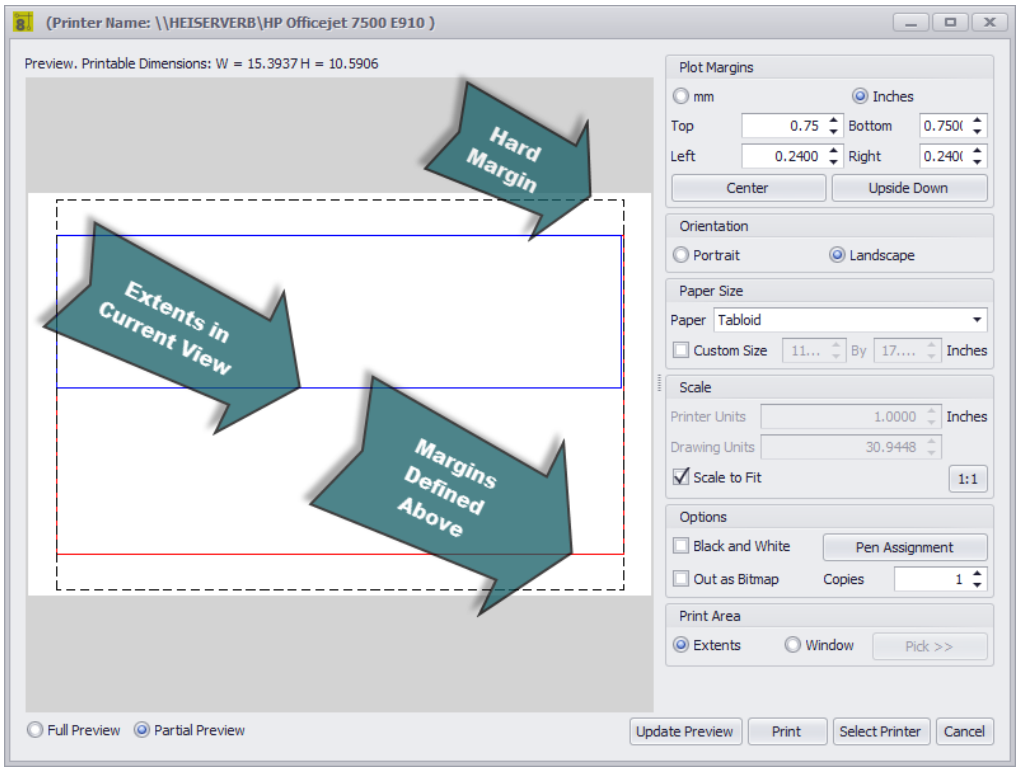
4.1.3.2.1.2 Print Preview

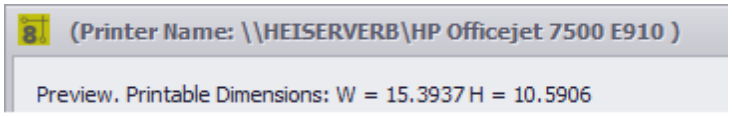


Drawing > File > Print Preview

[Cntrl]+[P]

Commandline: print

Dialog Options

Item	Description
Selected Printer	 Make sure that you select a printer first.

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Plot Margins	Set the unit of measure and the Top, Bottom, Left and Right margins. NOTE: the printer driver will return the hard margins of the printer. These are represented by the black dashed line in the Partial Preview mode. Setting the margins less than the hard margin values will have no effect.
Center	Adjusts the left and top margins to center the entities in the given space.
Upside Down	Rotate the output to the plotter
Orientation	Portrait/Landscape
Paper Size	
Scale	Numerical scaling of the entities to the paper.
Scale to Fit	Fit the entities to the paper
1:1	Scale 1:1
Black and White	
Out as Bitmap	Render to a bitmap then output that. Has different effect on quality depending on printer/plotter.
Copies	
Pen Assignment	Shows the Pen Assignment dialog. You can assign a different line thickness to each of the 255 indexed colors.
Print Area	Pick a window or print the extents
Preview Mode	Full preview or partial view to show margins.
Update Preview	Refresh the preview
Print	Do IT!
Select Printer	
Cancel	

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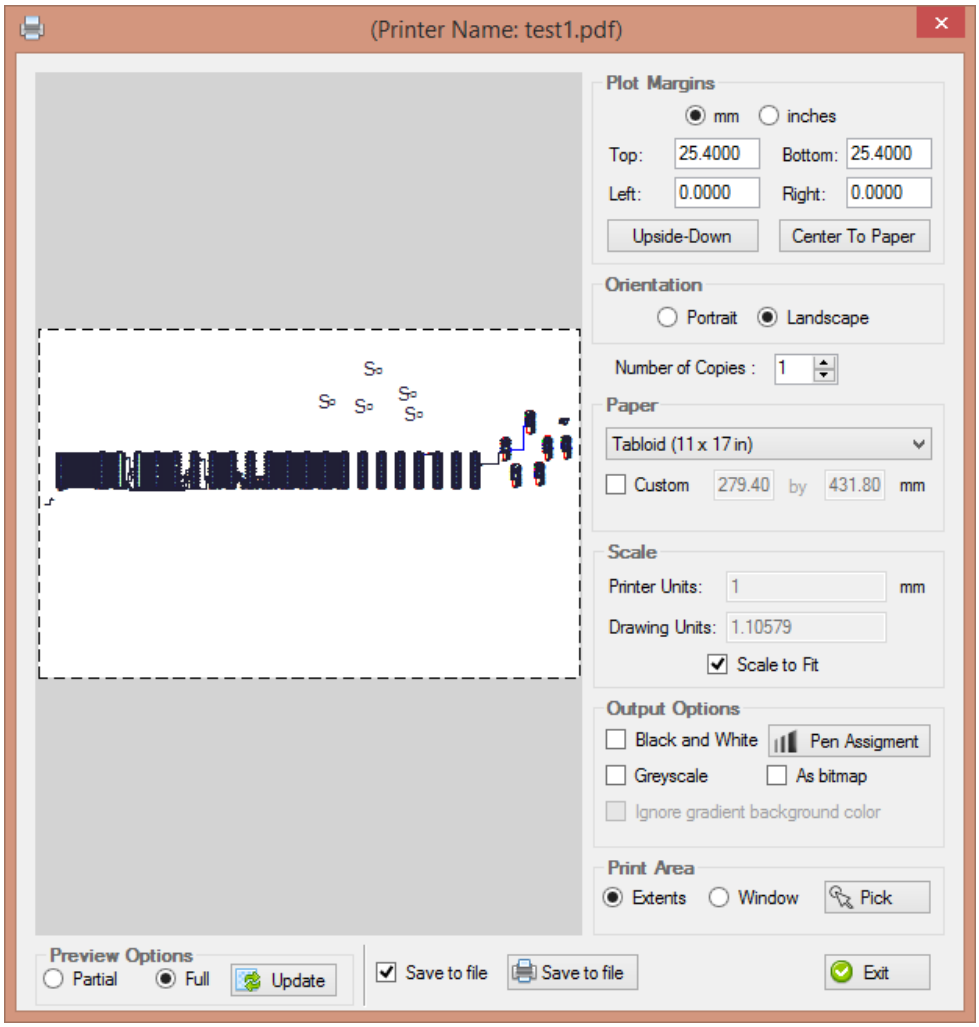
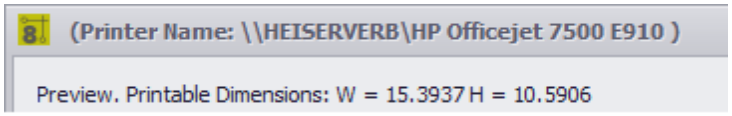
4.1.3.2.1.3 PDF Export



Drawing > File > PDF Export

Commandline: pdf

Dialog Options

Item	Description
Selected Printer	 Make sure that you select a printer first.

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Plot Margins	Set the unit of measure and the Top, Bottom, Left and Right margins. NOTE: the printer driver will return the hard margins of the printer. These are represented by the black dashed line in the Partial Preview mode. Setting the margins less than the hard margin values will have no effect.
Center	Adjusts the left and top margins to center the entities in the given space.
Upside Down	Rotate the output to the plotter
Orientation	Portrait/Landscape
Paper Size	
Scale	Numerical scaling of the entities to the paper.
Scale to Fit	Fit the entities to the paper
Black and White	
Out as Bitmap	Render to a bitmap then output that. Has different effect on quality depending on printer/plotter.
Copies	
Pen Assignment	Shows the Pen Assignment dialog. You can assign a different line thickness to each of the 255 indexed colors.
Print Area	Pick a window or print the extents
Preview Mode	Full preview or partial view to show margins.
Update Preview	Refresh the preview
Save to File	Do IT!
Select Printer	
Cancel	

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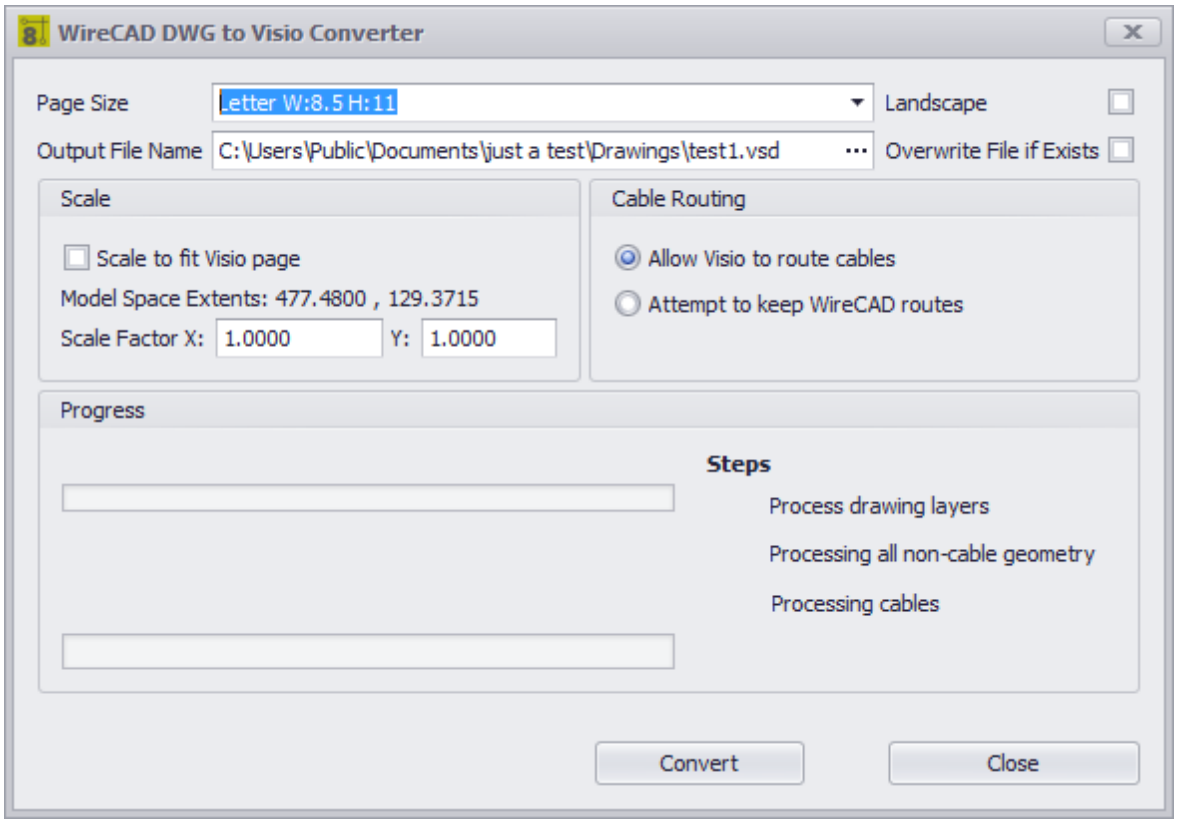
4.1.3.2.1.4 Export to Visio



Drawing > File > Export to Visio

Commandline: visio

Explanation

The WireCAD to Visio converter is an intelligent converter. It creates active working Visio drawings from you WireCAD drawings. What this means is that it is not just a dumb geometric import but rather entities are examined and functioning Visio entities are created. Cables in WireCAD become Visio Connectors allowing movement of blocks while keeping the wires attached.

Dialog Options

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Item	Description
Page Size	Set the Visio page size.
Output File Name	Name the file
Landscape	Is Landscape
Overwrite File if Exists	
Scale to Fit	Fit the WireCAD dwg entities onto the selected page size.
Scale Factor	Manuallly scale the WireCAD entities to the Visio page size.
Cable Routing	Here is the magic. You can either let Vision route the cables or you can attempt to keep the appearance of your WireCAD routes.
Convert	Do IT!
Close	

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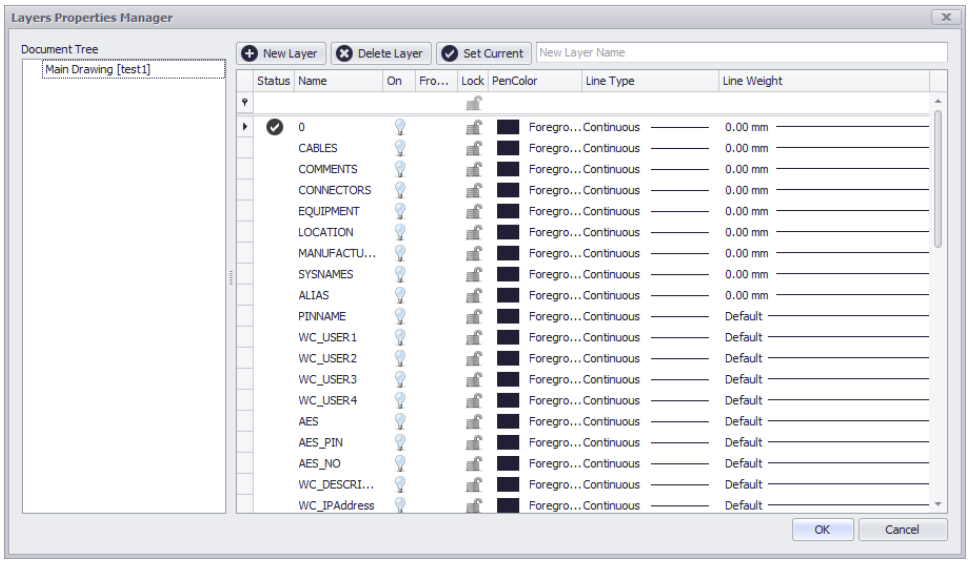
4.1.3.2.1.5 Layers



Drawing > Drawing > Layers

Commandline: lay

Explanation

The Layers dialog controls the document Layers collection.

A Layer is the equivalent of the overlay used in paper-based drafting. It is the primary organizational tool in the WireCAD CAD space, and you can use it to group information by function and to enforce linetype, color, and other standards.

Organizing Layers and the objects on Layers make it easier to manage the information in your Drawings.

When you put one layer over another the result is the complete drawing.

Having kindred objects on the same layer it is very helpful in order to organize the drawing.

When you begin a new drawing, WireCAD creates a special layer named 0. By default, layer 0 is assigned color number 7 (white or black depending upon your background color), the CONTINUOUS linetype and a lineweight of Default (the default setting is .01 inch or .25 mm). Layer 0 cannot be deleted or renamed.

All new objects are added to the active layer if no layer is specified.

Using the Layers editor you can Freeze (Hide), Thaw (Show) and Lock layers.

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By controlling whether a Layer's state is Thaw or Frozen you can change the appearance of your drawing to display only the information on the Layers that are visible. Freezing unused Layers will help the performance of WireCAD.

Dialog Options

Item	Description
Document Tree	Lists the document's external references. By selecting an item in the document tree you can control the layers of XREF drawings within the current drawing.
New Layer	Creates a new layer with the name entered in the associated text box
Delete Layer	Deletes the selected layer as long as it is not the current layer or layer 0.
Set Current	Set's the current layer. All entities added to the drawing are added to the current layer.
New Layer Name field	
Status	The one and only current layer
Name	The name of the layer
On	Is it visible
Frozen	Is it visible. The difference between Thawed/Frozen and On/Off is a very subtle distinction. Turning a layer off using the ON/OFF setting makes the objects on that layer hidden, but these objects will still be considered part of the drawing. For example, objects that have been turned off are still selectable in the drawing. Selecting it directly on screen of course still isn't possible, as you've nothing to click on. But other ways of selecting objects will still pick it up – try a SELECTALL for example, and your objects that are turned off will be selected. Frozen layers on the other hand are completely off. They are not considered part of the drawing at all, and are therefore not selectable.
Lock	Make the layer unselectable.
Pen Color	Set the pencolor for the layer. Only entities that have their PenColor property set to ByLayer will receive this value.

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Line Type	Set the Line Type for the layer. Only entities that have their Line Type property set to ByLayer will receive this value.
Line Weight	Set the Line Weight for the layer. Only entities that have their Line Weight property set to ByLayer will receive this value.
OK	Commit changes and dismiss
Cancel	Dismiss

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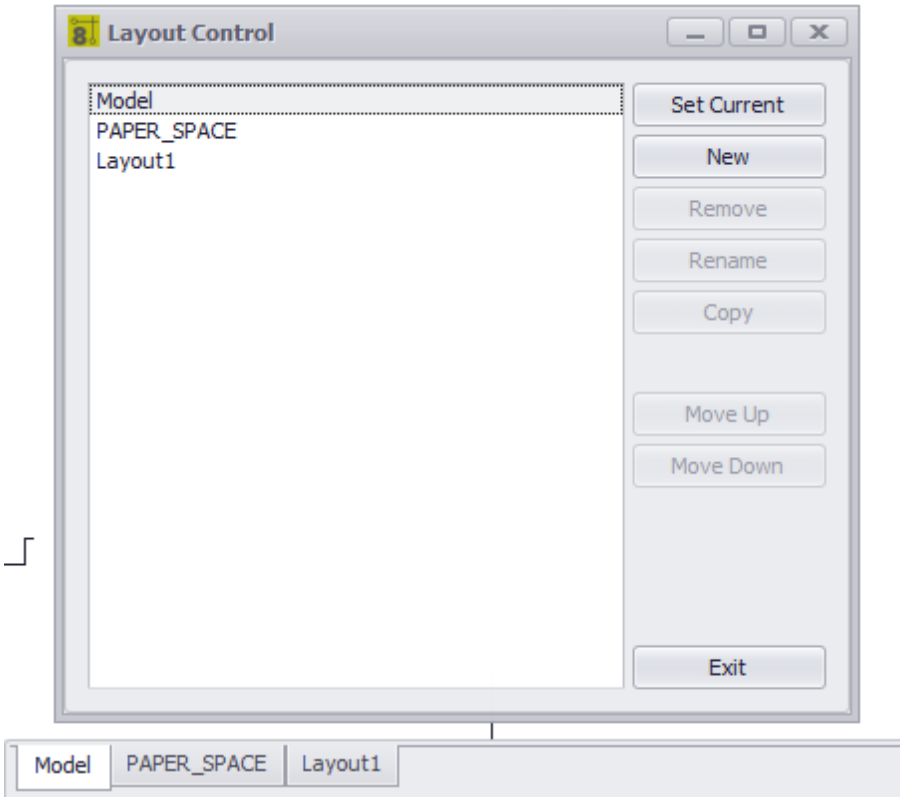
4.1.3.2.1.6 Layouts



Drawing > Drawing > Layouts

Commandline: layouts

Explanation

A Layout is used to compose or lay out your model drawing for printing. A layout may consist of a title block, one or more viewports, and annotations. As you create a layout, you can design floating Viewport configurations to visualize different details in your drawing.

A layout is a paper space environment that simulates a sheet of paper. In a layout, you can create and position viewport objects, and you can add a title block or other geometry. You can create multiple layouts in a drawing to display various views. Each layout displays the drawing as it will be printed on the sheet of paper.

Typically, when you begin designing a layout environment, you step through the following process:

1. Create a model drawing.
2. Activate or create a layout.
3. Insert a title block.

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4. Create floating viewports and position them in the layout.
5. Set the view scale of the floating viewports.
6. Print your layout.

Dialog Options

Item	Description
Layout List	List the Layouts collection.
Set Current	Set the selected item to be the current view.
New	Create a new Layout
Remove	Remove the selected layout as long as it is not the Model
Rename	Rename the seleced layout as long as it is not the Model
Copy	Copy all entities from the selected layout to a new layout with the name of your choosing.
Move Up	Reorder the list
Move Down	

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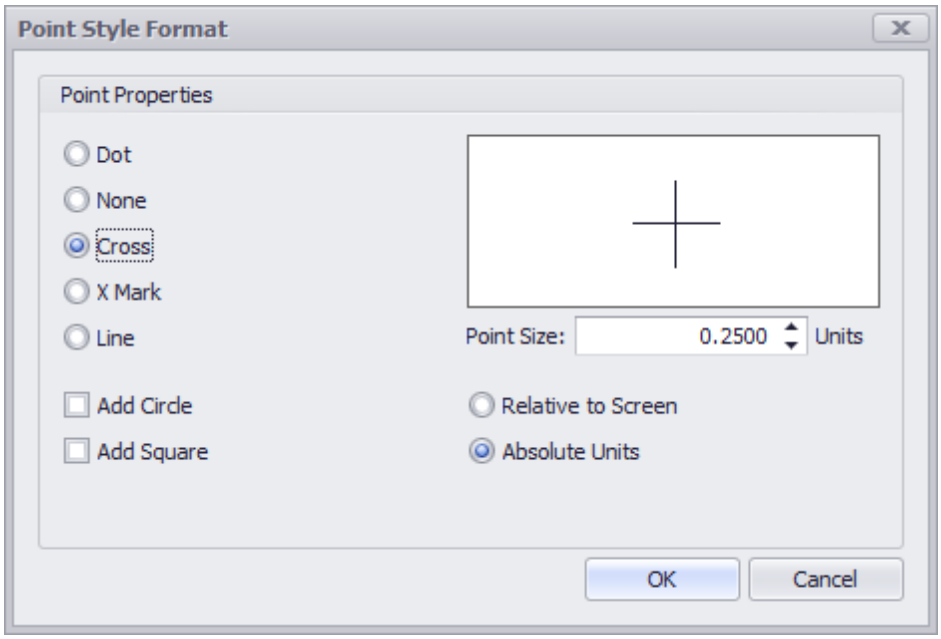
4.1.3.2.1.7 Point Styles



Drawing > Drawing > Point Styles

Commandline: pointstyles

Explanation

All point entities inserted into the drawings space will render based on the settings here.

NOTE: if you are using the Rack Builder tool WireCAD uses point entities to generate the positioning grids and sets this value programmatically.

Dialog Options

Item	Description
Dot	Display as a single dot.
None	None
Cross	Cross
X Mark	X
Line	Line
Add Circle	Add a circle around the above selection.

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Add Square	Add a square around the above selection.
Point Size	Set the size in units as defined
Relative/ Absolute	

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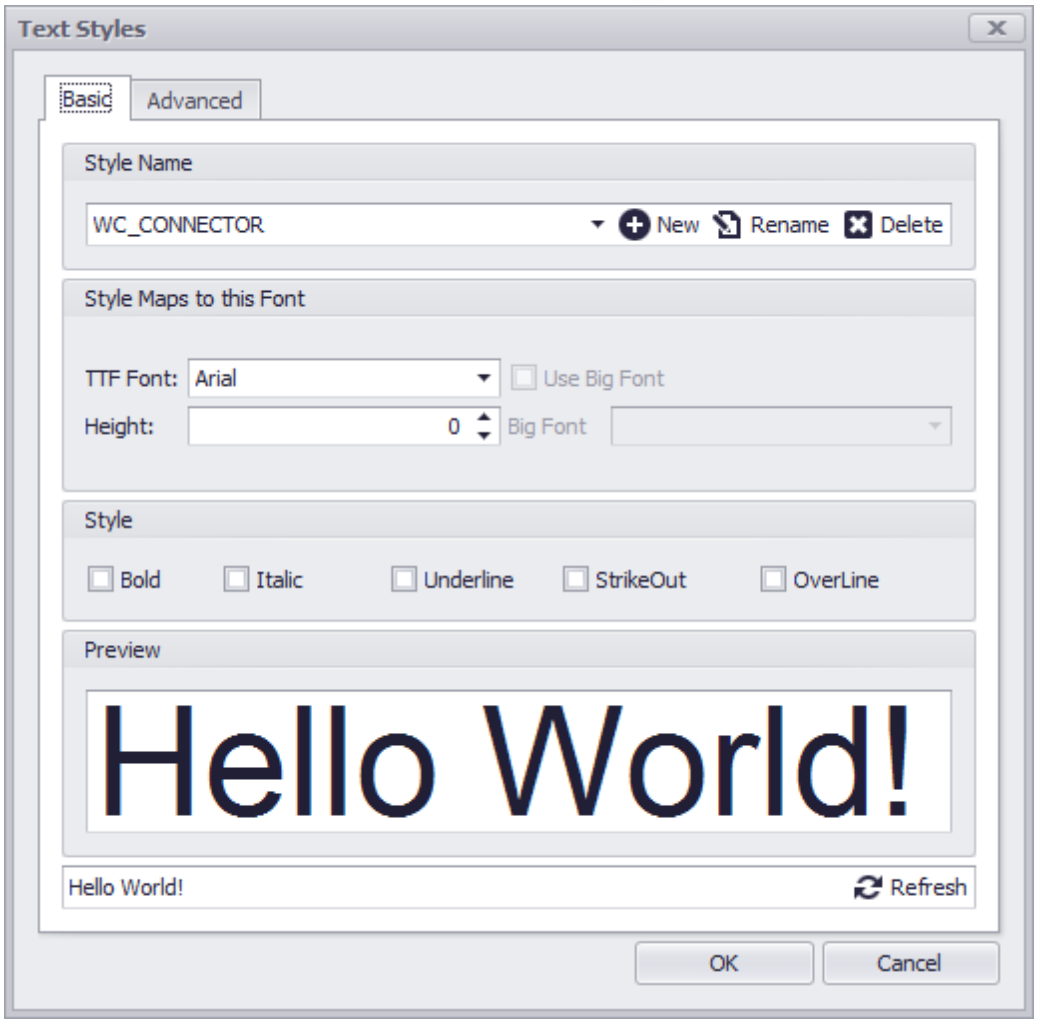
4.1.3.2.1.8 Text Styles



Drawing > Drawing > Text Styles

Commandline: ts

Explanation

TextStyle is a named, saved collection of settings that determines the appearance of text strings.

You can create your own text styles which can have specific fonts and text height. You can also specify if the text will be underlined,bold etc.

There is no limit to the number of text styles you can create in your drawing.

The active text style determines the appearance of new text created in the drawing. StyleName of text object will get the value of ActiveTextStyle property.

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When you enter text, it uses the current text style, which sets the font, size, and other text characteristics. If you want to create text using a different text style, you can make another text style active.

Dialog Options

Item	Description
Style Name, Add, Rename, Delete	Create a new Text Style, Rename the selected Text Style or Delete the selected Text Style
Font	Set the font family of the Text Style.
Style	Style attributes
Preview	Preview of Text Style applied to the the Preview Text Edit.
Preview Text Edit	
Advance Settings	The advance tab displays a property grid with all of the basic settings and a few more.
CodePage	Sets the character set used to display text.
DrawOutline	
Flag	LeftToRight, Backwards, UpsideDown, etc.
ObliqueAngle	Oblique angle for the text in degrees.
WidthFactor	Value used to stretch text by changing its width.

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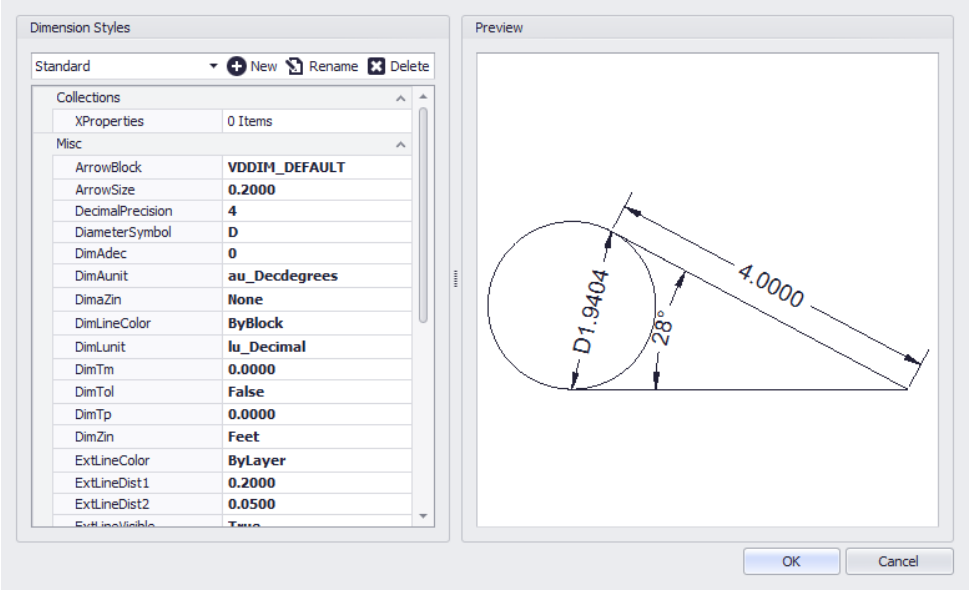
4.1.3.2.1.9 Dimension Styles



Drawing > Drawing > Dimension Styles

Commandline: dimstyles

Explanation

A **Dimension Style** is a group of dimension settings that determines the appearance of a dimension .

The active **Dimension Style** determines the appearance of new dimensions created in the drawing.

To change the style of an existing dimension, use the StyleName property found on the dimension.

When you create a dimension, the current dimension style is associated with that dimension. The dimension retains this dimension style unless you apply a new dimension style to it.

Dialog Options

Item	Description
Style Name, Add, Rename, Delete	Create a new **Dimension Style**, Rename the selected **Dimension Style** or Delete the **Dimension Style.**
Preview Pane	Displays the results of the current settings.
Settings	Play with them.

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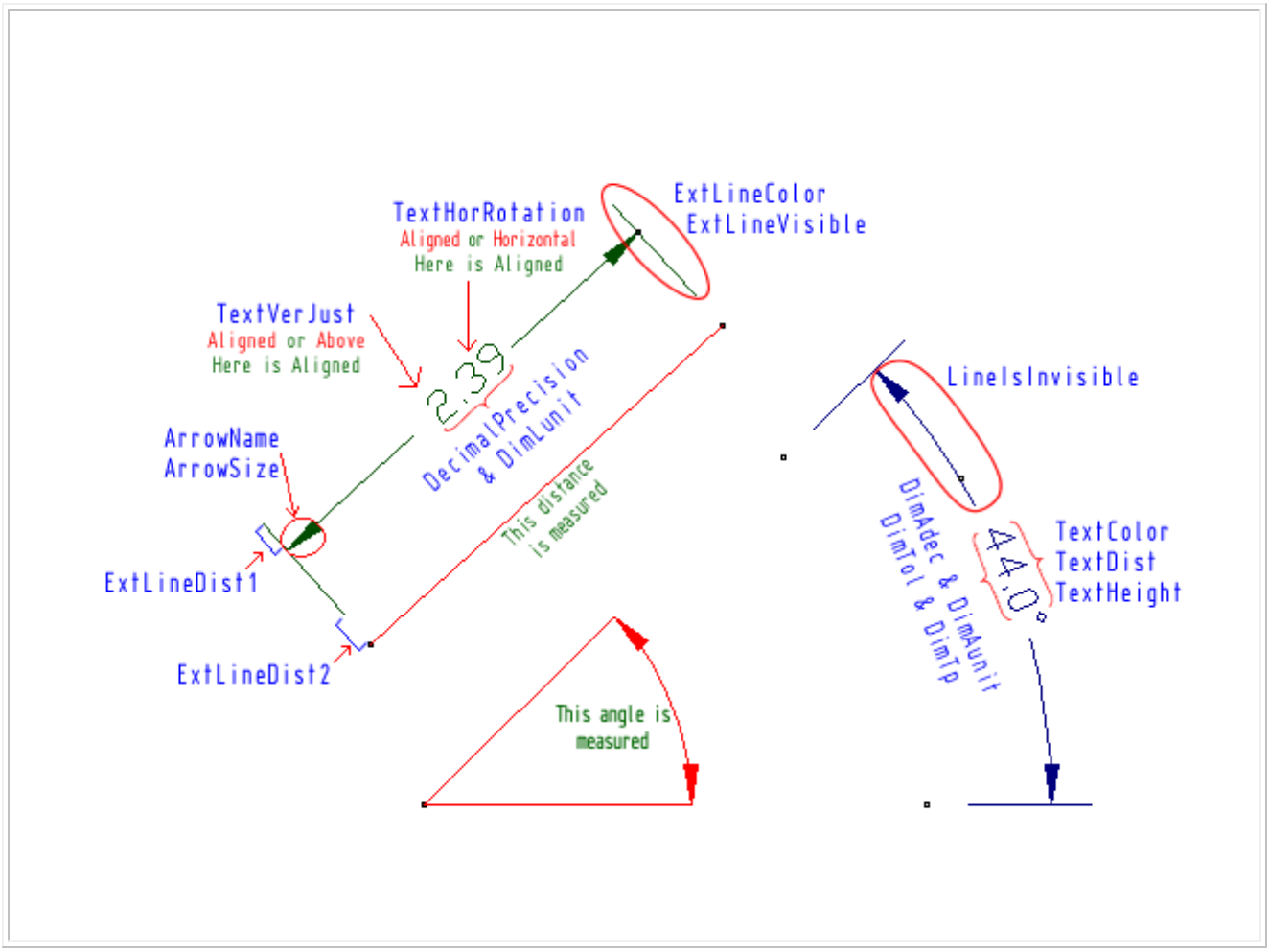

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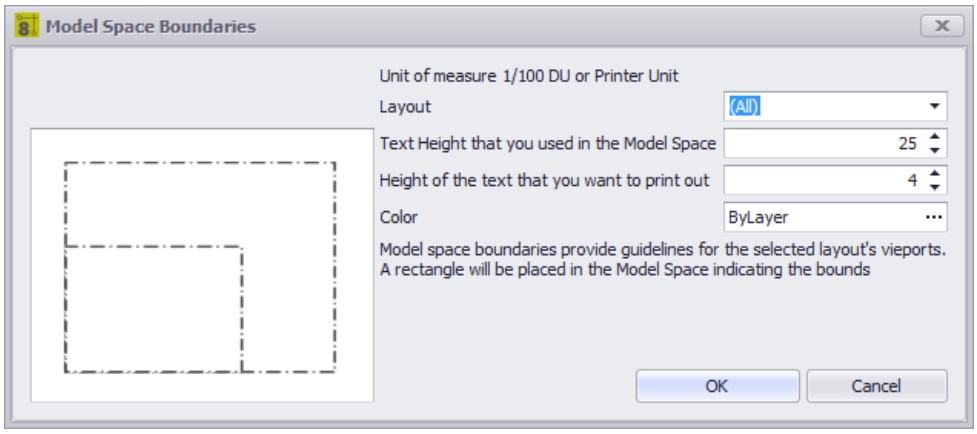
4.1.3.2.1.10 Model Space Boundaries



Drawing > Drawing > Model Space Boundaries

Commandline: bo

Explanation

It's a big model space in there. We can, if we are not careful, create a drawing that is so big that it can't be effectively printed or plotted. In order to have some Idea of where the fences are WireCAD can place boundaries in the model space. The boundary is created from the viewport. We use the text height as the terms for our equation. We do this because a drawing is considered readable if we can read the text. If we can't read the text the drawing becomes useless.

Each boundary will be placed on its own layer an named bound_layout_name where layout_name is replaced with the name of the layout.

Dialog Options

Item	Description
Layout	Select the layout from which we will create the boundary
Text Height that you used in Model Space	The default is .25 DU or as given in 1/100th of a Drawing Unit: 25.
Height of the text that you want to print	Here we want the printed output height in 1/100th of a printer unit.

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Color	

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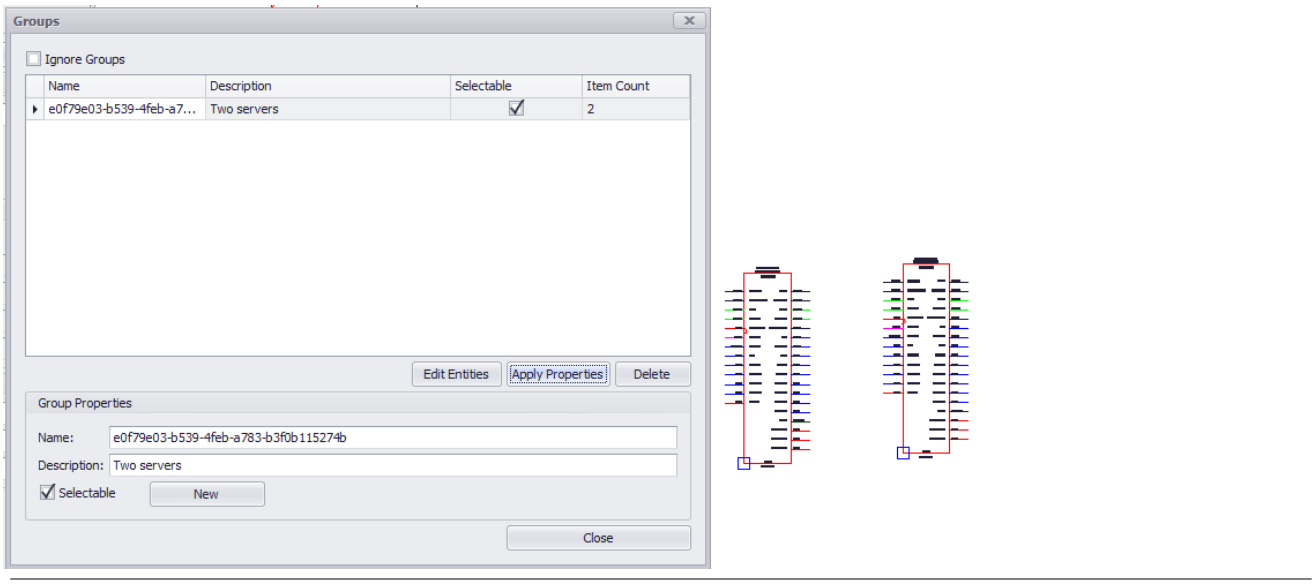
4.1.3.2.1.11 Groups



Drawing > Drawing > Groups

Commandline: formatgroups

Explanation

New to WireCAD 8 is the ability to create groups of entities in order to better organize your drawings. Groups can be named and described as well as disabled and edited later.

To create a Group select some entities and right-click then click Group

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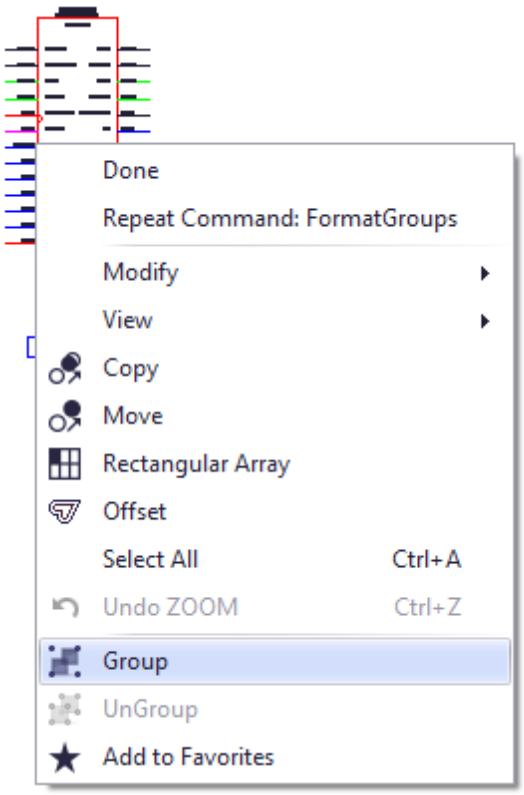

Dialog Options

Item	Description
Ignore Groups	Disable grouping
Name	The default Group name will be a GUID. You can rename it if you like.
Description	
Selectable	Is the group selectable as a group. If selectable = true then when one object in the group is selected all objects are selected.
Item Count	
Edit Entities	Add or remove entities to the group.
Apply Properties	Send the value of the Group Properties fields to the group.
Delete	Deleting the Group does not delete the entities.
Group Properties	

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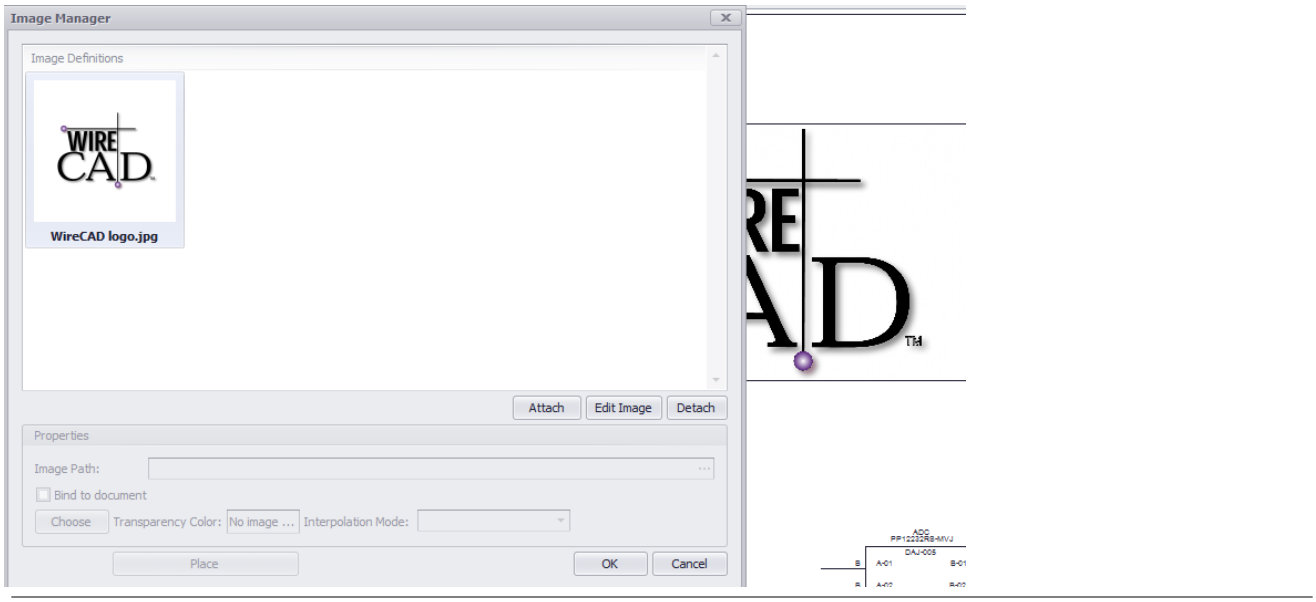
New	New from the Group Properties.

4.1.3.2.1.12 Images



Drawing > Drawing > Images

Commandline: formatimages

Explanation

New to WireCAD 8 is the ability to embed images in the drawing as well as to edit the properties of those images. The document now contains and Images collection from which images may be inherited throughout the drawing. Using the Images collection you may now either link or embed an image.

Dialog Options

Item	Description
Images Gallery	
Attach	Browse to an image file to attach to the document.
Edit Image	Display the Image Editor dialog for the selected image

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Detach	Remove the selected image if no instances exist in the drawing.
Properties	
Image Path	Path to the linked file
Bind to Document	Check this box to embed the image in the document.
Choose Transparency Color	Sets the transparency color for the selected image
Place	Place an instance of the image in the drawing space.

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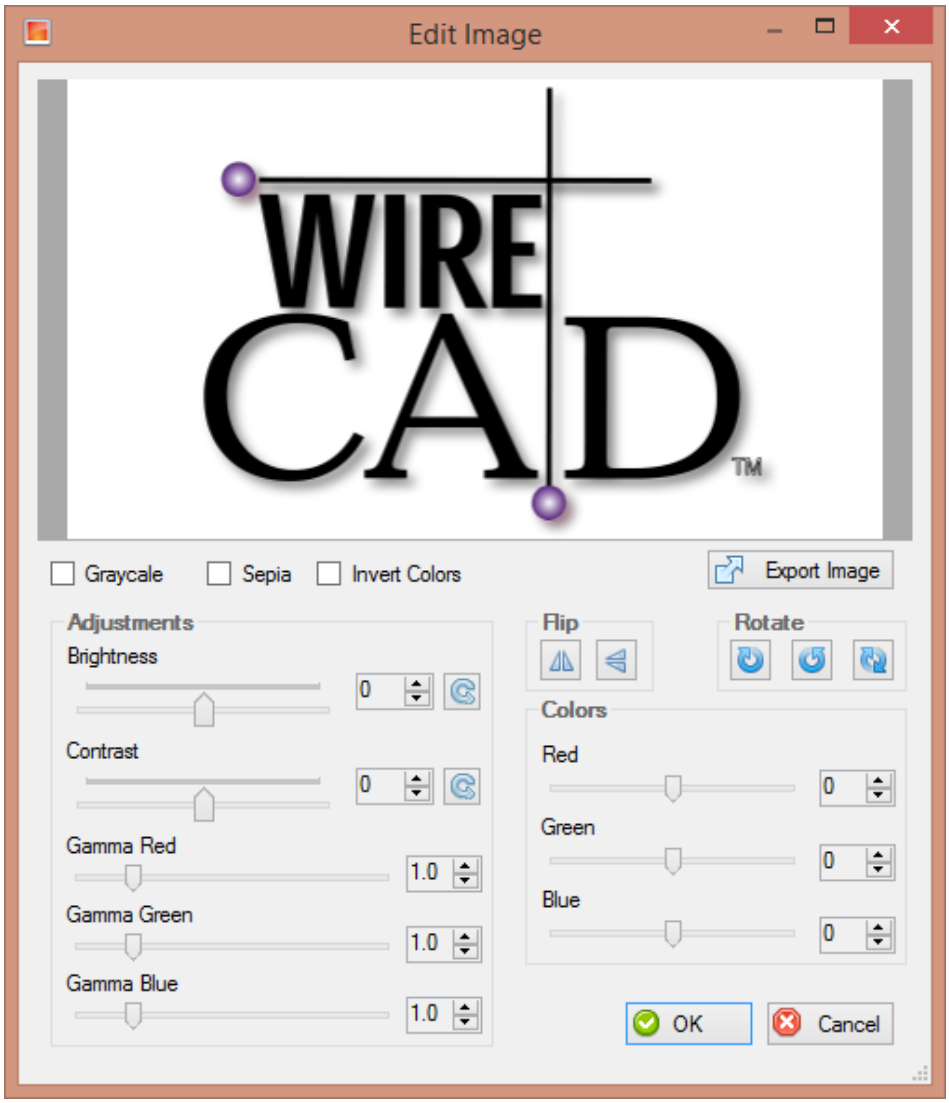
4.1.3.2.1.13 Image Editor



Double-click an Image

Commandline: none

Explanation

Image editor. You are editing the Image Definition of the document images collection not the instance.

Dialog Options

Item	Description

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Grayscale	These controls are fairly self explanatory.
Sepia	
Invert Colors	
Export	
Adjustments	
Flip	
Rotate	
Colors	
OK	
Cancel	

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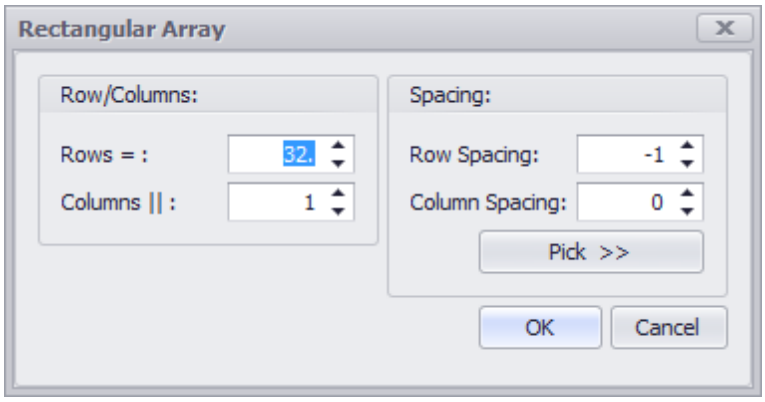
4.1.3.2.1.14 Rectangular Array



Drawing > Drawing > Rectangular Array

Commandline: ar

Explanation

Creates multiple copies of objects in a pattern.

With the rectangular array you can create an array defined by a number of rows and columns of copies of the selected object.

First you have to select the objects.Then you have to define number of rows and number of columns of the rectangle, the distance between rows and the distance between columns.

Dialog Options

Item	Description
Rows	The number of rows in the array including the source elements.
Columns	The number of columns in the array including the source elements
Row Spacing	Row spacing in DU.
Column Spacing	Column spacing in DU.
Pick >>	Pick the spacing out of the drawing.

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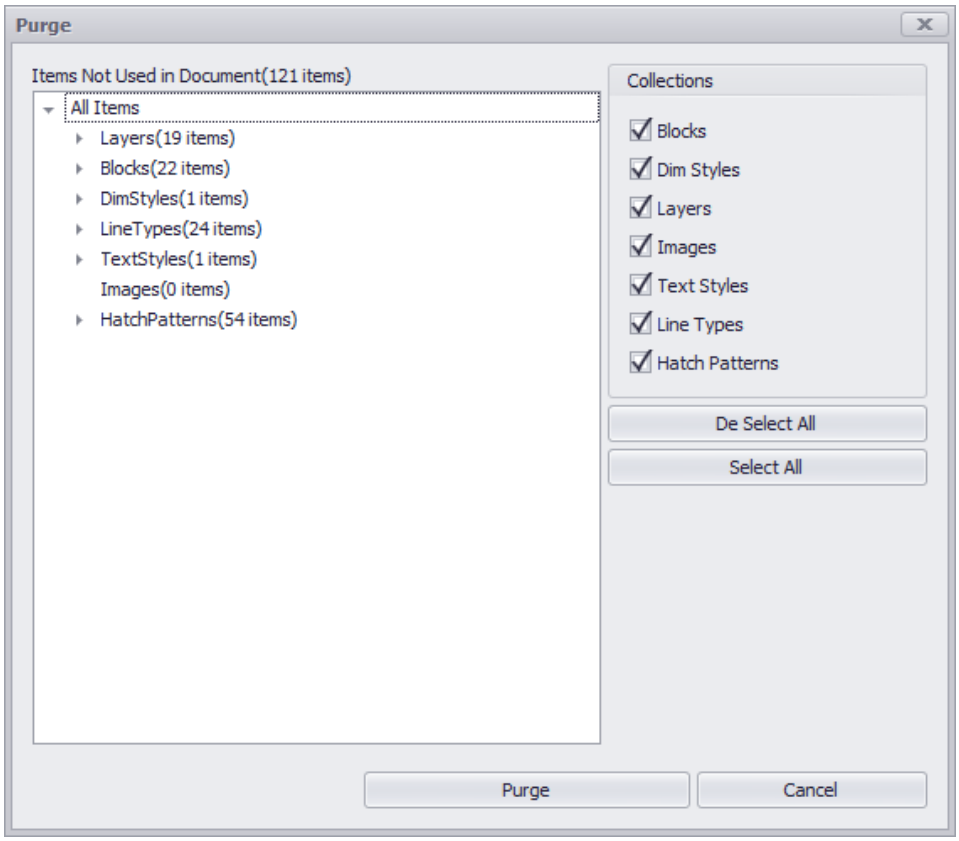
4.1.3.2.1.15 Purge



Drawing > File > Purge

Commandline: purge

Explanation

Remove unused entities from the drawing.

Dialog Options

Item	Description
Collection Tree	The document collections
Collection to Purge	The collections to purge
Purge	Do It!

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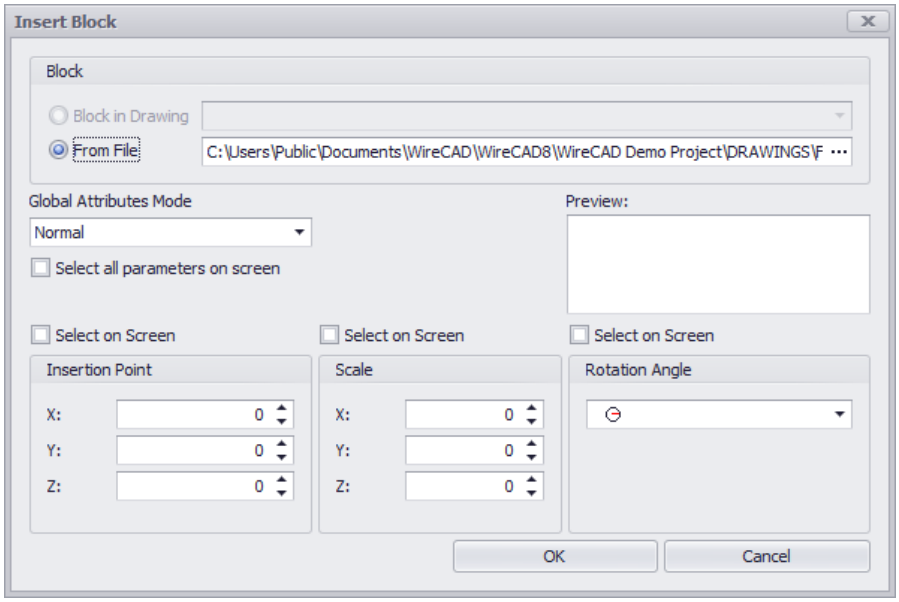
4.1.3.2.1.16 Inserts Dialog



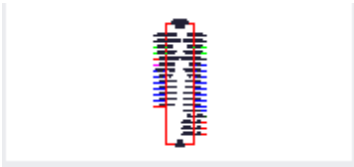
Drawing > CAD Tools > Insert Block into Drawing

Commandline: insert

Explanation

Insert blocks in to the drawing. This is the collection of Blocks in the drawing. You may also browse to any .dwg file and insert it into the file.

Dialog Options

Item	Description
Blocks	Select an existing block or browse to a dwg file and add it to the drawing.
Preview	 **the selected block**

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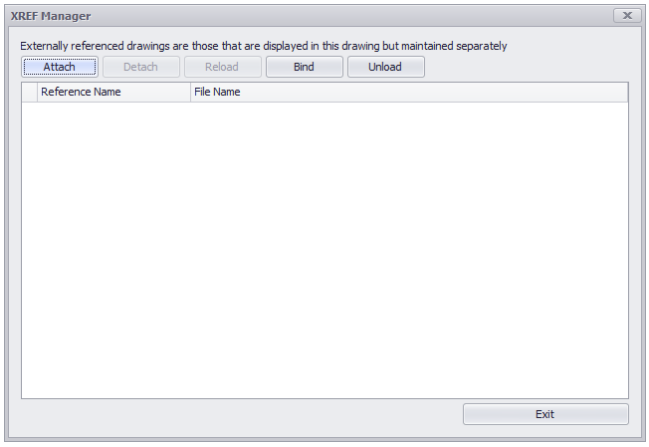
Insertion Point	Pick here or on the drawing.
Scale	
Rotation	

4.1.3.2.1.17 XREF Manager



Drawing > CAD Tools > XREF Manager

Commandline: xref

Explanation

Manage externally referenced drawings. These are drawings that are visible in the current Model space but maintained in separate files. They are linked here until action is taken to bind them to the current drawing.

Dialog Options

Item	Description

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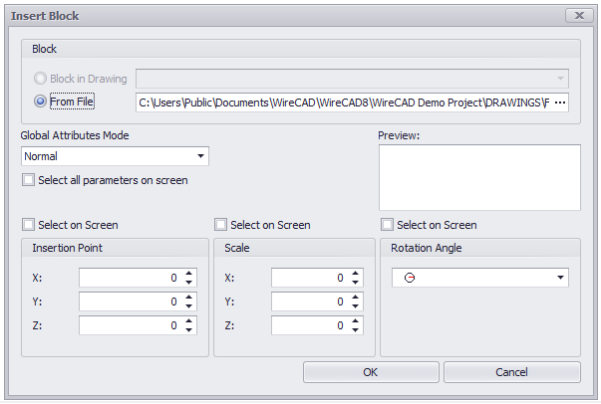
Attach	Browse to the file. After which you will be presented with the standard Insert dialog to position the incoming file on the screen. 
Detach	Remove the XREF
Reload	Get any changes to the XREF file and display them
Bind	Make it a Block in this drawing.
Unload	Get rid of it.

4.1.3.2.2 Advanced Tools Dialogs

The following is a set of dialogs that may be presented while using the advance tools in the drawing environment.

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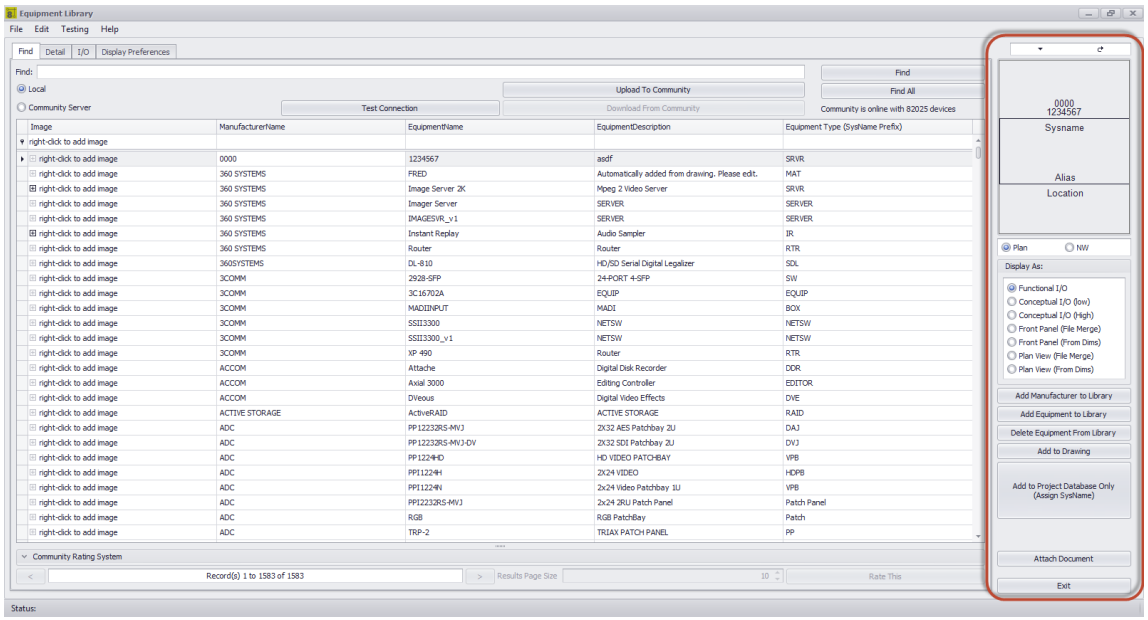
4.1.3.2.2.1 Equipment Library



Database > Equipment Library

Drawing > Advanced Tools > Equipment Library

Commandline: le

Several Others

Explanation

The WireCAD **Equipment Library** is where you will spend a fair amount of time as you define equipment that you will use in your designs. The Equipment Library is a presentation of the global Manufacturers table and its hierarchy. The Equipment Library contains no CAD blocks just equipment definitions. These equipment definitions describe a peice of equipment its make, model, and IO.

This is also where we come to create CAD blocks in our drawings. There are many settings here that let you customize appearance.

The interface is tabbed. The **[Find**] tab sets the current item. The current item will be enumerated in the **[Detail]** and **[I/O]** tabs. This topic covers the right-hand column of controls that is visible from all tabs

Dialog Options

Item	Description

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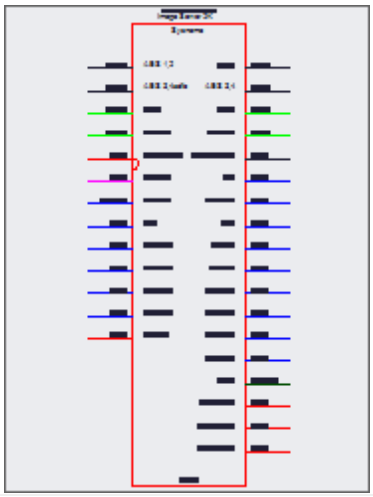
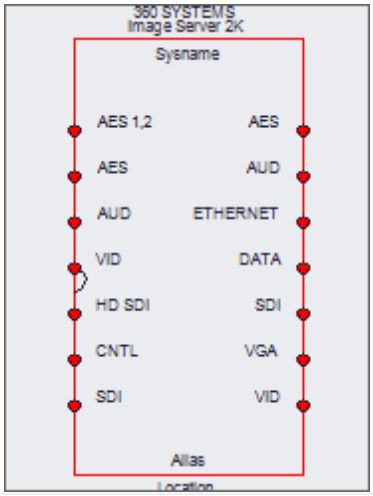
Big Preview	
Refresh Preview	
Preview	Displays the currently selected equipment definition based on the Display As: setting.
Display As:	

Setting	Preview
Functional I/O	
Conceptual I/O	

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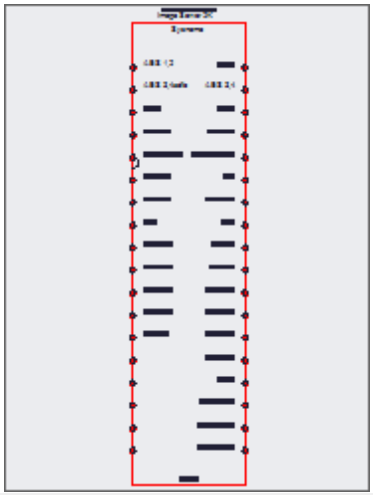
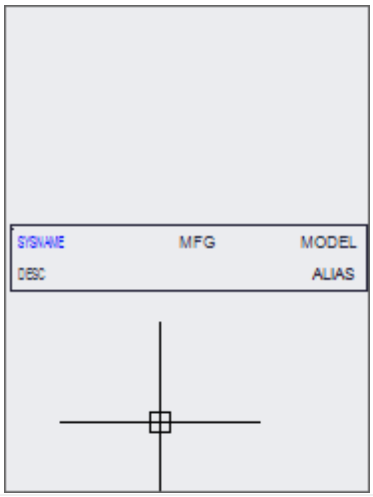
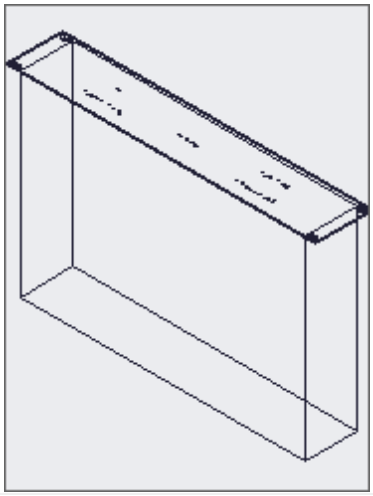
Conceptual I/O (high detail)	
Front Panel (File Merge)	
Front Panel (From Dims)	

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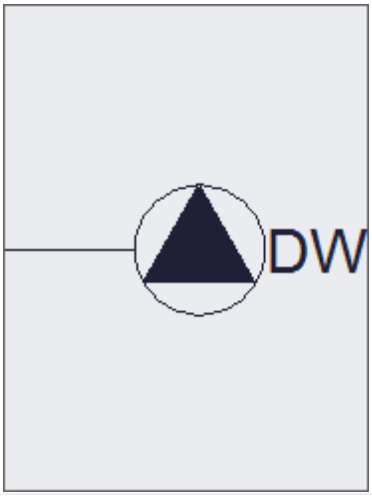
	Plan View (File Merge)	
	Plan View (From Dims)	Not yet implemented.
Add Manufacturer	Shows the Add Manufacturer dialog.	
Add Equipment	Shows the Add Equipment Wizard.	
Delete Equipment	Deletes the selected record.	
Add to Drawing	Add the selected item to the drawing based on the current preview.	
Add to Project Database Only (Assign SysName)	Shows the SysName Assignment dialog.	
Attach Document	Attach any document to the current record. This is useful for storing cut sheet or specification documents with the equipment definition.	
Exit		

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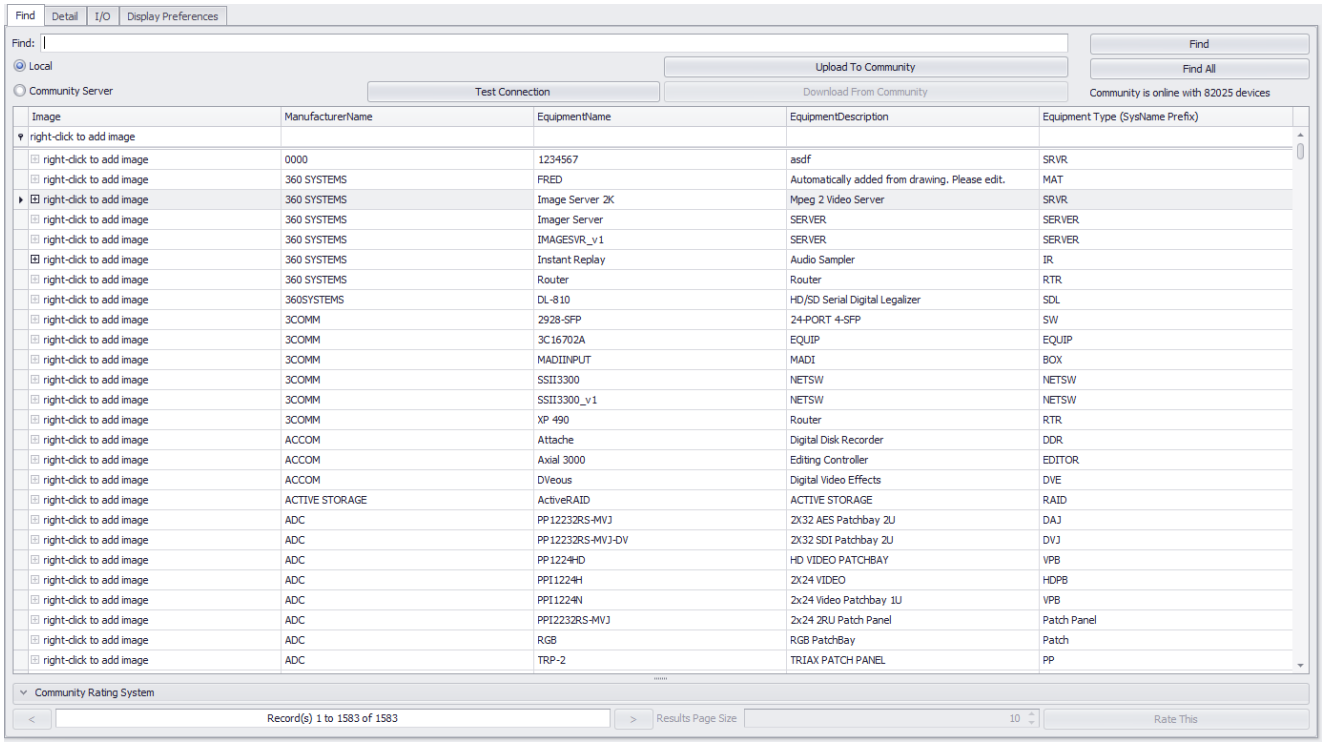

Database > Equipment Library

Drawing > Advanced Tools > Equipment Library [Find]

Commandline: le

Several Others

Explanation

The **[Find]** tab allows you to search the local global database as well as the **Community Server**. When searching locally all records are returned by default. When searching the **Community Server** you will need to enter a search term. The results will be returned in pages based on your **Results Page Size** value.

Search Term Hints

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When searching the databases for items less is more. You want to enter a value than can be found in a single field. For example: say we are looking for a Sony DVW A-500. The following is a list of terms and their results:
Search: `Sony` - Result: All Sony products and any products from other manufacturers that have Sony in their description fields.
Search: `DVW` - Result: All products with DVW somewhere in the name or description.
Search: `SONY DVW` - Result: None. There are no products with the manufacturer name and the product name in a single field.

Find Tab Options

Item	Description
Find	Enter the search term here.
Find button	Do the search
Find All button	Clear and find all records. (Local only)
Local / Community Server	Switch between your local database and the Community
Test Connection button	Test your connection to the Community. If this fails you may need to open your firewall to community.wirecad.com port: 1433
Download From Community	Before any edits can be made to the device you will need to download it to your local database.
Upload to Community	You can upload manually by clicking this button
Image	Database fields associated with the current recordset
Manufacturer Name	
Equipment Name	

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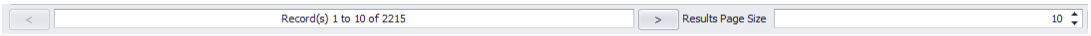
Equipment Description	
Equipment Type	
Community Rating System	The Community Server is completely open. All device definitions have been created by your peers. If something is wildly inaccurate then post your opinion. Conversely if something is wildly brilliant then do the same.
Results Paging	You can navigate the page results with these controls. 

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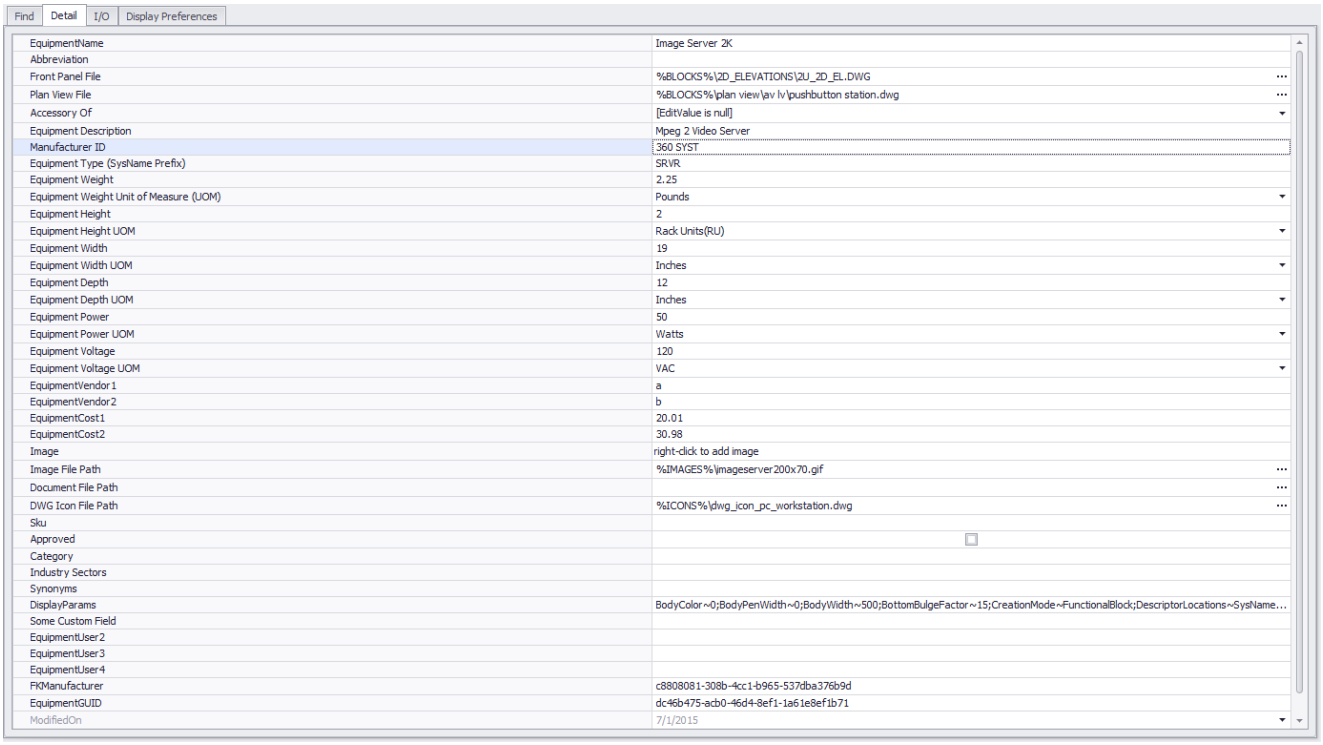

Database > Equipment Library

Drawing > Advanced Tools > Equipment Library [Detail]

Commandline: le

Several Others

Explanation

This is the detail page for the currently selection record. The fields are self explanatory.

NOTE: Be sure to save your changes if you edit this grid manually by clicking File>Save.

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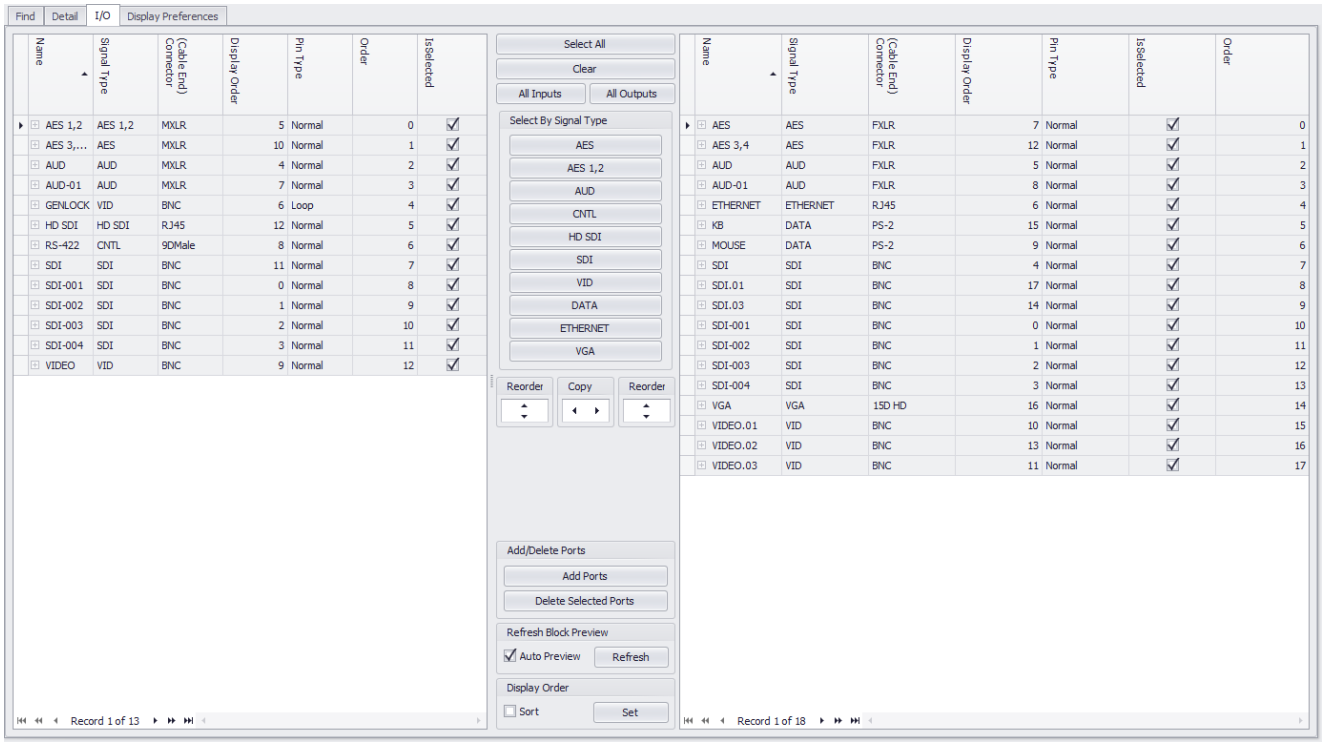

Database > Equipment Library [I/O]

Drawing > Advanced Tools > Equipment Library [I/O]

Commandline: Ie

Several Others

Explanation

This is the Inputs and Outputs page. It represents the I/O of the currently selected device. Inputs are displayed in the left-hand grid and outputs are displayed in the right-hand grid. This is by convention only. You are free to place inputs on the right-hand side and vice versa. Each port record consists of a Name, Type, Connector and a Pin Type. Selected records will be included in the preview of any Function I/O and Concept blocks that you create.

I/O Tab Options

Item	Description
Inputs Grid	The I/O grids.
Outputs Grid	NOTE: Be sure to save your changes if you edit these grids manually by clicking **File>Save**.

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Select All	Manipulate the selection.
Clear Selection	
All Inputs	
All Outputs	
Select by Signal Type	Ten buttons in this frame will populate with the first ten signal types from the I/O records. Clicking the button will select all records in both grids of that signal type
Reorder	Move selection up/down.
Copy	Copy side-to-side.
Add Ports	Show the Add Ports dialog 341.
Delete Ports	Delete the selected ports. You will be prompted for each grid. No save is necessary
Refresh	Refresh the preview.
Display Order	Set and sort by the Display Order column. This allows you to rearrange the lists and be able to return later to your work.

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Database > Equipment Library

Drawing > Advanced Tools > Equipment Library

Commandline: le

Several Others

Explanation

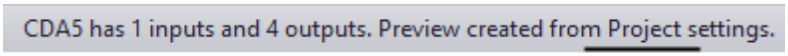
This is where we determine the look of the block we are about to add to the drawing.

There are four tabs in this view that allow you to customize the appearance of the block you are about to create.

1. Stock Shapes 339
2. Mappable Terminals 339
3. User Defined Shapes 339
4. Mechanical Forms 340

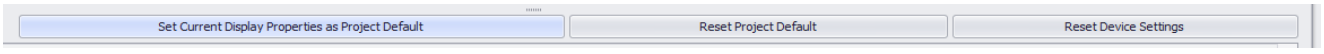
Understanding the Settings Mechanism

Settings store the appearance and display mode of the Equipment Library. These settings determine the look of the created block. You can tell which settings were used to create the block by looking at the Equipoment Library status bar:



WireCAD stores the settings used to create blocks in three different locations:

1. **Device** settings. If you create a block in a drawing we store the settings used to make the block with the device definition in the **Equpment Library**. These settings have priority.
2. **Project** settings. If you like the display of a block you can click the:



Doing so will set the current display settings as the **Project** default. All devices that do not currently have stored settings will then use the **Project** defaults.

3. **Default** settings. When no other settings are found we use the defaults.

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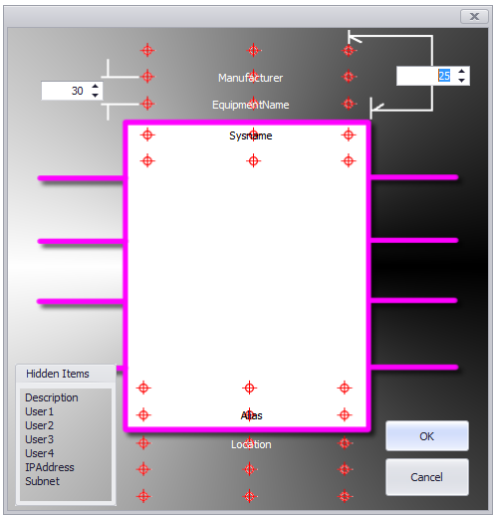
Several controls are common to all tabs. We will go into those first.

Common Controls Options

Item	Description
Body Color	Sets the color of Functional I/O and Concept block bodies.
Creation Mode	Set by the UI.
Descriptor Locations	Shows the Descriptor Locations Map  **Here you can reposition the various block descriptors.**
Image Display Mode	• None - no image or cad block is inserted in the created block. • Image - insert the image that is pointed to in the Image File Path of the Details tab for this device. • DWGIcone - insert the DWG Icon in the DWG Icon File Path of the Details tab for this device.
Image Position	
Image Scale Factor	

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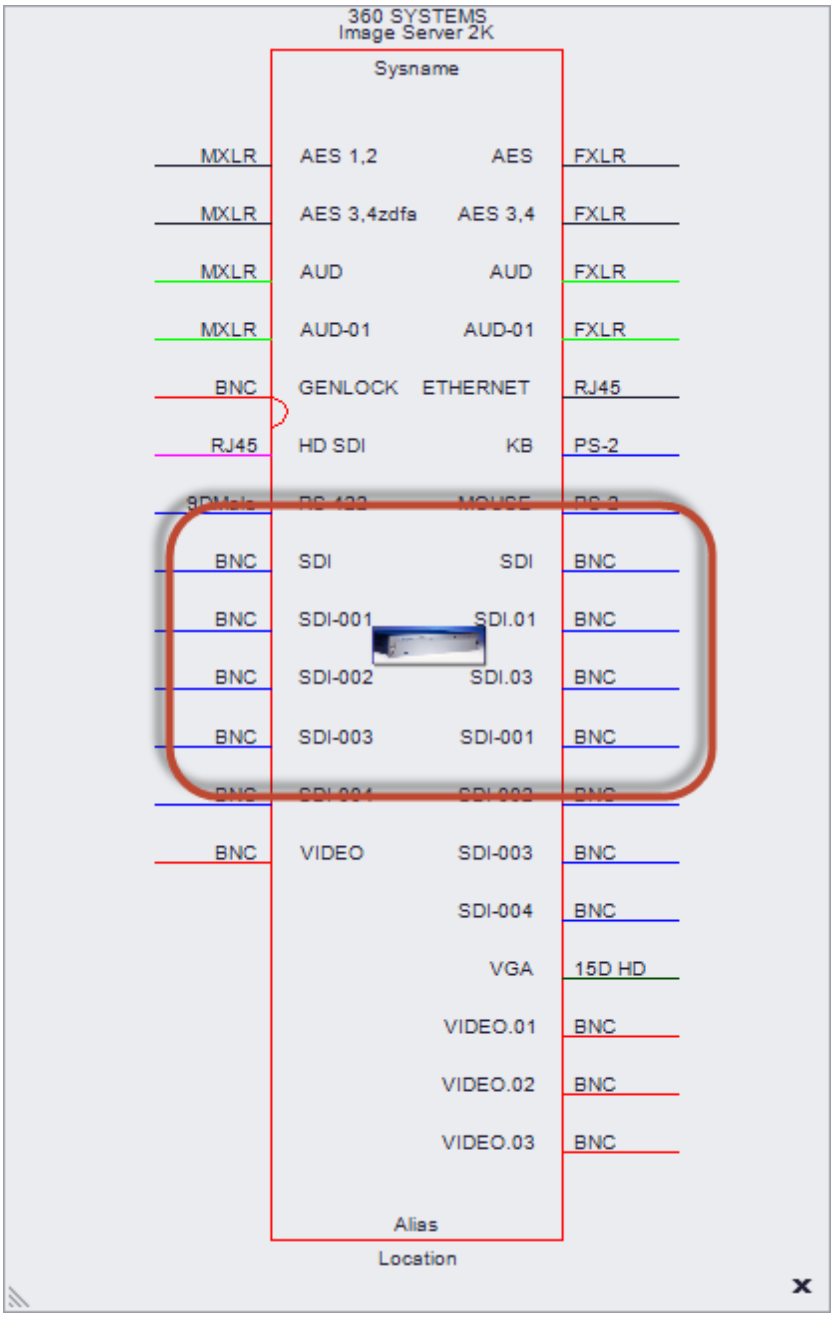

Image inserted and scaled at MiddleCenter

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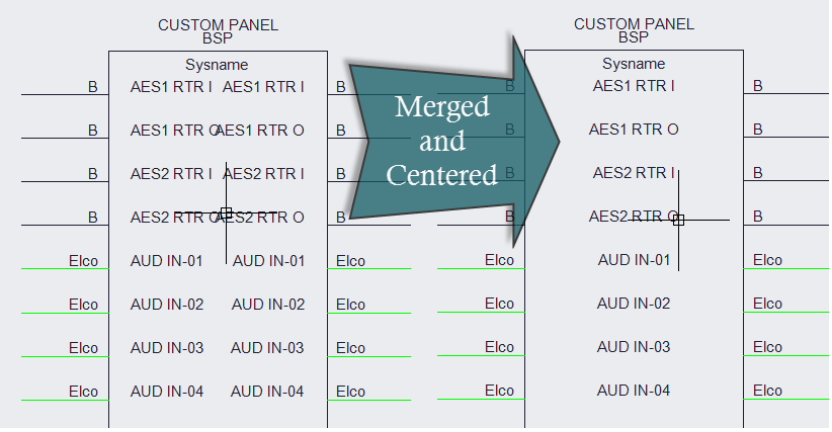
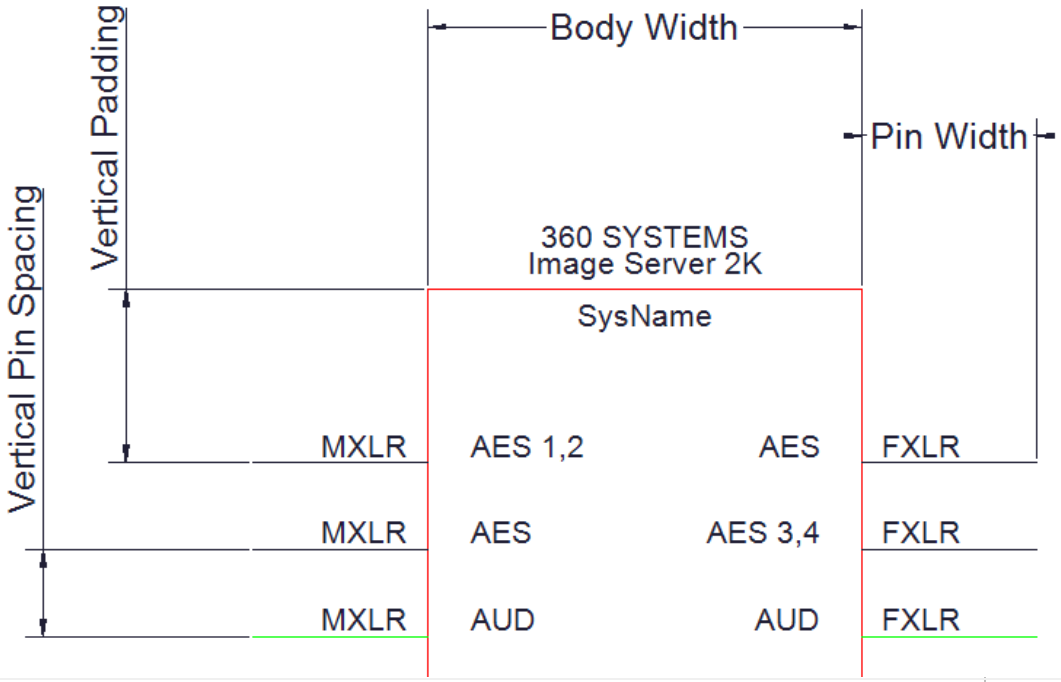
Merge and Center	 **This function will only merge identical port names**
Shape Mode	Read Only
Shape Path	
Stock Shape Number	Set by the Stock Shapes tab selection
Text Height	The height of all generated text.
Vertical Padding	
Vertical Pin Spacing	
Pin Width	
Body Width	
Body Pen Width	The thickness of the line that represents the block body.

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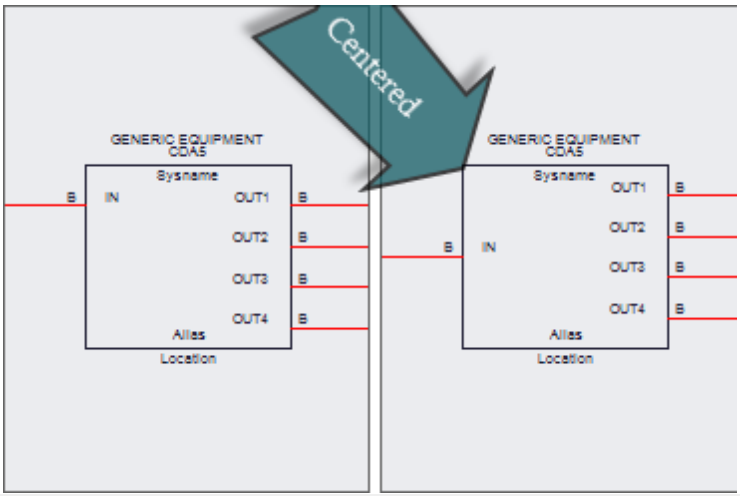
Vertically Center Pins		
Nudge Positions	Use to nudge the various text around.	

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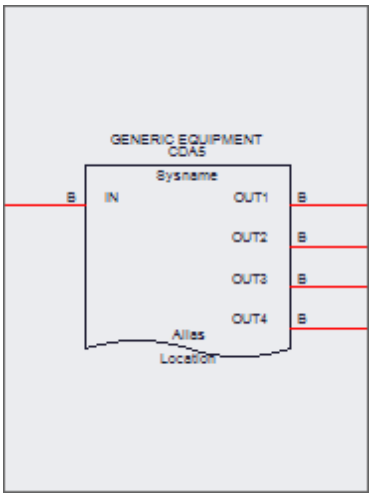
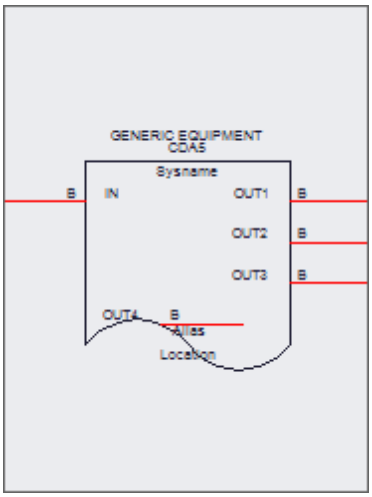
Tears and Bulge Factors	Tears are visual elements that represent to the reader of the document that the device does not display all of its available I/O. Tears use bulges. The greater the bulge factor the more dramatic the tear.  **Bottom edge torn bulge factor .15 or 15/100**  **Bottom edge torn bulge factor .5 or 50/100**
Set Current Display Properties as Project Default	
Reset Project Default	Clears any settings
Reset Device Settings	

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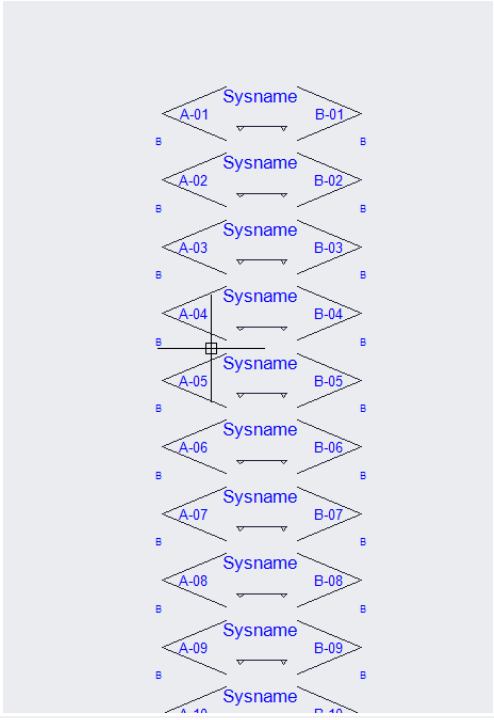
Stock Shapes Options

Here you choose from 18 stock shapes. We will not enumerate them here. Try clicking on them to see what they do.

Mappable Terminals Options

Here you can map the selected I/O on to terminals. Terminals are one or two port inline devices. If you select more that one record in the I/O tables we will continue to add terminals to accomodate the selection. If you select a terminal that has only an input port then any selected output records will be ignored.

Item	Description
Example showing multiple I/O selected and mapped on to a terminal that represents a full normal jack	

User Defined Shapes Options

Any CAD file can be used as a **User Defined Shape**. It jsut needs to be placed in the **Shape Files** folder:

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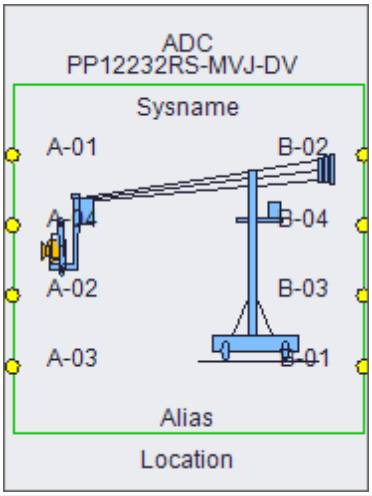
%BLOCKS%\Shapes Files

The **Display Properties** with then scale and stretch the object while applying port data.

Item	Description
User Defined Shape with four ports applied.	

Mechanical Forms Options

Mechinal Forms are hardcoded objects that get their dimensional data from the device definition and use it to render objects

Item	Description
Rack Enclosure	Select a form. Only available when Front Panel (from Dims) is selected.
Rack Tray	
Cube	
Half Rack Left	
Half Rack Right	

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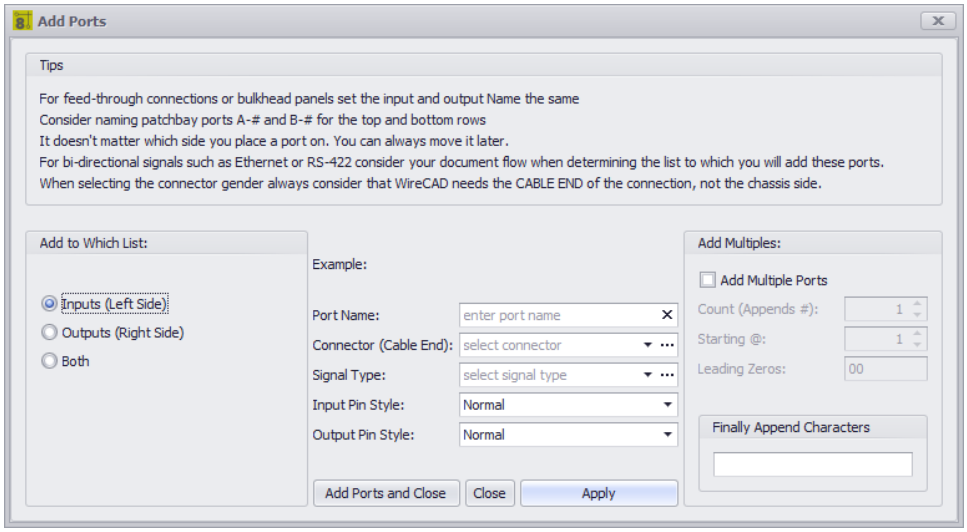

Database > Equipment Library [I/O] [Add Ports]

Drawing > Advanced Tools > Equipment Library [I/O] [Add Ports]

Commandline: Ie

Several Others

Explanation

This is the Port Adder dialog. With it you add a single record, two records, or multiple records to the I/O grids.

Here are some things to consider when naming your ports:

1. For feed-through connections or bulkhead panels set the input and output Name the same.
2. Consider naming patchbay ports A-# and B-# for the top and bottom rows.
3. It doesn't matter which side you place a port on. You can always move it later.
4. For bi-directional signals such as Ethernet or RS-422 consider your document flow when determining the list to which you will add these ports.
5. When selecting the connector gender always consider that WireCAD needs the CABLE END of the connection, not the chassis side.

Dialog Options

Item	Description
Add to Which List	
Port Name	Enter the port name here.

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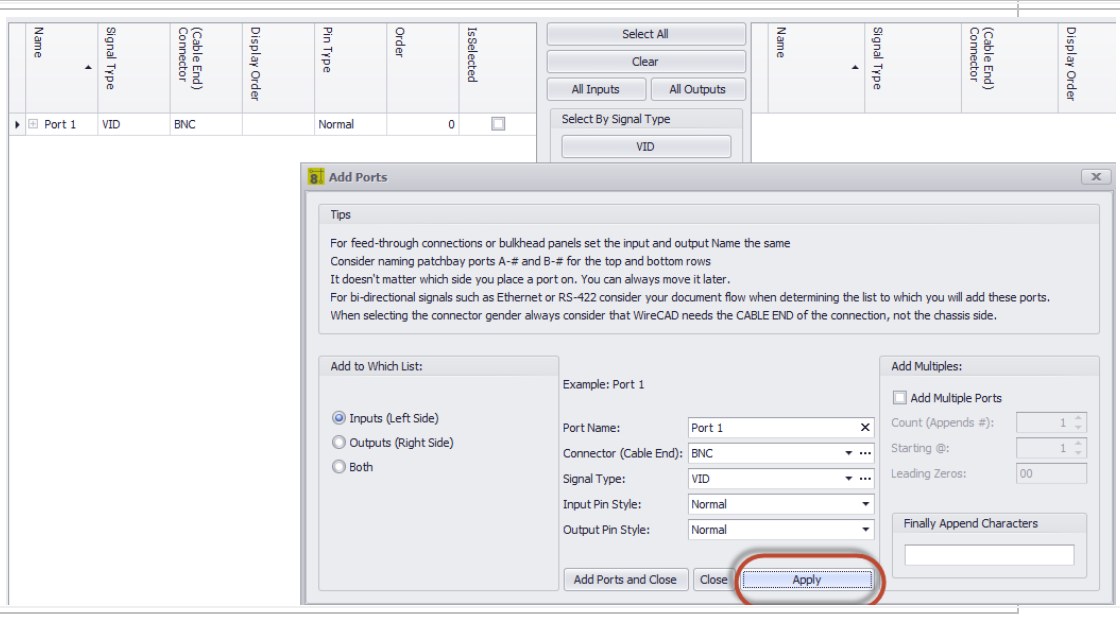
Connector (Cable End)	From the global Connectors table.
Signal Type	From the global Signal Types table.
Input Pin Style	Straight pin (Normal) or looped (two connection points).
Output Pin Style	Straight pin (Normal) or bridged (two connection points).
Add Multiples	If checked a record will be created for each **Count**. The number will be appended to the **Port Name** info and formatted based on the **Leading Zeros** format.
Finally Append Characters	Useful if you want to add characters after the multiple count number has been appended. See the example below for more info.

Examples

Example	Result
Add a single port to the Inputs table.	

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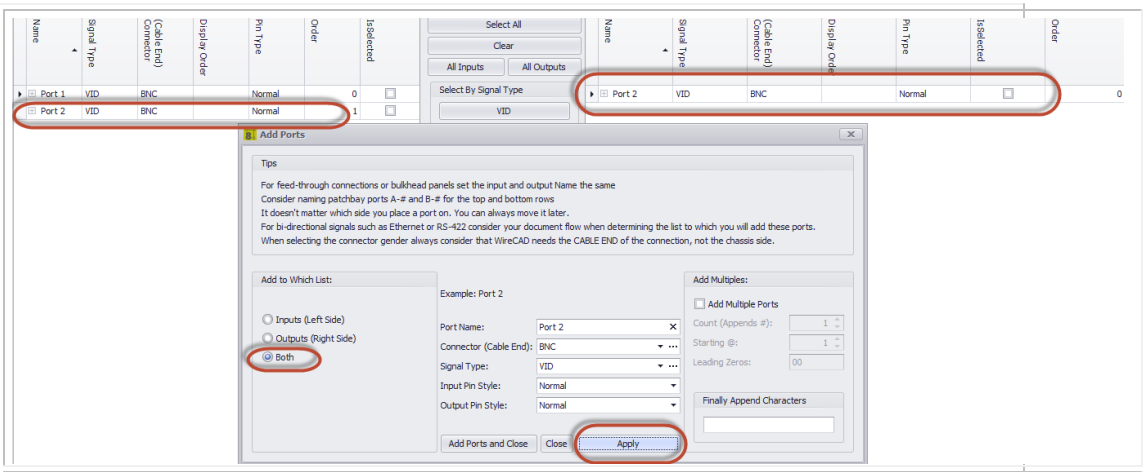
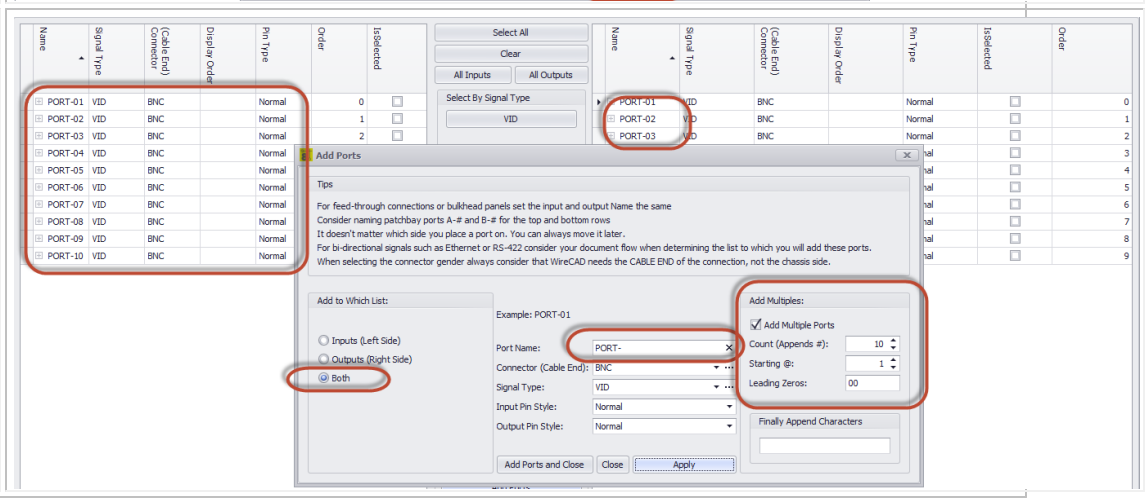
Add a single port to the Inputs and Outputs list at the same time.



Add 10 ports to each grid appending a port number to each record.



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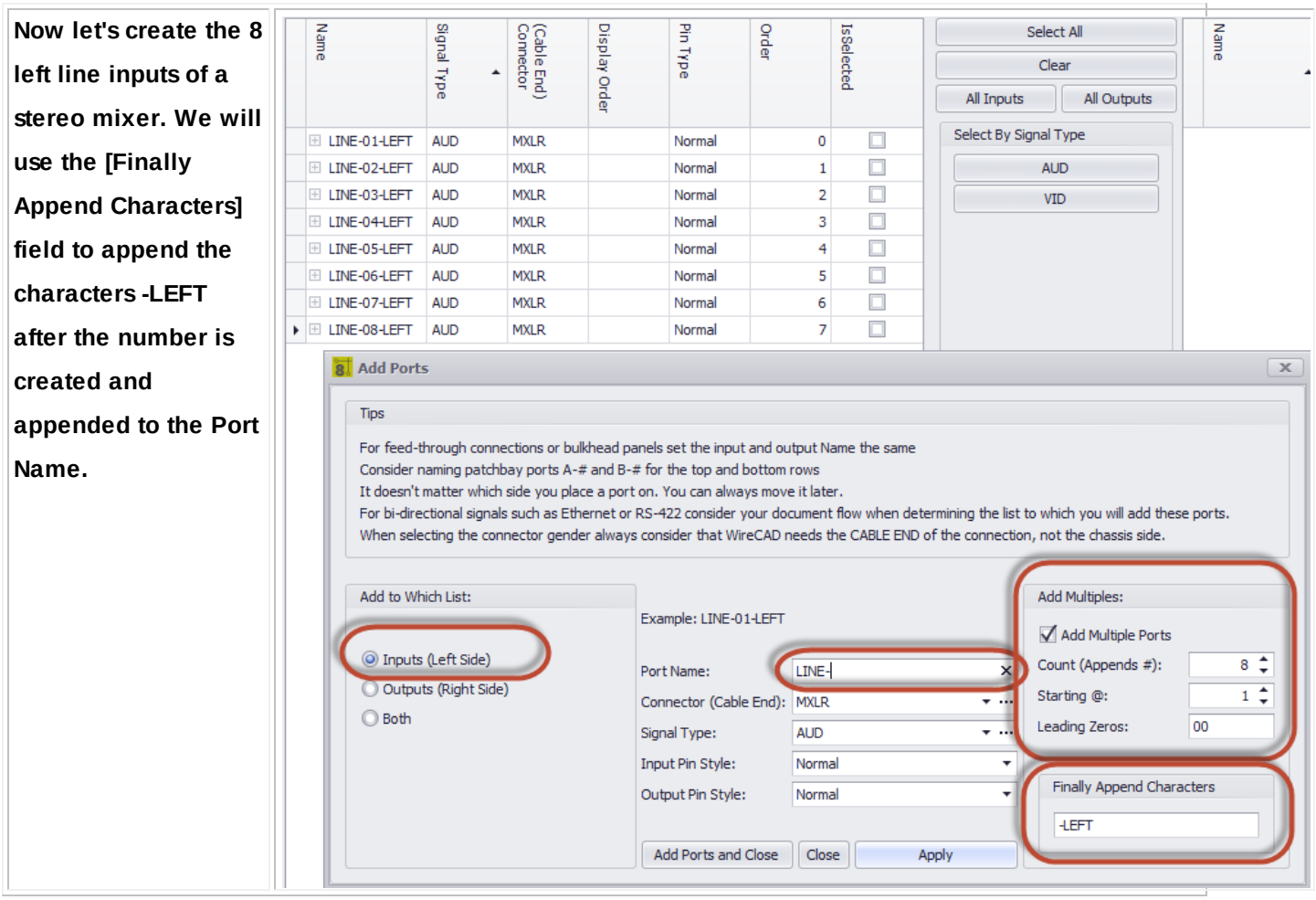
Now let's create the 8 left line inputs of a stereo mixer. We will use the [Finally Append Characters] field to append the characters -LEFT after the number is created and appended to the Port Name.



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4.1.3.2.2.2 Rack Builder Tool

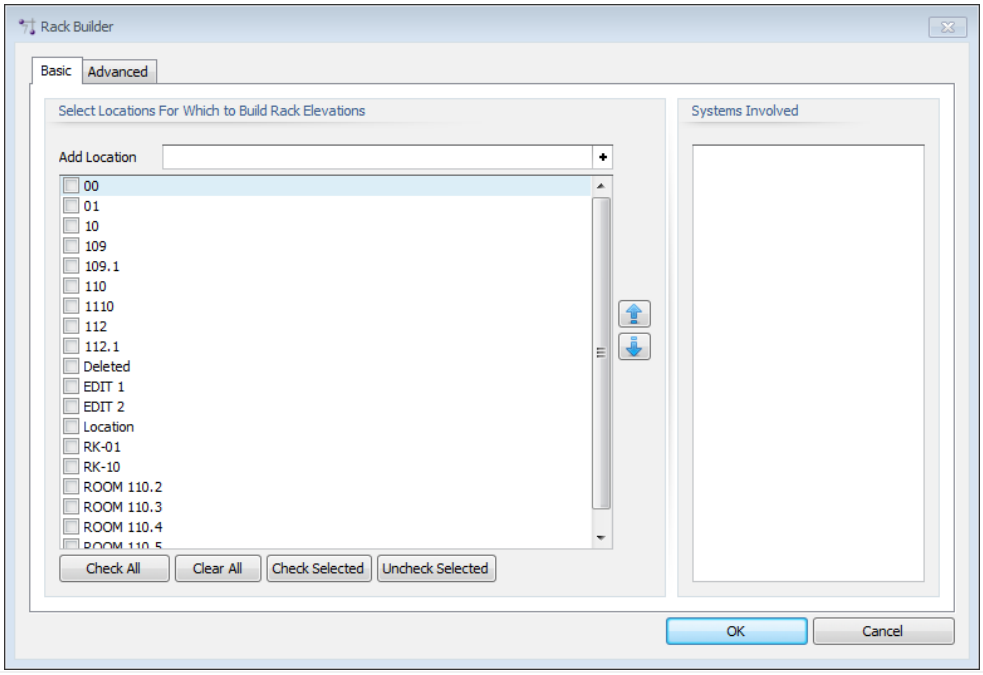
Drawing > Advanced Tools > Rack Builder

Commandline: rb

Explanation

Automatically generate rack layout. Technically speaking we are populating rack locator grids. They may or may not display an actual rack depending on whether you have assigned a SysName to a rack.

Dialog Options

Item	Description
The **[Basic]** tab allows you to select the locations to include in the Rack Building function. As you select each location, the Systems Involved list will populate.	
Systems Involved list	Displays a list of all the systems that will be placed in the created drawing.

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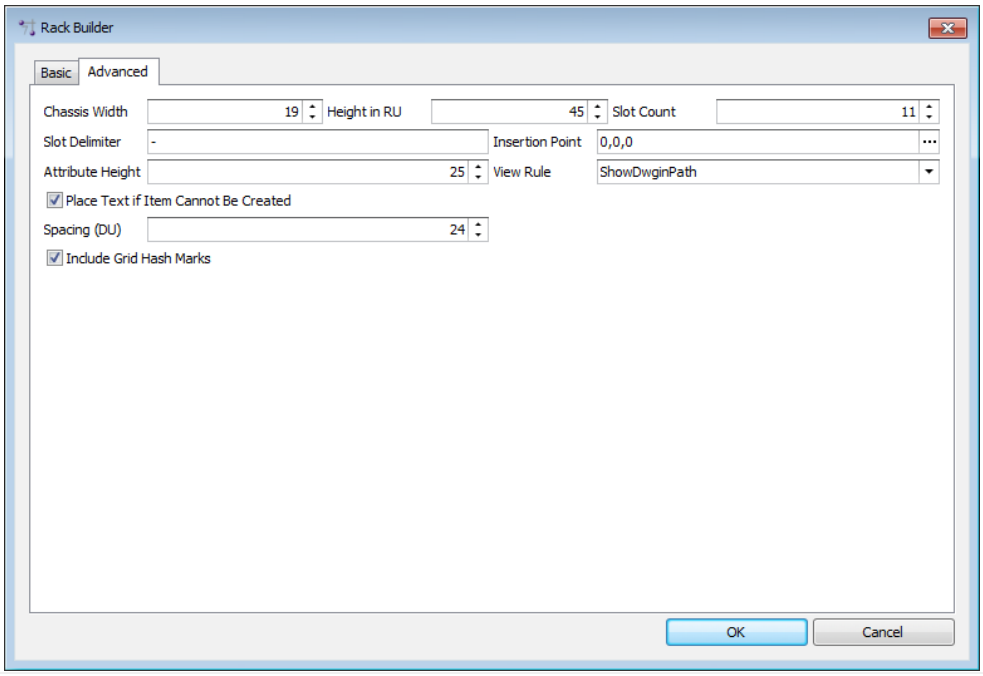
Item	Description
The **[Advanced]** tab exposes properties that control the behavior of the utility.	
Chassis Width	Sets the width of the chassis in DU
Height in RU	Sets the height of the locator grid in Rack Units (RU = 1.75 inches or 4.445cm)
Slot Count	Sets the number of slots per locator grid. This is used to position items that may not be located at the insertion point of the rack unit.
Slot Delimiter	WireCAD searches the Elevation field for numeric values first then for the slot delimiter if found it parses the the data into two values the elevation and the slot, or in other words how far up in the rack and how far over.
Insertion Point	Where to start the whole process
Attribute Height	If view rule is not ShowDWGInPath, sets the attribute height of the displayed text.
View Rule	**ShowDWGInPath** = use the dwg file found in the equipment definition **BlockRef (Front Panel File)**. **CreateFromDimensions** = use the dimension data from the equipment definition to create a 3D rack block. **CreateFromDimensionsIfNotFound** = Use dimension data if the **BlockRef** is not found.
Place Text If Item Cannot Be Created	If the item cannot be created due to lacking data, place a text marker in the drawing at the location.
Include hashes	This will normally be checked unless you are rebuilding a drawing that already has the locator grids.

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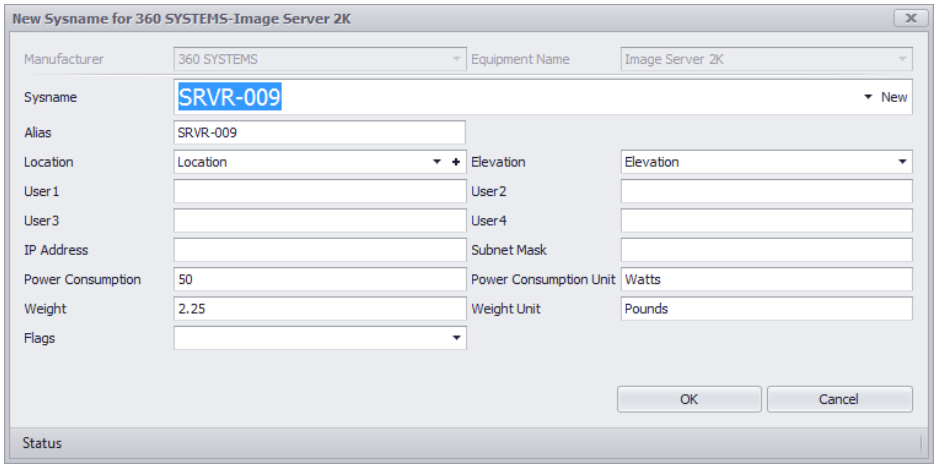
Item	Description
Spacing DU	Sets the location grid spacing in Drawing Units

4.1.3.2.2.3 Assign Sysname



Drawing > Advanced Tools > Equipment Library [Add to Project Database Only (Assign SysName)]

Double-click WireCAD Block

Commandline: le

Explanation

This dialog is presented when assigning a SysName. The SysName field is automatically generated based on the project SysName Format and the Next Numbers table.

Dialog Options

Item	Description
Manufacturer and Model	Filled automatically in most cases.

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SysName	This number is automatically generated based on the project **SysName Format** and the **Next Numbers** table. **WireCAD** will always present the next number though you do not have to use it. In fact, there are times when you should select the exisitng **SysName** from the dropdown list. For example say you have shown the video ports of VTR-01 in one drawing and the audio ports of VTR-01 in another drawing. When you assign the first instance you will get VTR-01 as the suggested SysName. The second instance will suggest VTR-02. You will then click the dropdown and select VTR-01 thus ensuring that the two representations of the same device have the same name.
Alias	Friendly, functional, or descriptive name for the device.
Location	**Location** of the device. For more information see the **Locations Grid** 453. Clicking the **[+]** button shows the **New Locations** 295 dialog.
Elevation	If numeric then WireCAD assumes RU. If not numeric it does not matter. There is one special circumstance where the data will be non-numeric but WireCAD will understand how to parse it. That is the situation when we want to locate something in a slot in a frame in a rack. We will need to use the form [elevation][slot delimiter][slot]. For example let's say that I have a DA that needs to go in slot 5 of a frame located at elevation 20 and my project slot delimiter is a dash [-]. I would type into the Elevation field 20-5
User Fields	50 characters max. You can define these captions in the **Translation Manager** - **Plugins > Translation Manager**. Search for SysNameUser in the key field.
IP Address Subnet Mask	Masked to either IPv4 or IPv6 based on the **Project Settings** dialog.
Power Consumption	Pulled from the global Equipment definition or typed manually here.
Weight	Pulled from the global Equipment definition or typed manually here.
Flags	Sort, query, filter flags. You can define these flags in the **Translation Manager - Plugins > Translation Manager**. Search for SysNameFlagItem in the key field.

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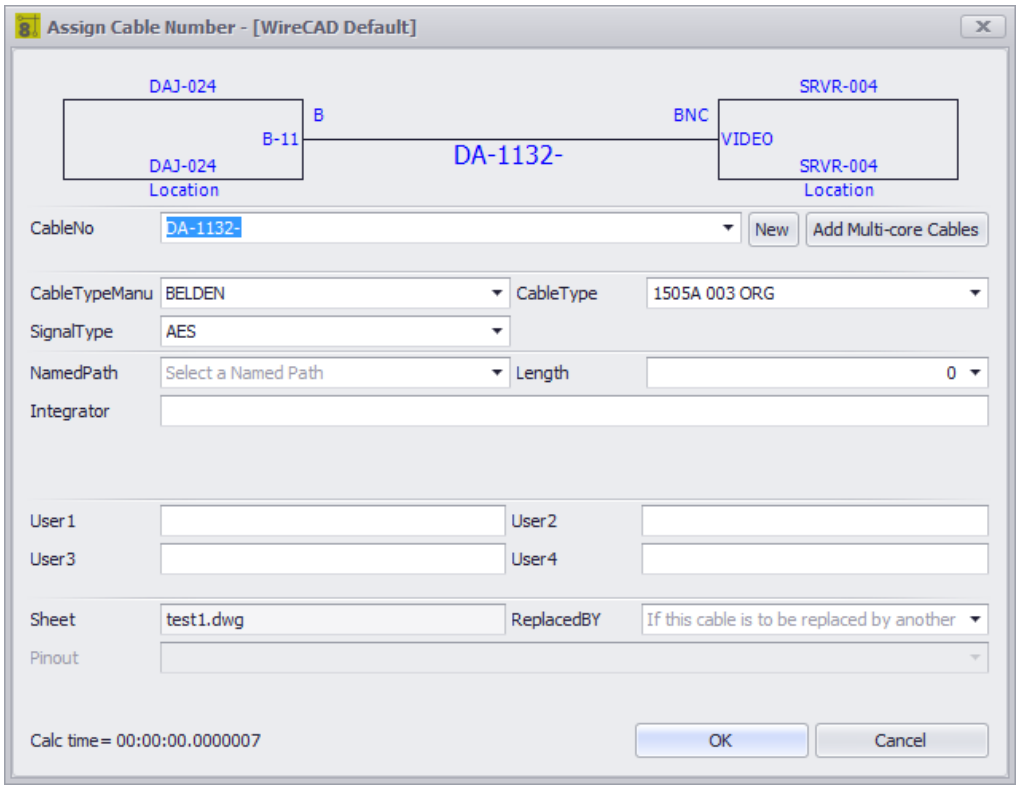
4.1.3.2.2.4 Assign Cable Number



Double-click WireCAD Cable

Commandline: ac

Explanation

This dialog is presented when assigning a Cable number. The **Cable Number** field is automatically generated based on the project **Cable Number Format** and the **Next Numbers** table.

This dialog is show only when the **Verbose Cable Assignment** option is checked on the Advanced Tools ribbon tab.

Dialog Options

Item	Description

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CableNo	This number is automatically generated based on the project **Cable Number Format** and the **Next Numbers** table. **WireCAD** will always present the next number though you do not have to use it.
Cable Type Manu	Cable Type Manufacturer.
Cable Type*	Cable Type.
Signal Type*	Signal Type.
Named Path	List of Named Paths 455. See the documentation on the **Named Paths** table. Selecting a **Named Path** will cause the **Length** field to change.
Length	Manually enter the cable length or select a Named Path.
Integrator	Who is responsible for the installation of this cable.
User Fields	You can define these captions in the **Translation Manager** - **Plugins > Translation Manager**. Search for CableUser in the key field.
Sheet	Automatically filled with the current drawing name.
Replaced By	A housekeeping field that you may choose to use.
Pinout	If the Enable Pinouts setting is checked then select the Pinout to apply to this cable.

* changes to these fields may cause the number to recalculate.

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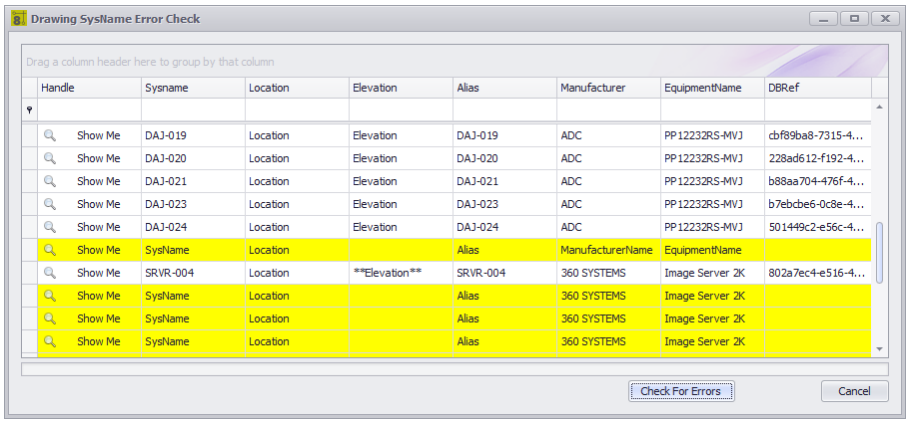
4.1.3.2.2.5 SysName Error Check



Drawing > Advanced Tools > Drawing SysName Error Check

Commandline: drawingsysnameerrorcheck

Explanation

Check the drawing against the database. Checks the following:

- Retrieves all equipment from the drawing.
- Checks the drawing SysName against the database.
- If matched the record is shown normally. If orphaned or not assigned the background color will be changed.

Dialog Options

Item	Description
Show Me	Zooms to the selected entity
Check for Errors	Scans then fills the grid.

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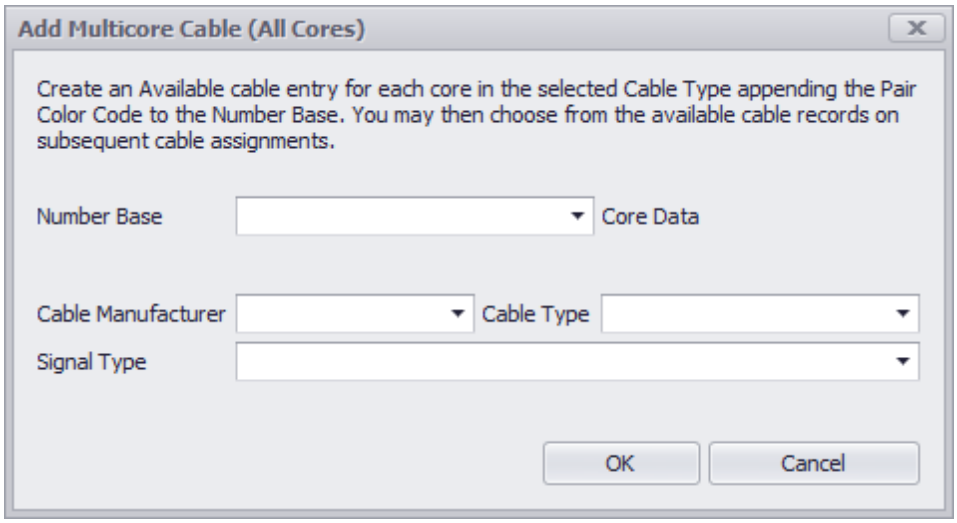
4.1.3.2.2.6 Add Multi-core Cable



Drawing > Advanced Tools > Add Multi-core Cable

Commandline: mc

Several Others

Explanation

Often times we install bundled cables - cables with multiple cores. The outside jacket gets a number and each inner core an extension identifier like: A-1001-RED. Where A-1001 is the number that goes on the outer jacket and A-1001-RED goes on the RED core. Use the Add Multi-core Cable tool to create a record in the database for each core in the Cable Type. The CableNo field will have the full number and the CableNoPrefix field will have the number base. All cores will be marked Available for use. You can then assign one or all or any of them during the normal Cable Number Assignment process. You must have Verbose Cable Assignment checked in order to assign cores in a multi-core cable. Otherwise you will get the next number default.

Dialog Options

Item	Description
Number Base	This is the part that goes into the Cable No Prefix field
Cable Type	Only Cable Types that are flagged as Multi-core will show here.
Signal Type	

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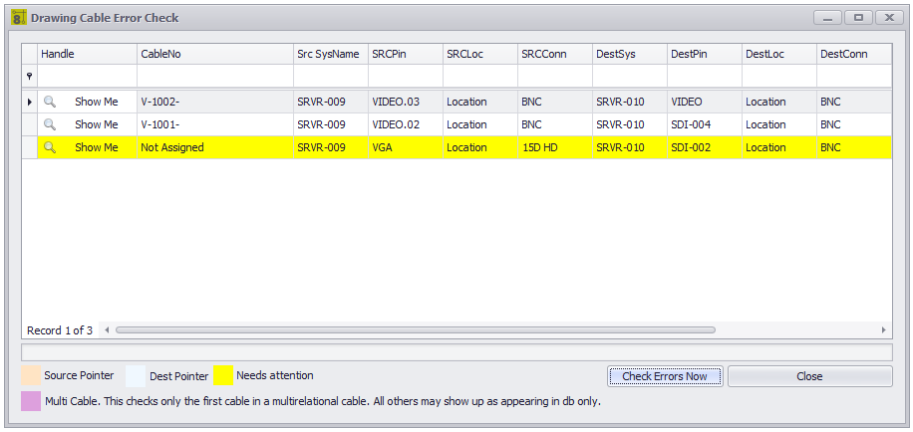
4.1.3.2.2.7 Cable Error Check



Drawing > Advanced Tools > Drawing Error Check

Commandline: dec

Explanation

Check the drawing against the database. Checks the following:

- Retrieves all cables from the drawing.
- Checks the drawing Cable against the database.
- If matched the record is shown normally. If orphaned or not assigned the background color will be changed.

Dialog Options

Item	Description
Show Me	Zooms to the selected entity
Check for Errors	Scans then fills the grid.

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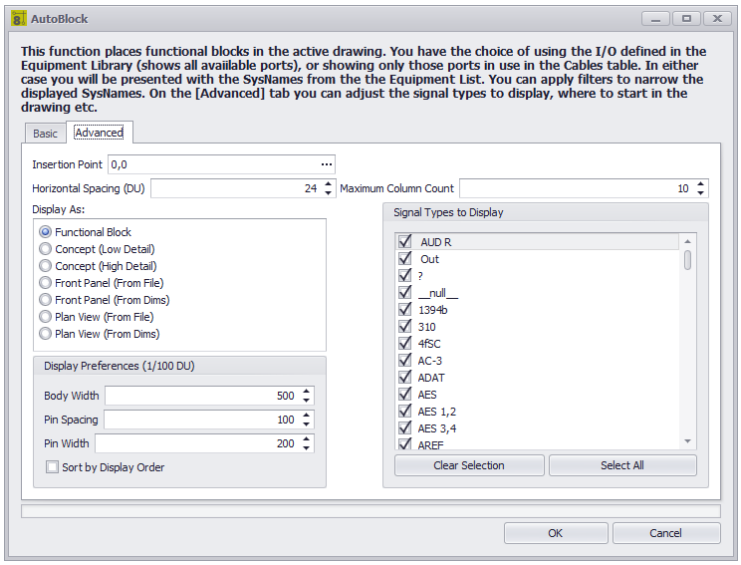
4.1.3.2.2.8 Auto Block



Drawing > Advanced Tools > Auto Block

Commandline: ab

Explanation

The Auto Block tool automatically places functional blocks in the drawing. This tool requires that the Project Systems table be populated.

Possible Uses

- Add functional blocks after creating SysNames from Rack Builder drawings.
- Create overall systems views.
- Create drawings from imported data.

Fore more information view this topic on the Auto Block tool.

Dialog Options

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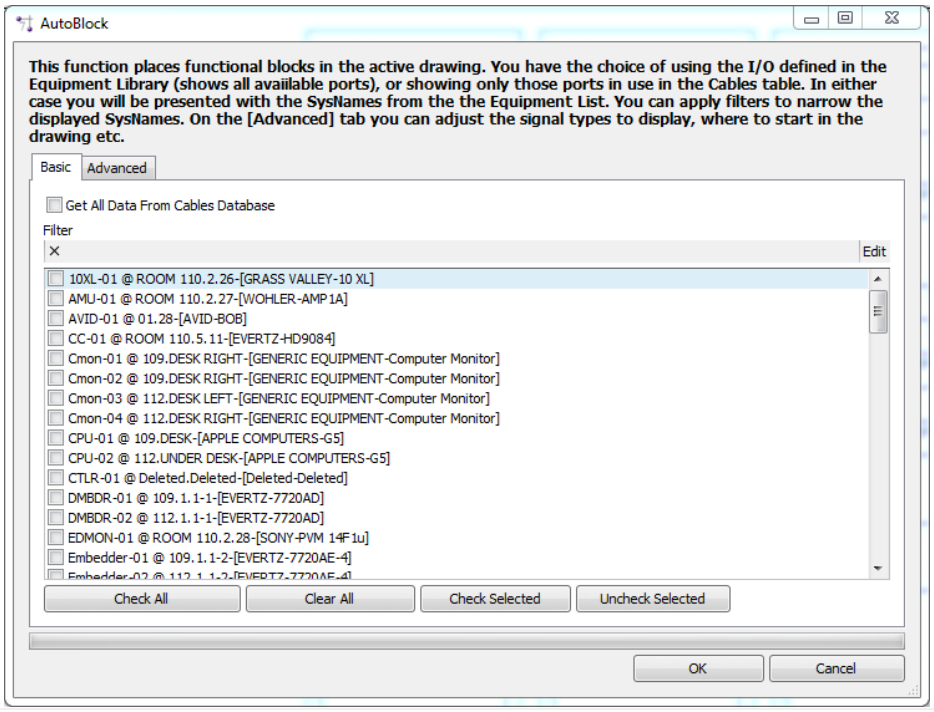
Item	Description
The [Basic] tab allows you to determine which systems to add to the drawing.	
Location Filter	Filters the left-hand list by location

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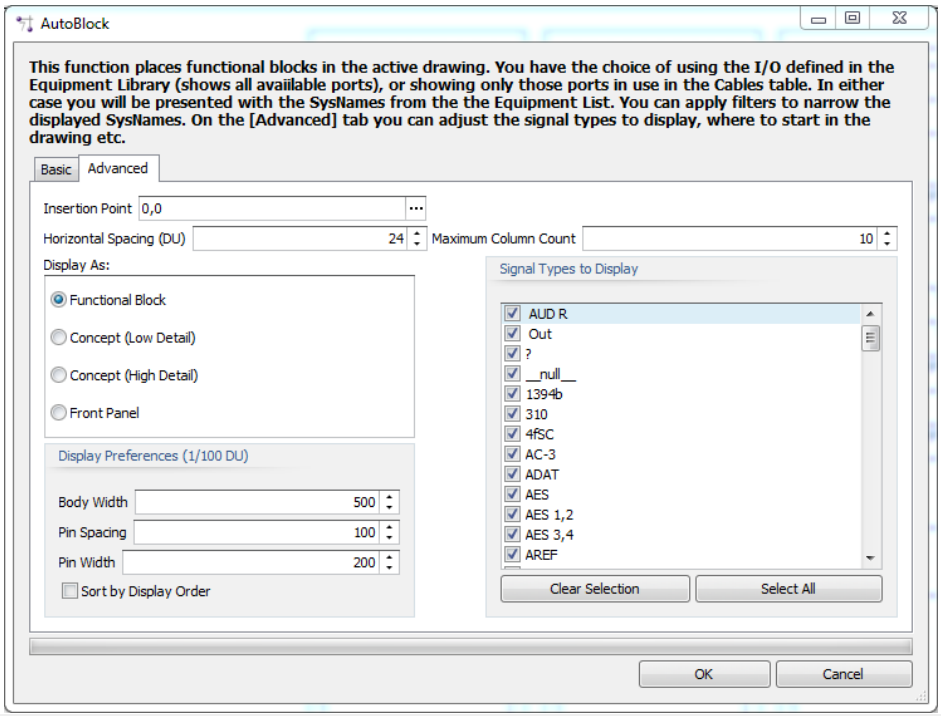
Item	Description
The [Advanced] tab allows you to refine the behavior of the utility.	
Insertion Point	The point we start from.
Horizontal Spacing DU	How far apart horizontally. The vertical spacing is defined by the height of the highest block in the row.
Maximum Column Count	How many columns horizontally
Get Port Data From Cables Database	Select this option to search the cables database for port info instead of the global equipment database. This will effectively show only those ports to which we have attached cables.
Display As	How to display the blocks
Display Preferences	If Functional Block or Concept block is selected then set basic display parameters.
Signal Types to Display	Filter ports by the selected signal types.

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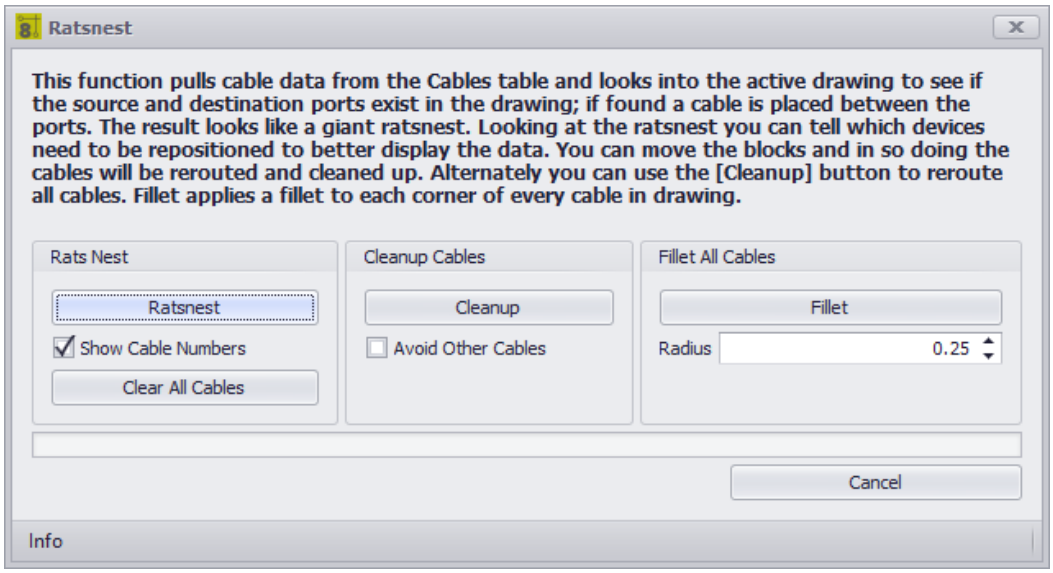
4.1.3.2.2.9 Ratsnest



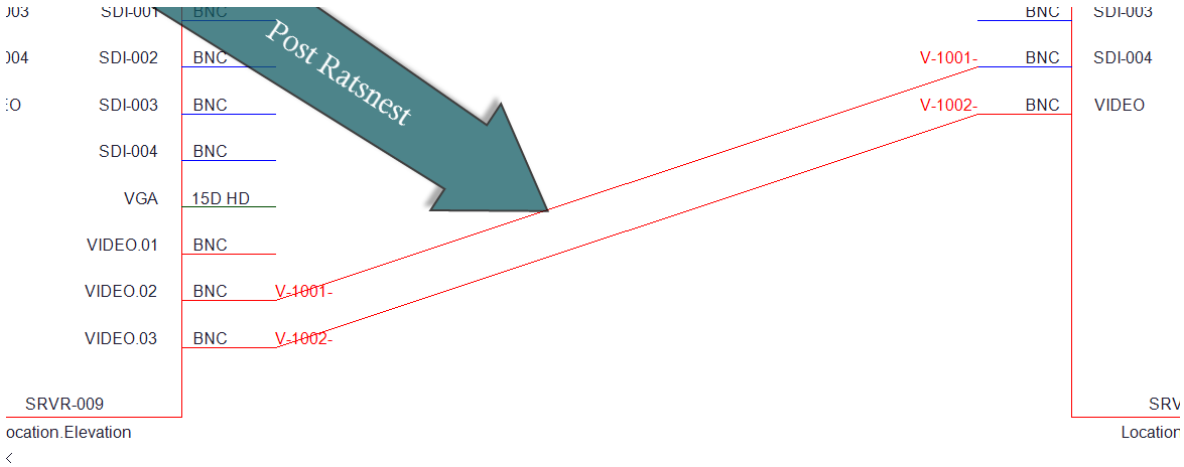
Drawing > Advanced Tools > Ratsnest

Commandline: rn

Explanation

The **Ratsnest** tool works in conjunction with the Auto Block tool. How it works:

- Get the cables collection.
- Get the SysName>Port info from the drawing.
- Find matches.
- Drawing straight-line cables.



Possible Uses

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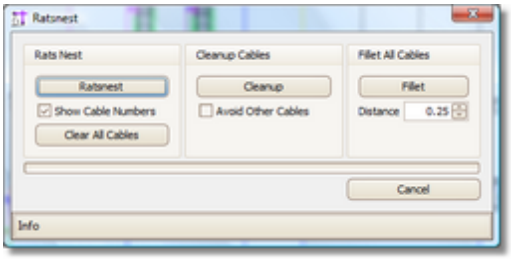
- Create overall systems views.
- Create drawings from imported data.

Dialog Options

Item	Description
This tool has three sections. The Rats Nest section does the work of placing the cables in the drawing as defined in the Cables database.	
[Ratsnest]	Run the utility to place the cables.
Show Cable Numbers	With or without cable numbers.
[Clear All Cables]	Removes ***ALL*** cables from the drawing.
[Cleanup]	Applies the autorouter to all cables in the drawing.
Avoid Other Cables	Autorouter avoids other cables on cleanup.
[Fillet]	applies fillets to all cables in the drawing
Distance	fillet distance in 100/DU.

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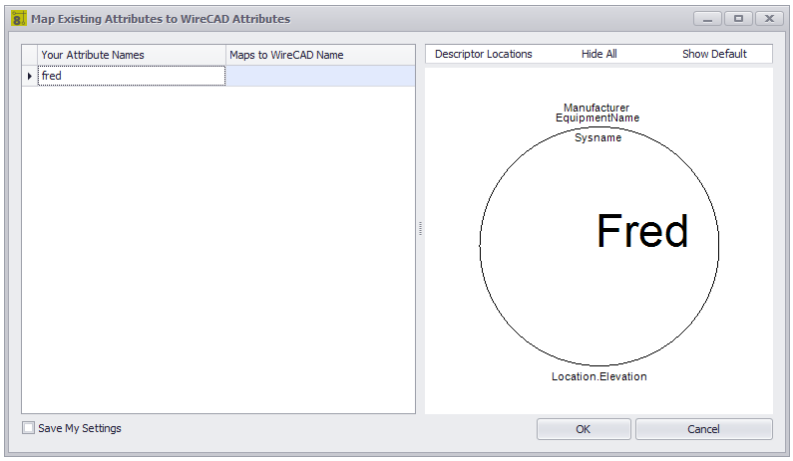
4.1.3.2.2.10 WireCADify Block



Drawing > Advanced Tools > WireCADify Block

Commandline: wirecadifyblock

Explanation

Occassionally you will want to use the geometry of a non-WireCAD generated CAD block. In order to do this you will need to give the necessary attribute set to the CAD block so that it can function in WireCAD as a working assignable entity.

Steps

- Start the command.
- Select a standard CAD block. It must be a block and not exploded entities.
- Follow the directions in the dialog to complete the process of adding the WireCAD attribute set to the CAD block.

Possible Uses

- Use existing CAD drawings and work with WireCAD to move the drawing forward.
- Create custom appearance.

Dialog Options

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Item	Description
Attribute Map Grid	Map your attribute to WireCAD's.
Descriptor Locations	Reposition the base WireCAD attributes using the Descriptor Locations map.
Hide All	Add all the WireCAD attributes but hide them from view.
Show Default	Show the default attribute set
Preview	Preview of the merged block.

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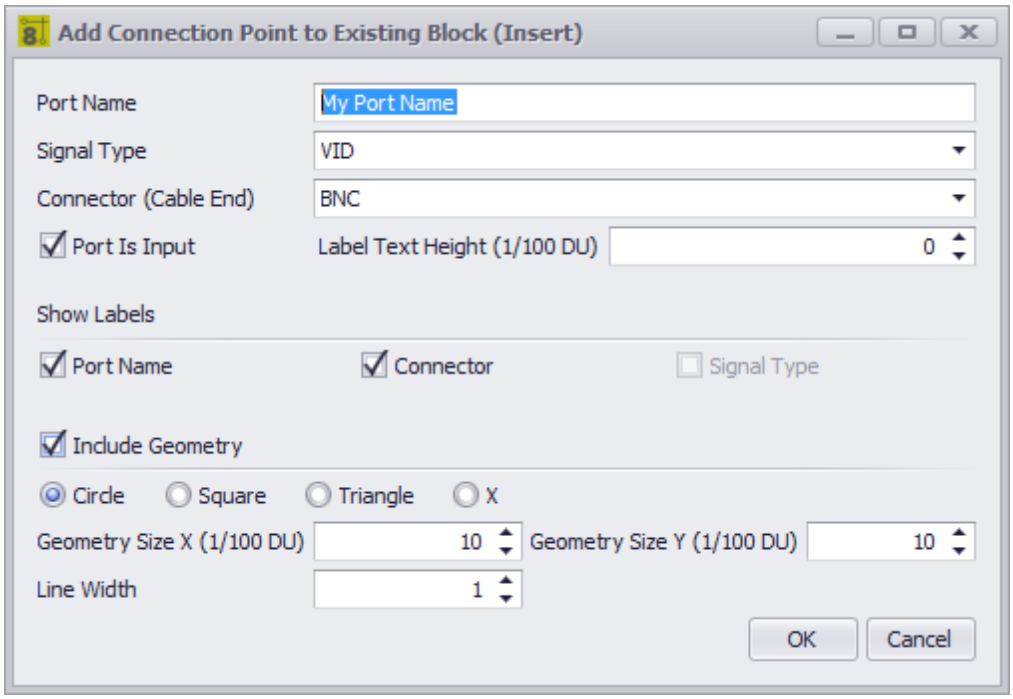
4.1.3.2.2.11 Add Connection Point



Drawing > Advanced Tools > Add Connection Point

Commandline: addconnectionpoint

Explanation

If you need to place a connection point (a point to which you can connect a WireCAD cable). You can use this tool.

You must use this tool on blocks that have the WireCAD attribute set.

Steps

- Start the command.
- Select a WireCAD block or a block that you have run the WireCADify command on.
- Select the geometric point at which the connection point will appear. This should be something that is easy to snap a WireCAD wire to.
- Follow the directions in the dialog to complete the process of adding the WireCAD attribute set to the CAD block.

Possible Uses

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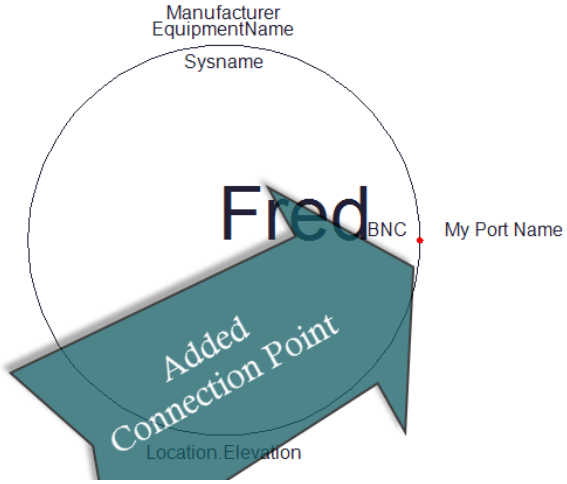
- Use existing CAD drawings and work with WireCAD to move the drawing forward.
- Create custom appearance.



Dialog Options

Item	Description
Port Name	
Signal Type	
Connector (Cable End)	
Port is Input	This will determine which side the label appears on.
Label Text Height	Label text height if shown
Show Labels	
Include Geometry	Display something to snap to.

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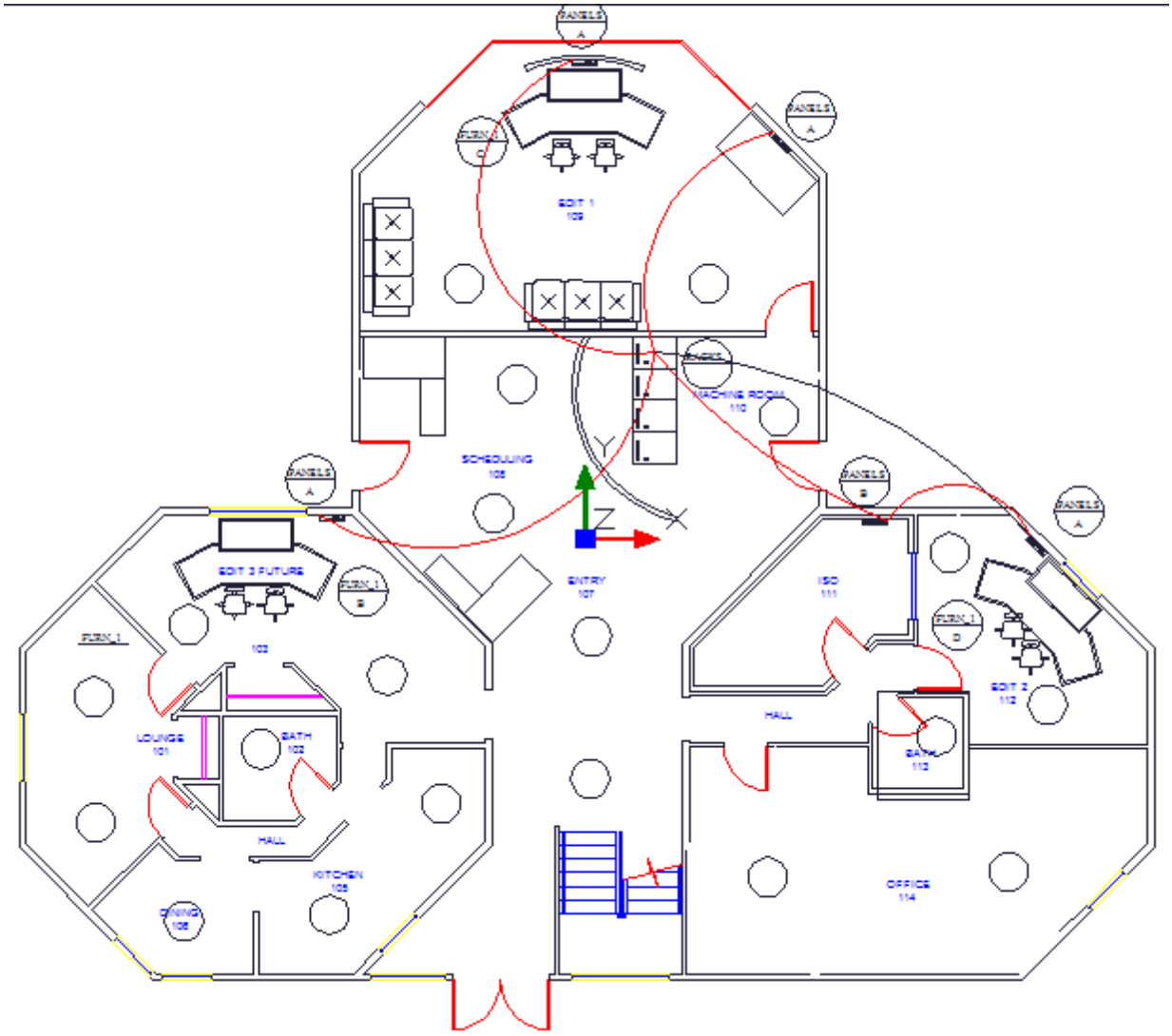
4.1.3.2.3 Plan View and Layout Tools Dialogs

The following set of tools is targeted at the plan view space.



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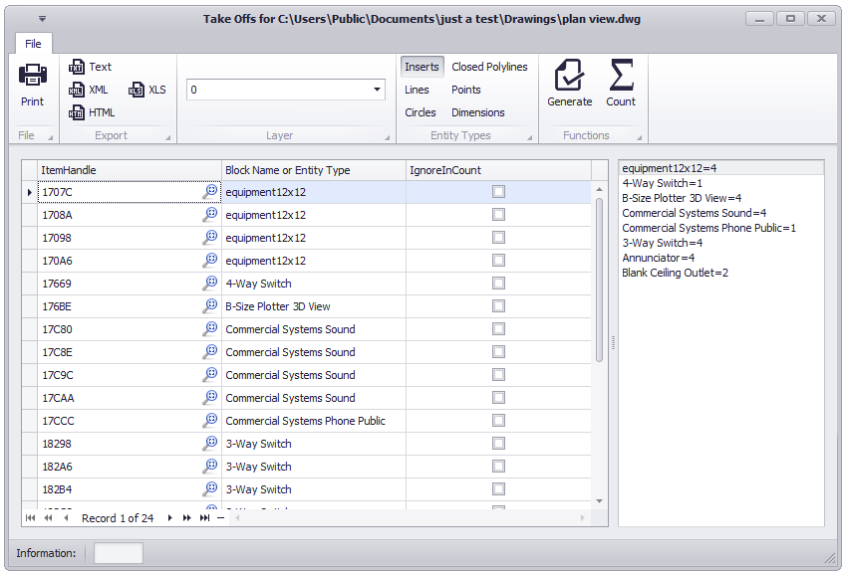
4.1.3.2.3.1 Take Offs



Drawing > Plan View and Layout Tools > Take Offs

Commandline: showtakeoffs

Explanation

Often we need to count items in the plan view space for quoting or other purposes. The Take Offs tool facilitates this process by filtering the drawing for specific entity types on specific layers then counting those instances.

Possible Uses

- Quote preparation.
- Trouble-shooting.

Dialog Options

Item	Description
Print	Print the grid.
Export	Export the grid.
Layer	What layer are we searching for the selected entity type(s).

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Item	Description
Entity Types	What entity type(s) are we searching for.
Generate	Do It! The results will be displayed in the grid.
Count	Count the items in the list. The results will be displayed in the right-hand list.
Grid Columns	
ItemHandle ShowMe	Zooms to show the item in the drawing.
Block Name or Entity Type	
IgnoreInCount	Ignore me when counting

Examples

Step	Description
This first example counts all inserts in the drawing on all layers.	

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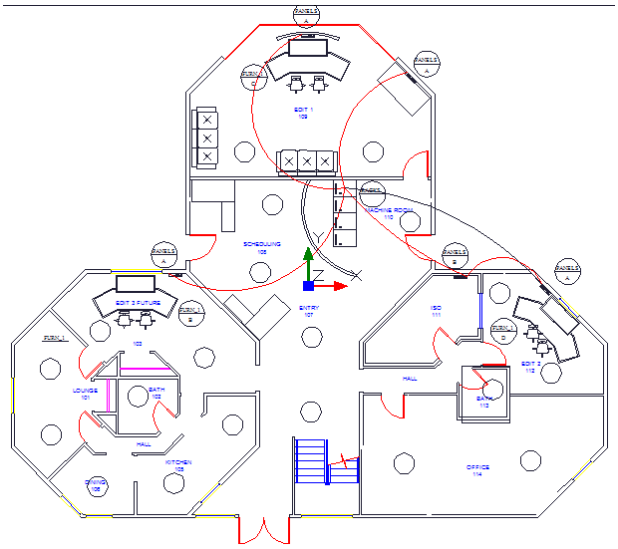
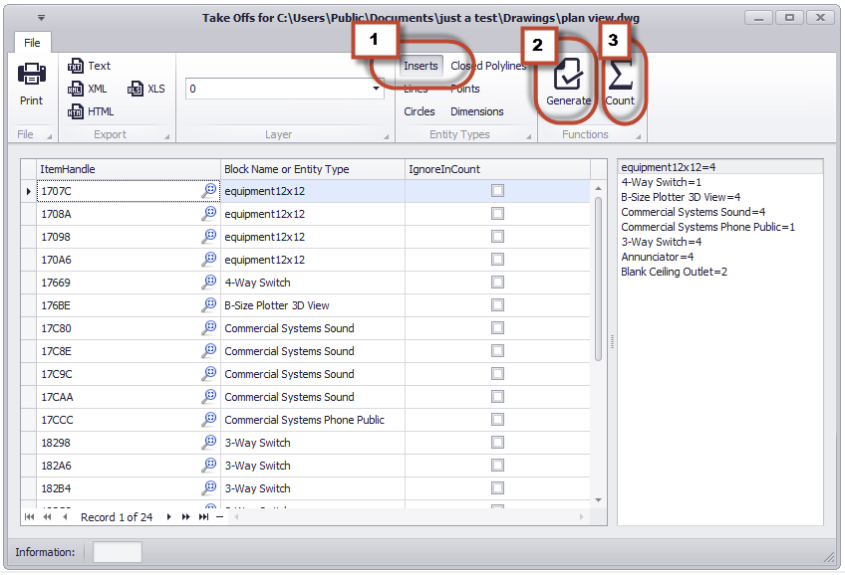
Step	Description
Our drawing looks like this	
In our Take Offs tool we select the Insert button. Then click [Generate] and finally click [Count].	

Step	Description
Now let's count all circles on the CEIL_SPKR layer.	

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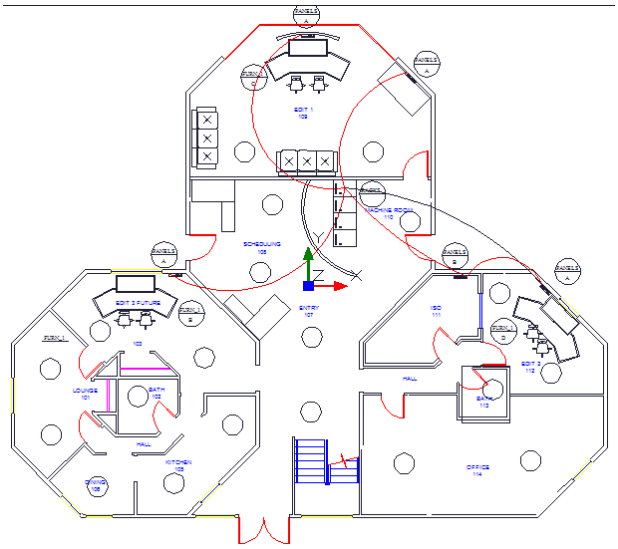
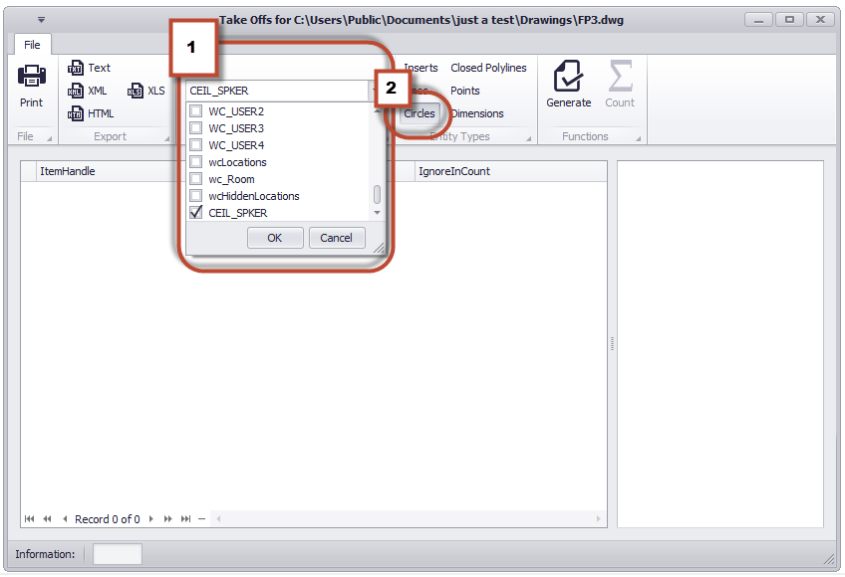
Step	Description
Our drawing looks like this	
In our Take Offs tool we select the Circles button, and select the layer on which to search.	

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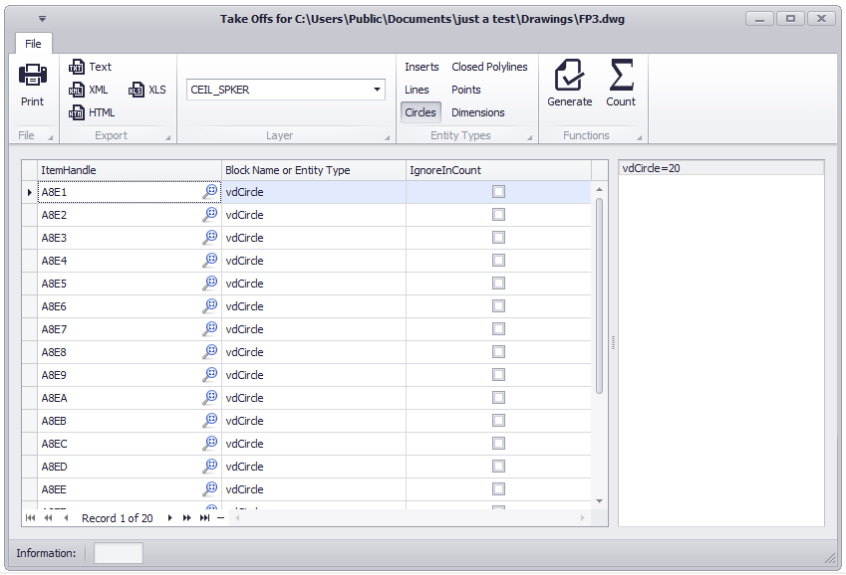
Step	Description
Then click [Generate] and finally click [Count].	
As you can see we have 20 circles that appear on the CEIL_SPKR layer.	

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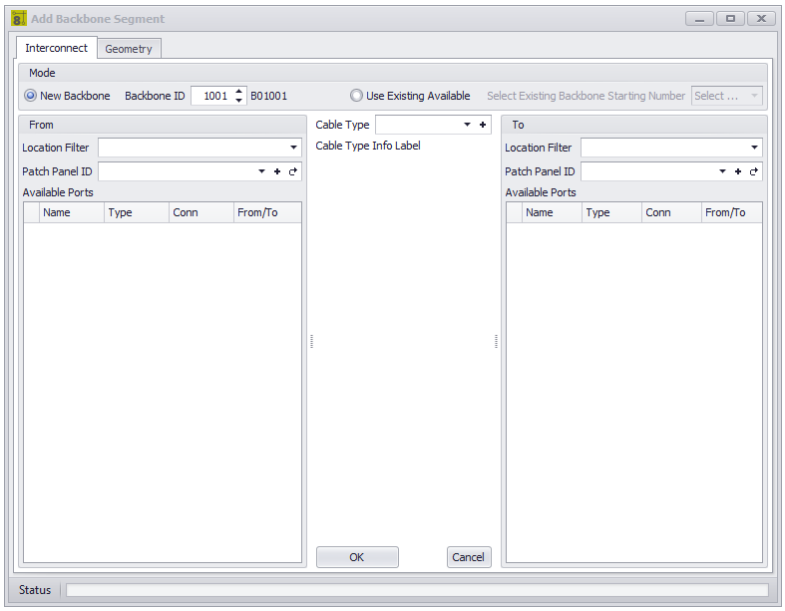
4.1.3.2.3.2 Draw Backbone (ENT Only)



Drawing > PlanView and Layout Tools > Draw Backbone

Commandline: none

Explanation

Backbones are collections of cable/fiber that are contained in a single jacket that run from one location to another and are typically sized for growth. An example might be a fiber optic cable that contains 288 fiber cores that runs from building A to building B. We know that initially we will not use all 288 fibers and have planned for growth. As the facility needs change the usage of the backbone's fibers change.

WireCAD maintains backbones just like any multi-core cable with the exception that the Cables table record is flagged IsBackBone = true.
WireCAD will create a cable record for every core in the Cable Type used.

Prerequisites

1. SysNames assigned to the panels/equipment to which you will attach the ends of the Backbone.
2. Multi-core Cable Type representative of the Backbone.

Operation

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This tool allows you to draw geometry in the Plan View space that represents the path of the Backbone. The process requires the following steps:

1. Draw the polyline that represents the backbone.
2. If locations boundaries are found in the drawing the source and destination locations will be used. Otherwise you will be prompted to define a location for each end.
3. Next you will be presented with the New Backbone tool where you will select the source and destination panels/ ports and the cable type.
4. Clicking [OK] will build a record in the Cables table for each core in the multi-core cable type.
5. The polyline length populate the cable record Length field.

Related Topics

Dialog Options

Item	Description
New Backbone	Select whether we are creating a new number or assigning existing unused core.
Backbone ID	The number
Use Existing Available	
Location Filter	Filter the list by location
From Panel Info	Select the panel. The ports will be shown in the list.
To Panel Info	Select the panel. The ports will be shown in the list.
Cable Type	Select the Cable Type.

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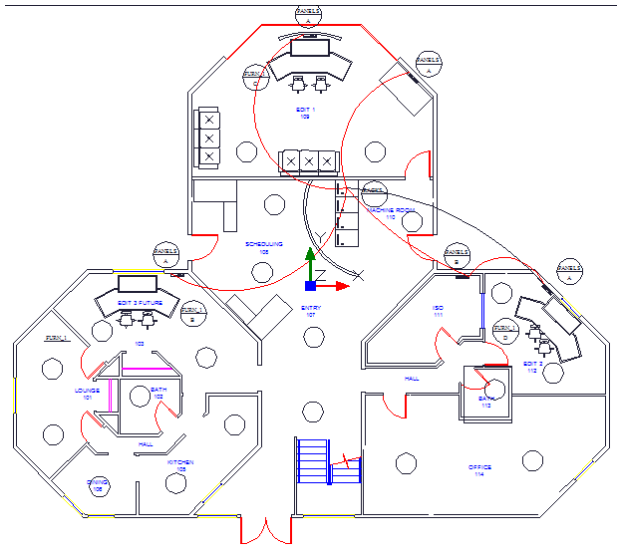
Examples

Step	Description
Our drawing looks like this	

Step	Description

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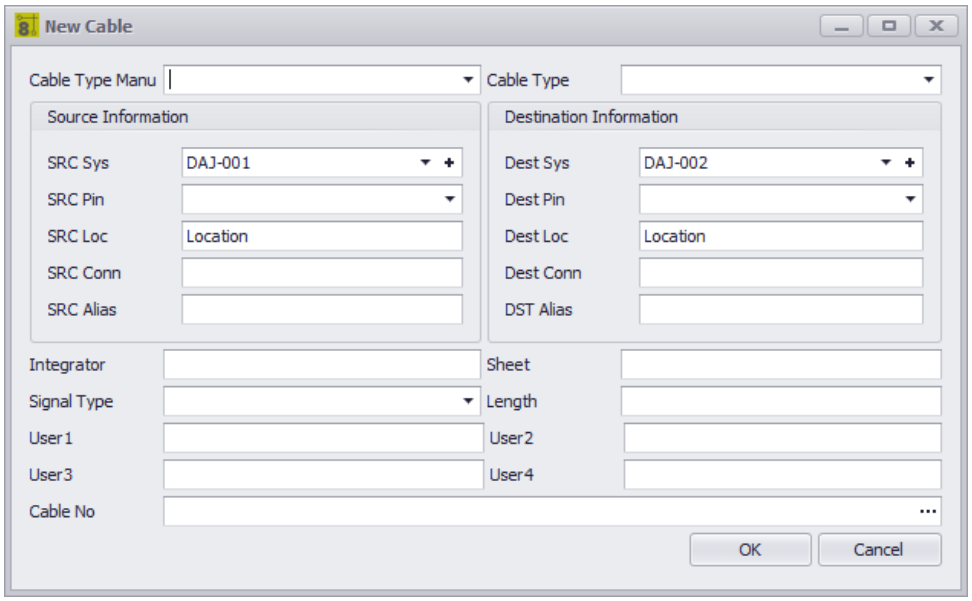
4.1.3.2.3.3 Draw Cable



Drawing > PlanView and Layout Tools > Draw Backbone

Commandline: pwdc

Explanation

This tool allows you to draw a cable in Plan View space that is assigned to the Cables table.

Prerequisites

1. SysNamed source and destination equipment placed in the Plan View space or:
2. Source and destination Location Boundaries placed in the Plan View space.

Operation

This tool allows you to draw geometry in the Plan View space that represents the path of the cable. The process requires the following steps:

1. Start the tool.
2. Select the source SysNamed equipment.
3. Select the destination SysNamed equipment.
4. Place the points in the polyline to finalize the appearance.

Related Topics

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Draw Cables 45

Dialog Options

Item	Description
Cable Type	
Source Information	The source SysName is pulled from the drawing. You will need to selection the Src Pin and such.
Destination Information	The destination SysName is pulled from the drawing. You will need to selection the Dest Pin and such.
Other Stuff	
Cable No	Click the [...] button to generate a cable number.

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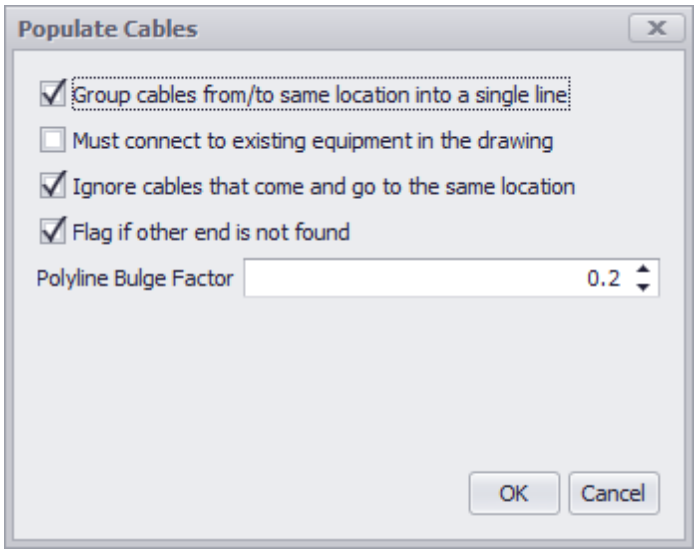
4.1.3.2.3.4 Populate Cables



Drawing > PlanView and Layout Tools > Populate Cables

Commandline: popc

Explanation

This tool pulls the cables from the Cables table into the drawing. The assumption with this tool is that you will use it after you have done your functional drawings and assigned cable numbers and SysNames.

Prerequisites

1. SysNamed source and destination equipment placed in the Plan View space or:
2. Source and destination Location Boundaries placed in the Plan View space.
3. Cable data in the Cables table that matches the placed equipment or locations.

Operation

1. Start the tool.
2. Select the source SysNamed equipment.
3. Select the destination SysNamed equipment.
4. Place the points in the polyline to finalize the appearance.

Related Topics

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Draw Cables 45

Dialog Options

Item	Description
Group Cables	
Must connect to equipment in the drawing	
Ignore cables that come and go to the same location	
Flag if other is is not found	
Polyline Bulge Factor	

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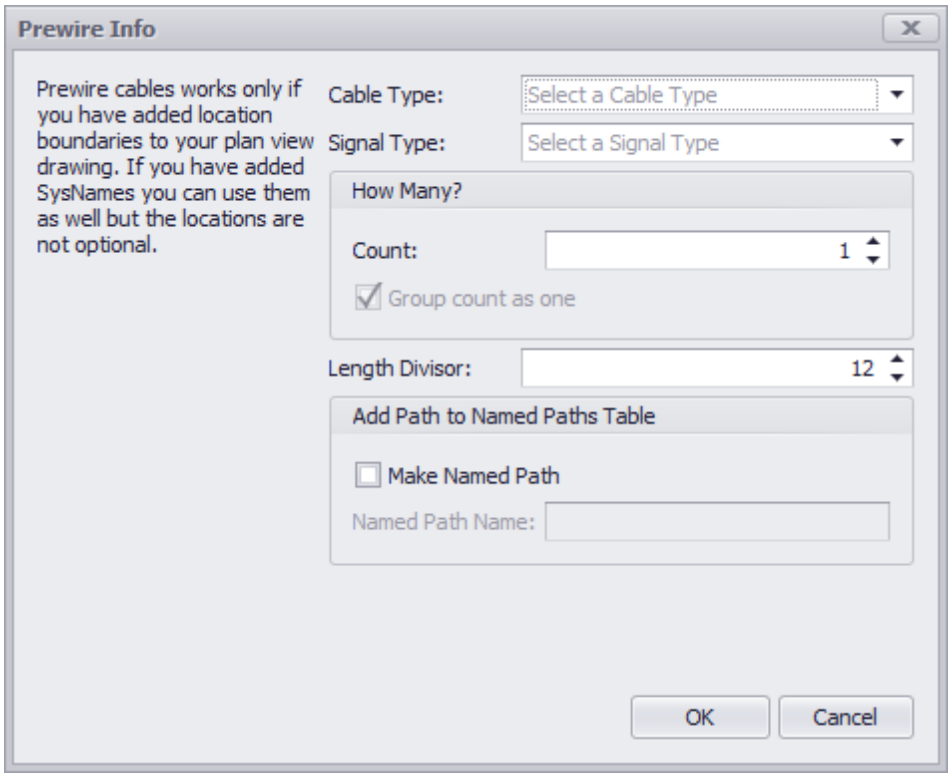
4.1.3.2.3.5 Draw Prewire



Drawing > PlanView and Layout Tools > Draw Prewire Cable

Commandline: pw

Explanation

This tool allows you to draw geometry in the drawing that represents cables that have not yet had their functions assigned. The only thing we know about these cables is the locations from which they start and end and the Cable Type. A record will be added to the Cables table based on the count defined. The record is marked Available and PreWIRE. Prewire cables can be automatically consumed later if the

Prerequisites

1. Source and destination Location Boundaries placed in the Plan View space.

Operation

1. Start the tool.

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2. Fill in the form.
3. Draw the cable path.

Related Topics

Draw Cables 45

Dialog Options

Item	Description
Cable Type	Select the **Cable Type**
Signal Type	Select the **Signal Type**
How Many	How many wires of this type take this path. A record will be created for each.
Length Divisor	We will divide the length of the polyline by this value and place that info in the **Length** field of the record. For example, say your Drawing Unit = 1 inch and you want the length in the **Length** field to be displayed in feet. Your **Length Divisor** would be 12.
Create Named Path	Create an entry in the **Named Paths** table with the name provided and length of the polyline.

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4.1.3.2.3.6 Populate Equipment

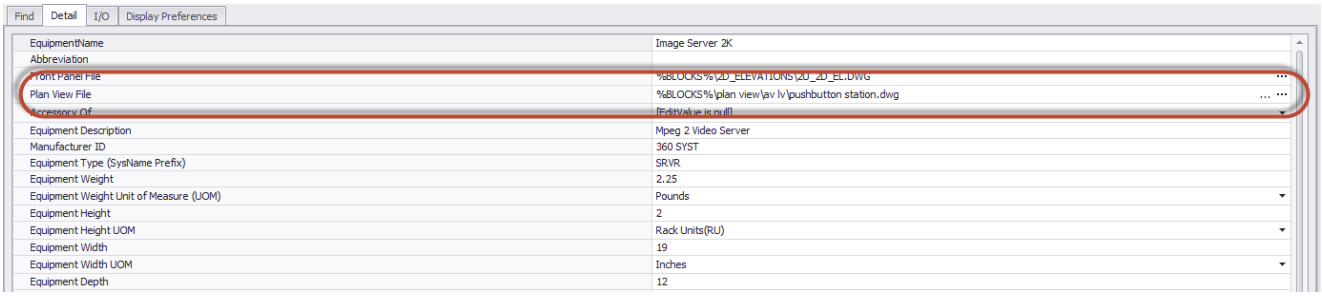
There is no UI for this function

Drawing > PlanView and Layout Tools > Populate Equipment

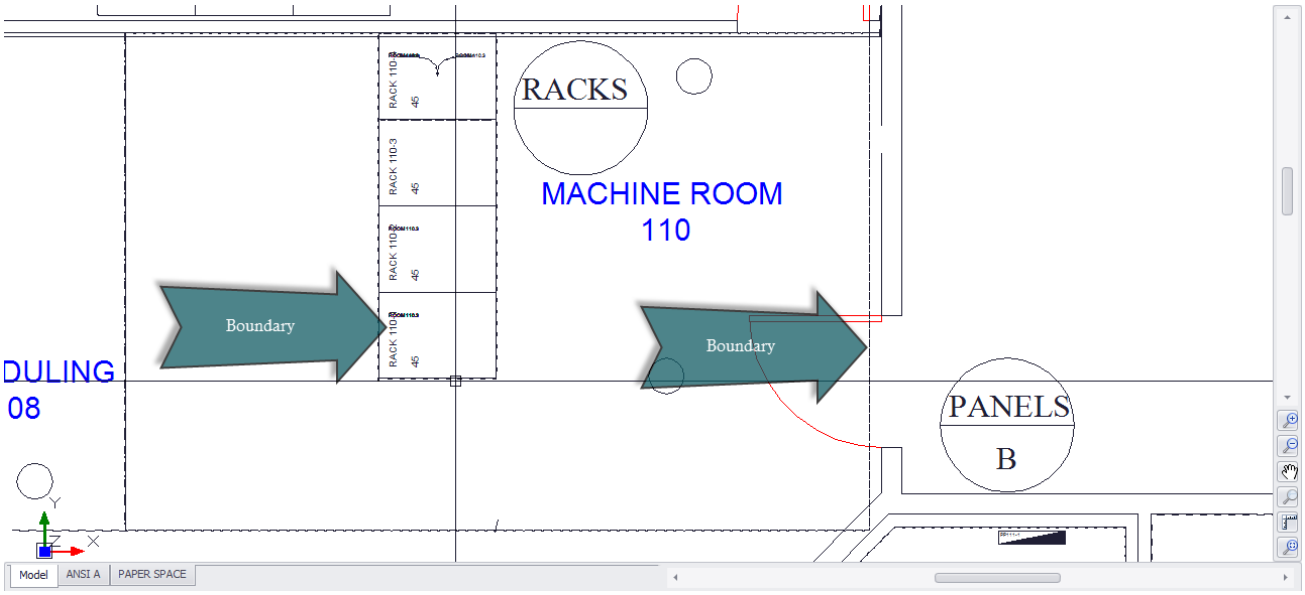
Commandline: pope

Explanation

This tool pulls the Plan View version of the equipment from the Equipment List. The assumption with this tool is that you will use it after you have done your functional drawings and assigned cable numbers and SysNames. This tool relies on the Plan View File in the device definition to know what to place.



It relies on Location Boundaries in the drawing to know where to place it.



If the Plan View File is blank the Project Default Plan View File will be placed if the Location Boundary is found:

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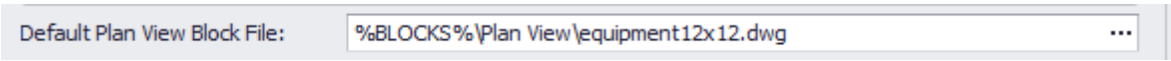
Application Menu > Settings [Project][Basic][Default Plan View Block File]



Prerequisites

1. SysNamed equipment preferably with an associated Plan View File in the global Equipment Library.
2. Location Boundaries placed in the drawing.

Operation

1. Start the tool.
2. A message box will explain the operation of the function. Click **[OK]**. The tool will run.
3. At completion the tool will report the number of placed items.

Related Topics

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4.1.3.2.3.7 Location Boundary

Drawing > PlanView and Layout Tools > Location Boundary

Commandline: pw

Explanation

Define geometric boundaries for locations important to the design. For example we would want to know where on the drawing the Machine Room is but not necessarily the kitchen (unless part of our cable ends up in the kitchen).

Prerequisites

1. Source and destination Location Boundaries placed in the Plan View space.

Operation

1. Start the tool.
2. Select a text entity with the name of the location to pre populate the dialog.
3. Set the location type and geometry type.
4. Draw the boundary
5. Done. Lather , rinse, repeat.

Related Topics

Dialog Options

Item	Description
Cable Type	Select the **Cable Type**
Signal Type	Select the **Signal Type**

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Item	Description
How Many	How many wires of this type take this path. A record will be created for each.
Length Divisor	We will divide the length of the polyline by this value and place that info in the **Length** field of the record. For example, say your Drawing Unit = 1 inch and you want the length in the **Length** field to be displayed in feet. Your **Length Divisor** would be 12.
Create Named Path	Create an entry in the **Named Paths** table with the name provided and length of the polyline.

Examples

4.1.3.3 Data Dialogs

The following is a collection of dialogs that may be presented while in the Data or Grid environment.

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4.1.3.3.1 New Location

Database > Locations [New]

Commandline: none

Explanation

This tool is used to create entries in the project Locations lookup table.

Prerequisites

1. None

Operation

1. Start the tool.
2. Enter the data in the fields as desired.
3. Verify the the Qualified Location looks acceptable (its the part that the rest of WireCAD uses).
4. Click [Add].

Related Topics

Locations Lookup table 453

Locations form reference 453

Defining Locations 62

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Dialog Options

Item	Description
Campus	Enter the **Campus** name if applicable. If there are multiple numbered campuses you can increment the **Count** field to append a number and create multiple records for each.
Building	Enter the **Building** name if applicable. If there are multiple numbered buildings you can increment the **Count** field to append a number and create multiple records for each.
Floor	Enter the **Floor** name if applicable. If there are multiple numbered **Floors** you can increment the **Count** field to append a number and create multiple records for each.
Room	Enter the **Room** name if applicable. If there are multiple numbered **Rooms** you can increment the **Count** field to append a number and create multiple records for each.
Rack	Enter the **Rack** name if applicable. If there are multiple numbered **Racks** you can increment the **Count** field to append a number and create multiple records for each.
Qualified Location	This is the important part. The **Qualified Location** is a concatenation of all the used fields. The fields are merely and organizational construct for you. WireCAD will use the **Qualified Location** throughout the application.

Example

In the following example we will add two locations using different approaches to acheive the same result.

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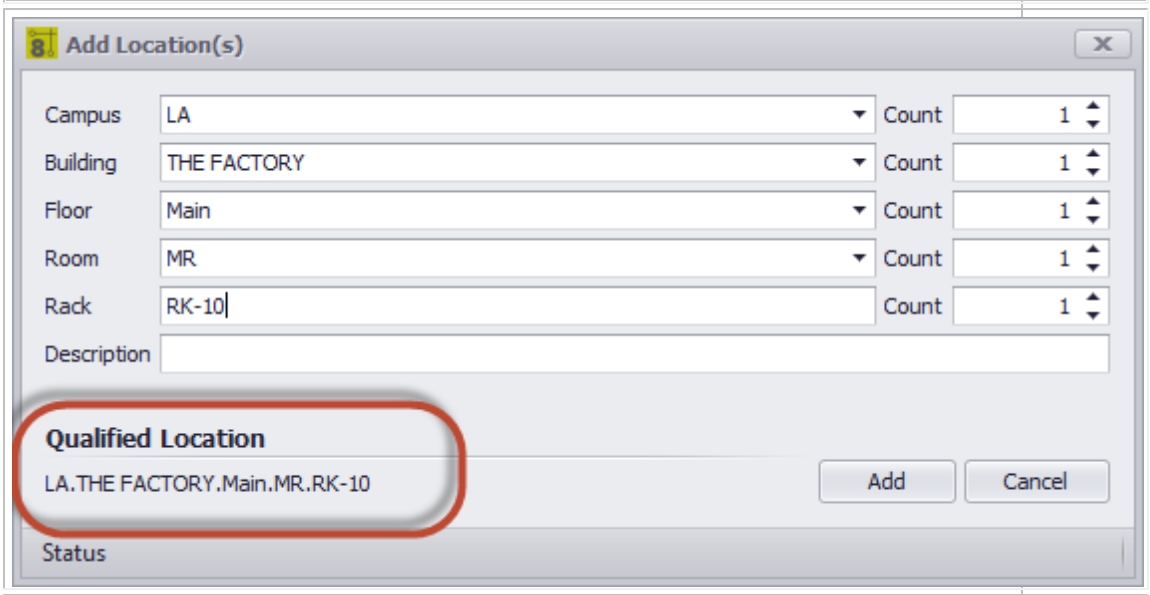
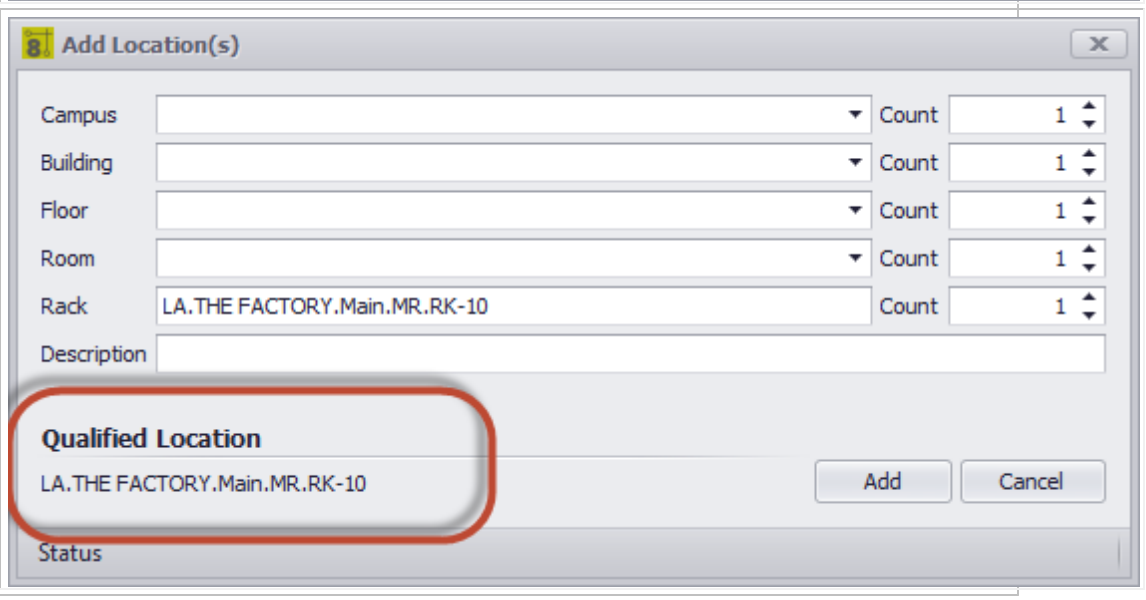
Step	Result
Enter the data across all fields.	
Enter the data in a single field	

As you can see from the above examples the Qualified Location is the same for both. It does not matter which approach you take.

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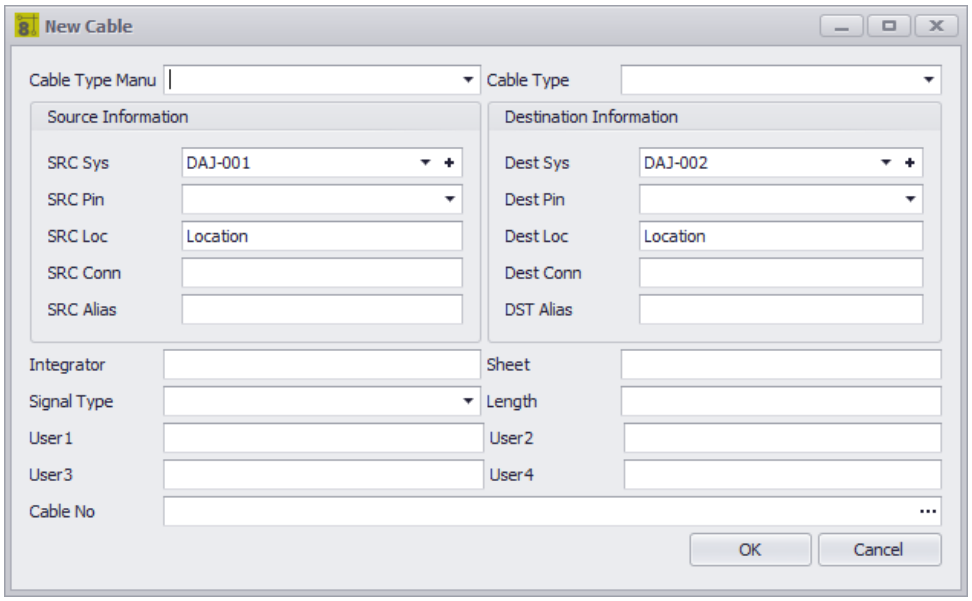
4.1.3.3.2 New Cable



Database > Cables

Commandline: cg

Explanation

This tool allows you to manually create a Cable in the Cables table.

Prerequisites

1. SysNamed source and destination equipment in the Equipment List

Operation

1. Start the tool.
2. Select the source SysNamed equipment.
3. Select the destination SysNamed equipment.
4. Click the [...] button on the Cable No field to generate a Cable Number.

Related Topics

Dialog Options

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Item	Description
Cable Type	
Source Information	The source SysName is pulled from the drawing. You will need to selection the Src Pin and such.
Destination Information	The destination SysName is pulled from the drawing. You will need to selection the Dest Pin and such.
Other Stuff	
Cable No	Click the [...] button to generate a cable number.

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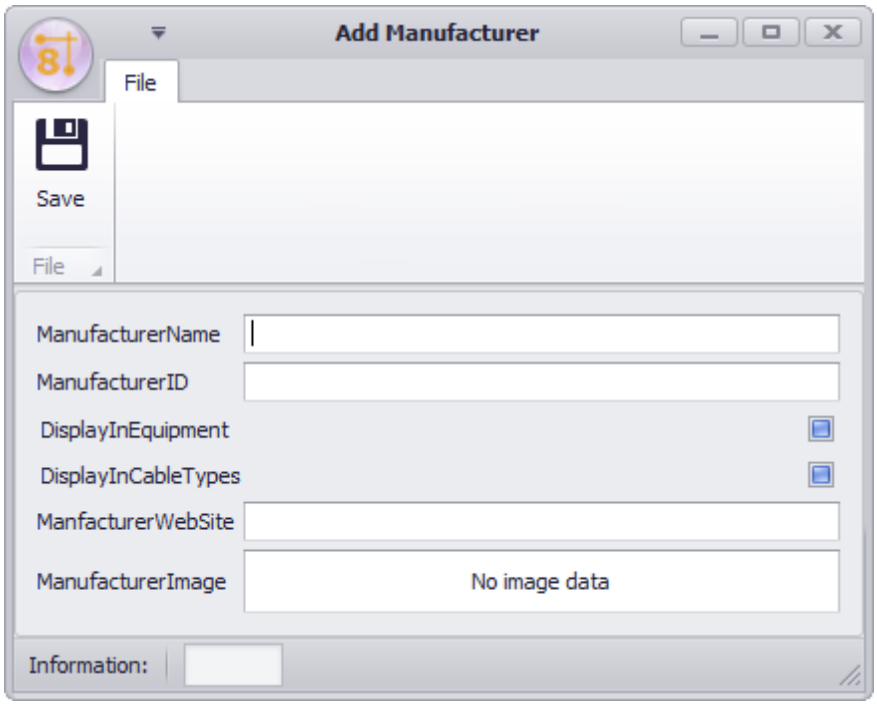
4.1.3.3.3 New Manufacturer



Database > Manufacturers [File > New]

Commandline: none

Explanation

This tool allows you to create a new Manufacturer in the Global Equipment database.

Related Topics

Dialog Options

Item	Description
Manufacturer Name	The Manufacturer Name
ManufacturerID	Friendly ID
Display Where	Where to show this manufacturer.

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Item	Description
Website	Optional
Image	

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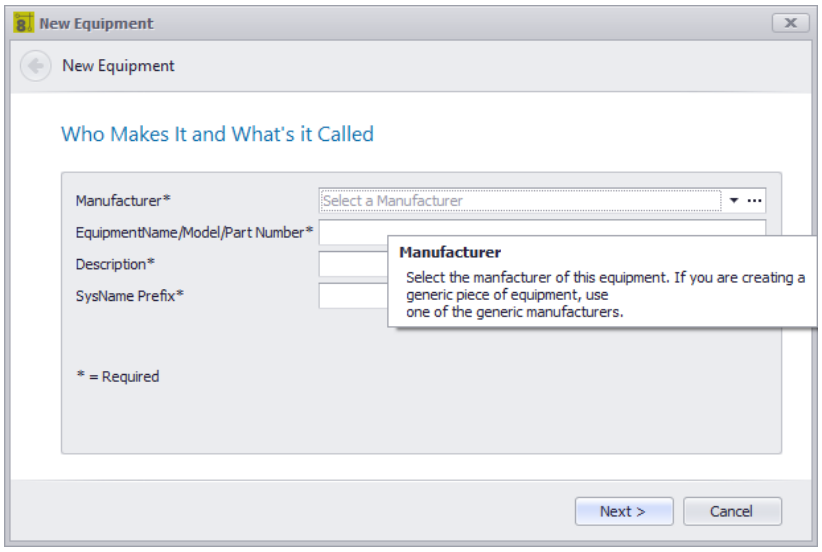
4.1.3.3.4 New Equipment Wizard



Database > Equipment [File > New]

Commandline: none

Explanation

This tool allows you to create a new Equipment definition in the Global Equipment database.

Related Topics

Dialog Options

Item	Description
Manufacturer	Select the Manufacturer
EquipmentName/ Model/Part Number	Name it
Description	Describe it.
SysName Prefix	Be brief.

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Item	Description
Front Panel File	Pointer to the front panel file.
Image	
Categories	This is for you. Create categories and synonyms.
Synonyms	
Abbreviation	Not really used yet.
Accessory Of	

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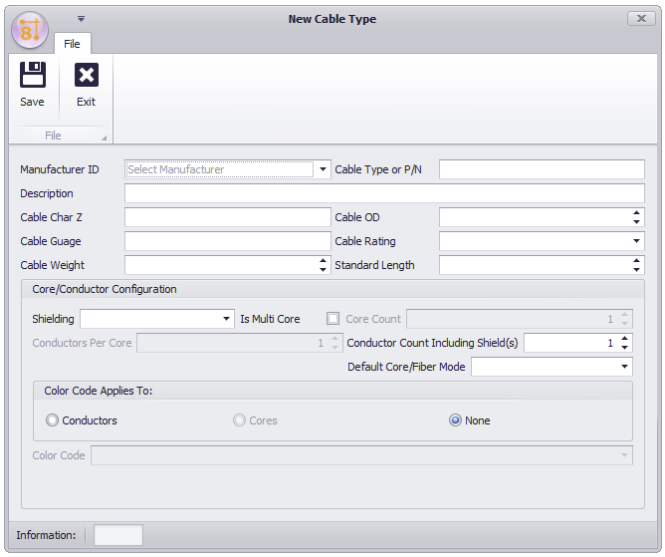
4.1.3.3.5 New Cable Type



Database > Cable Types [File > New]

Commandline: showcabletypesgrid

Explanation

This tool adds a new Cable Type to the Global Equipment database. Cable Types may be either single or multi-core and have different shielding configurations. WireCAD projects use the multi-core core color code if any as the descriptor when identifying multi-core cables. The Cable Type Name and Manufacturer are used in the Cable record. All other fields are maintained for reference of the designing engineer.

More About Multi-core Cable Types

WireCAD can create multi-core cable types at two different levels of detail:

- Core level.
- Conductor level.

Cores have conductors. Conductors being the base unit. Most people using WireCAD will not document down to the conductor level but rather the Core level.

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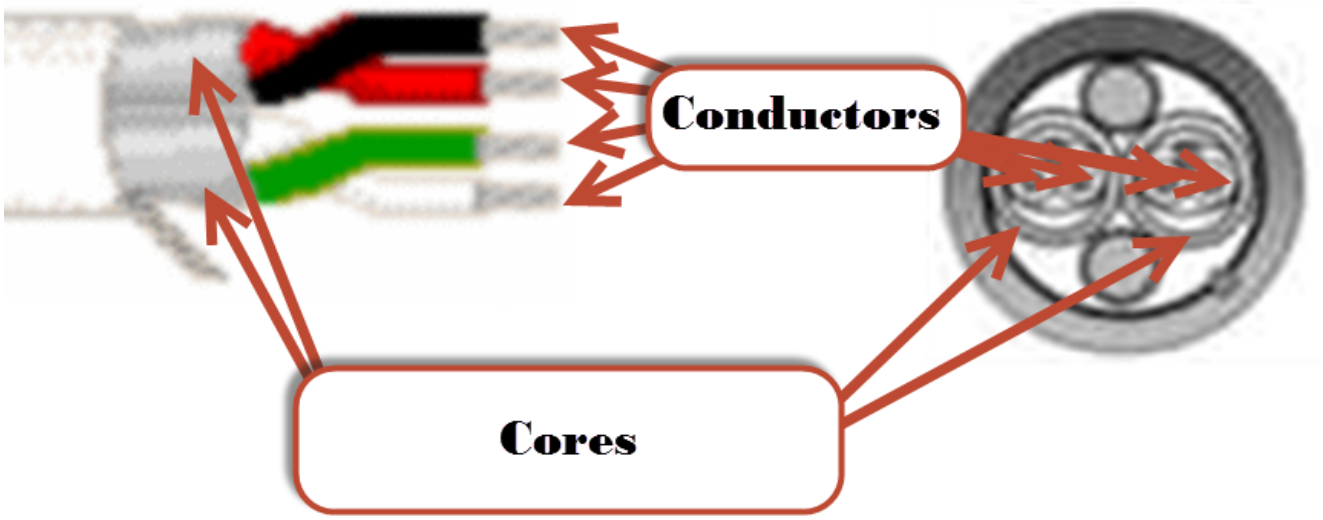

Prerequisites

1. None

Related Topics

Create a New Cable Type 170

Form Options

Item	Description
Save	Do It!
ManufactureID	Select a manufacturer. Only Manufacturers that are flagged as DisplayInCabletypes appear in this list.
Cable Type or P/N	The name by which this cable type shall be known.
Description	A description for posterity
Cable Char Z	Characteristic Impedance.
Cable OD	Outside Diameter.
Cable Gauge	Gauge
Cable Rating	Rating

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Item	Description
Cable Weight	Standard put up length and weight
Standard Length	
Core/Conductor Configuration	
Shielding	Shielding determines how many conductors.
Is Multi-core	Flag this Cable Type as multi-core.
Core Count	How many cores
Conductors per Core	Usually one
Conductor Count Including Shield(s)	Set automatically
Default Core/Fiber Mode	SM/MM
Color Code Applies To:	Apply a color code to the conductors, cores or not.

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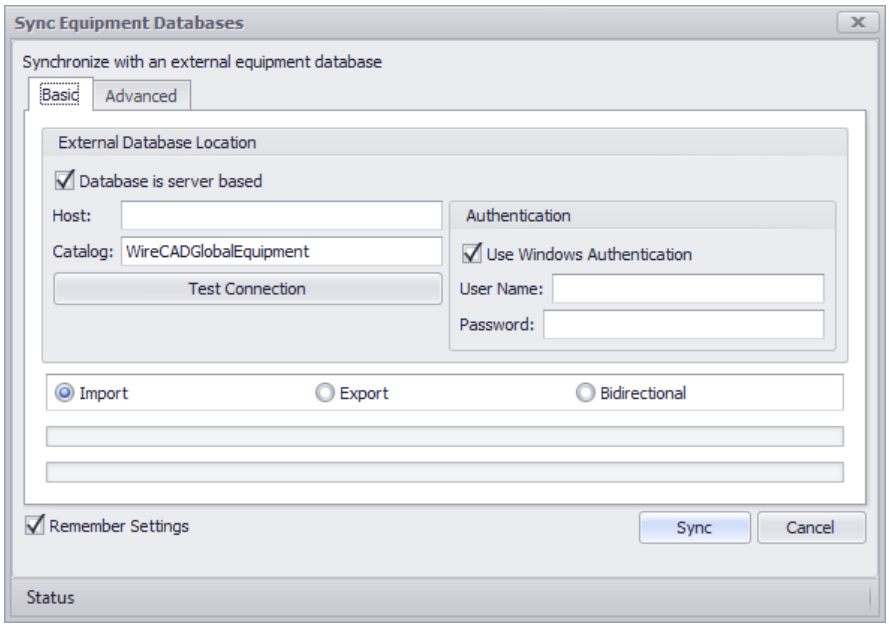
4.1.3.3.6 Synchronize Global Databases



Database > Sync Global Database ..

Commandline: sync

Explanation

This tool allows you to sync two Global Databases. The current Global Database will be synchronized with the database you select in this dialog. The local and remote database may be either SQL Server of VISTADB. You may import, export or sync with respect to the current Global Database. An Import would collect data from the remote database and import it to the local Global Database.

Prerequisites

1. Two Global Databases. The currently active one and a remote one.

Related Topics

Sync Basics 112

Form Options

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Item	Description
External Database Location	
Database is Server Based	Enter the host information and login. Else browse to the location of the WireCADGlobalEquipment.vdb3 file.
Import	With respect to the current Global Database. This would import data into the current Global Database.
Export	With respect to the current Global Database. This would export data into the external Global Database.
Bidirectional	Sync the two.
Advanced Settings	
Which collections to include	By default you would want to sync all tables.

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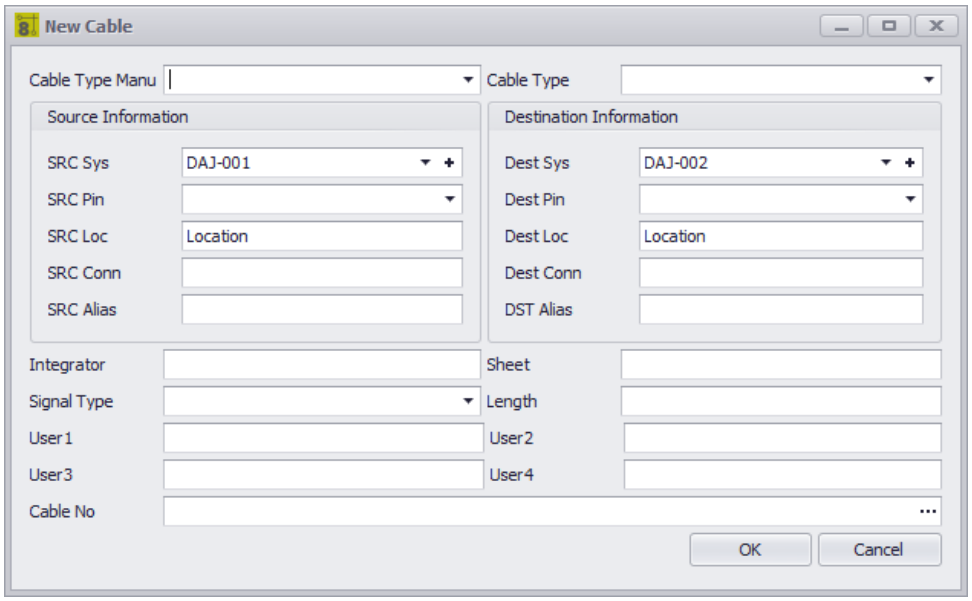
4.1.3.4 Report Dialogs



Database > Cables

Commandline: cg

Explanation

This tool allows you to manually create a Cable in the Cables table.

Prerequisites

1. SysNamed source and destination equipment in the Equipment List

Operation

1. Start the tool.
2. Select the source SysNamed equipment.
3. Select the destination SysNamed equipment.
4. Click the [...] button on the Cable No field to generate a Cable Number.

Related Topics

Dialog Options

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Item	Description
Cable Type	
Source Information	The source SysName is pulled from the drawing. You will need to selection the Src Pin and such.
Destination Information	The destination SysName is pulled from the drawing. You will need to selection the Dest Pin and such.
Other Stuff	
Cable No	Click the [...] button to generate a cable number.

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4.1.3.4.1 New Report Wizard

Reports > New with Wizard ...

Commandline: rw

Explanation

Create a new report using the New Report Wizard.

NOTE: We recommend that you find an existing report that is close to what you are looking for and modify that after saving it with your name. It will save you time and effort.

Prerequisites

1. Open Project

Operation

1. Start the tool.
2. Step through the wizard
3. Finish the wizard.
4. Edit the report in the designer to finalize it.

Related Topics

Creating Reports 93

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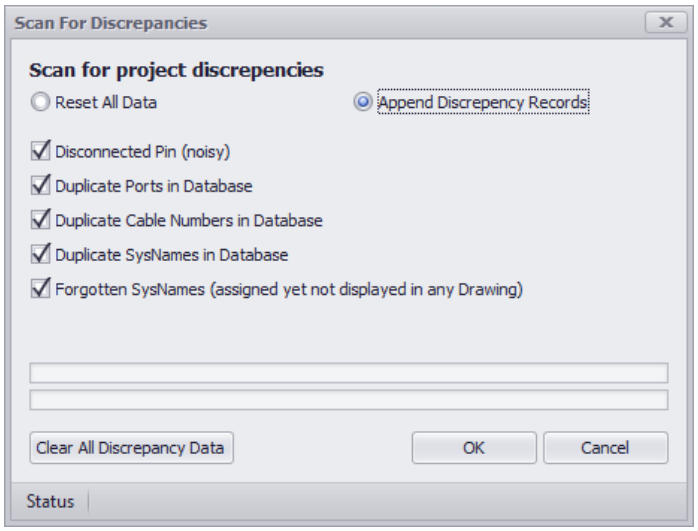
4.1.3.4.2 Scan for Discrepancies



Reports > Scan Project for Discrepancies ...

Commandline: dr

Explanation

Scan for common issues.

This tool will generate data in the project Discrepancies table. You can view it by double-clicking the item in the Project Explorer.

Prerequisites

1. Open Project

Operation

1. Start the tool.
2. Select items to scan for.
3. Open the project Discrepancy report from the Project Explorer.

Related Topics

Dialog Options

Item	Description

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Disconnected Pins	This is really noisy as it shows all available ports (from the global database) that do not have connections to them in the Cable table.
Duplicate Ports	If you duplicated a port in two places you will be warned on cable number assignment this will warn you again.
Duplicate Cable Numbers	If you duplicated a number here it is.
Duplicate SysNames	If you duplicated a SysName here it is.
Forgotten SysNames	If the SysName appears in the Equipment List but not in any drawing.
Append/Reset	Keep the discrepancy list in tact or reset and start over.
Clear All Data	Reset and start over.

4.1.3.5 Plugins Dialogs

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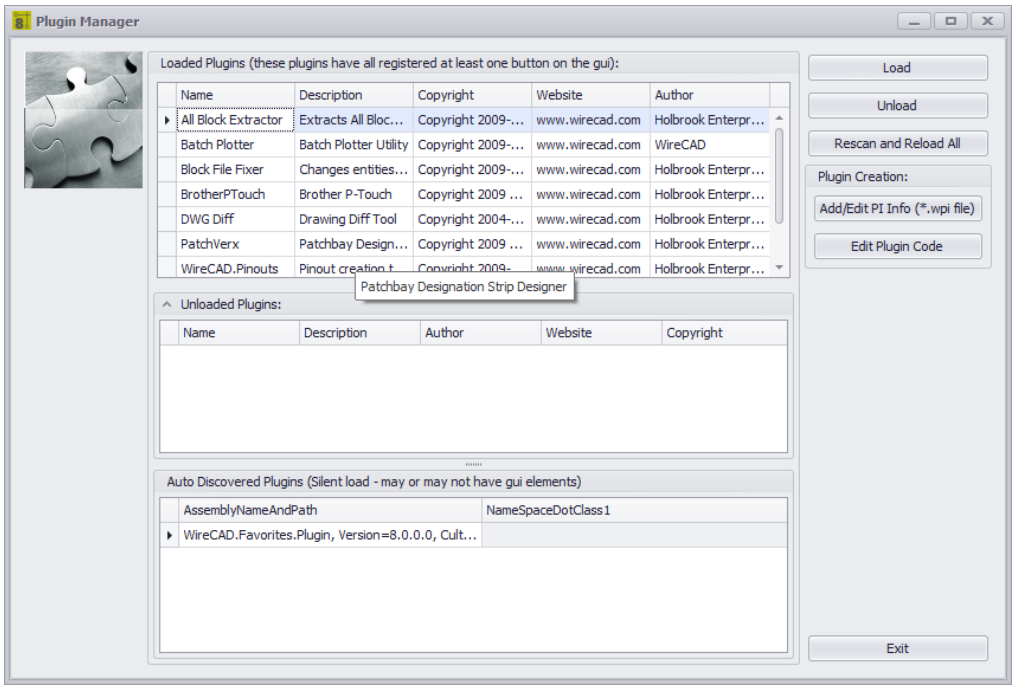
4.1.3.5.1 Plugin Manager



Explanation

The WireCAD Plugin Manager shows all loaded plugins.

WireCAD Plugin Types

WireCAD has facility for two types of plugin:

1. Auto-discovered plugins. These plugins register themselves on application startup. They may or may not include a graphical user interface element.
2. Registered plugins. These plugins register themselves via a plugin manifest file located in the C:\Program Files\WireCADx\bin\plugins*.wpi. Registered plugins will place a button somewhere in the WireCAD workspace and may respond to WireCAD events.

Related Topics

Included Plugins

Dialog Options

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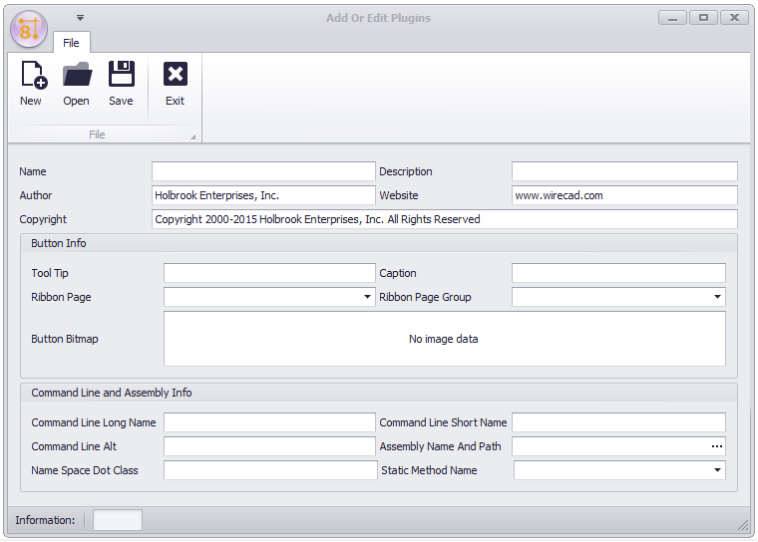
Item	Description
Load	Loads the selected plugin from the Unloaded Plugins grid.
Unload	Unloads the selected plugin from the Loaded Plugins grid.
Rescan and Reload All	Unloads then rescans and reloads all plugins
Plugin Creation	
Add/Edit PI info (*.wpi)	Edit a wpi file. 
Edit Plugin Code	Open #Develop to edit plugin code.

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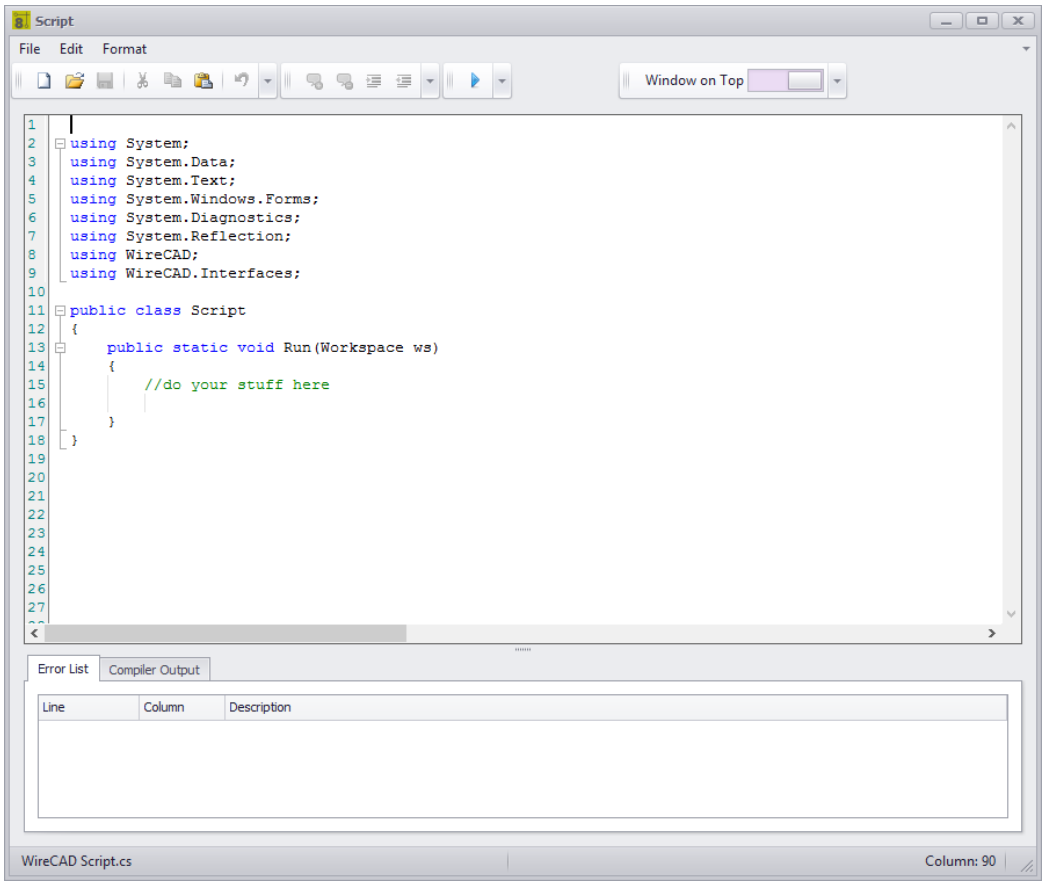
4.1.3.5.2 Script Editor/Runner



Explanation

Often times there are operations that you find yourself repeating endlessly. Scripts are a good way to automate those processes. There are many example scripts to browse through and see how they work.

NOTE: Scripts that run in WireCAD MUST have the following method signature or they will not execute:

```
using System;
using System.Data;
using System.Text;
using System.Windows.Forms;
using System.Diagnostics;
using System.Reflection;
using WireCAD;
using WireCAD.Interfaces;
//You may add additional using statements as needed but the listed ones are the minimum.

public class Script
```

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```
{
	public static void Run(Workspace ws)
	{
		//do your stuff here

	}
}
```

Possible Uses

1. Title block filling
2. New Drawing creation
3. Database cleanup

Usages

1. Launch the tool.
2. **File>Open** an example script. (c:\users\public\WireCAD\WireCADx\Scripts\).
3. Read the comments (they are the ones proceeded by //).
4. Tweak the script to suit your needs.
5. Run it by clicking the **[RUN]** button
6. Fix any compiler errors. Lather, rinse, repeat.

Dialog Options

Item	Description
New	Creates a new script with the necessary signature.
Open	Opens a .cs file to run.
Comment	Comment out your selection. Useful for hiding code from the compiler without deleting it.
Un Comment	Un comment your selection
Indent	
Outdent	

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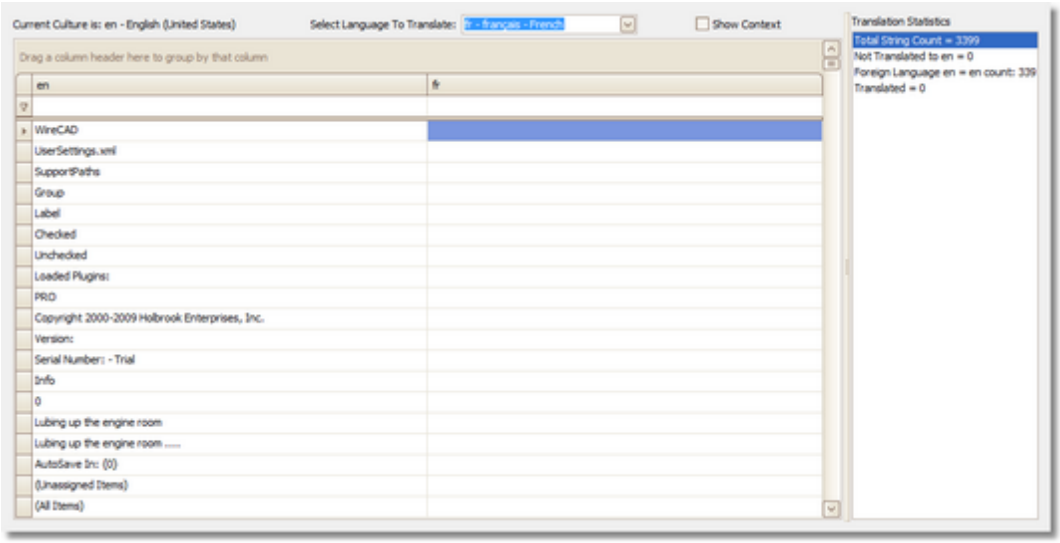
Run	If the Error List is empty then Do It. If if fails it will tell you why in the Compiler Output window.
Window On Top	Make this the topmost window always
Error List	Design time scripting errors
Compiler Output	Run time compiler and script execution errors.

4.1.3.5.3 Translation Manager



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Explanation

All visible text strings in WireCAD are contained in dictionary that is editable via the Translation Manager. The current UI culture is queried for a string. If not found the English version is returned.
You can right-click a column header and select the KeyString column to should the base English string that the program searches from.

NOTE: Some forms and dialogs only get their text strings on program start so changes here will not be visible to all areas of the application until you restart WireCAD.

Possible Uses

1. Translate WireCAD into a different language.
2. Change user column names and labels in the application to aid your process.

Form Options

Item	Description
Current Culture is:	The culture of your machine. If no translation exists, WireCAD defaults to the en (English) language.
Select Language To Translate:	Selects the language to edit in the right-hand column.
Show Context	Select to display a column showing the primary context in which the string or message appears.

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4.1.3.6 PDF Viewer Dialogs

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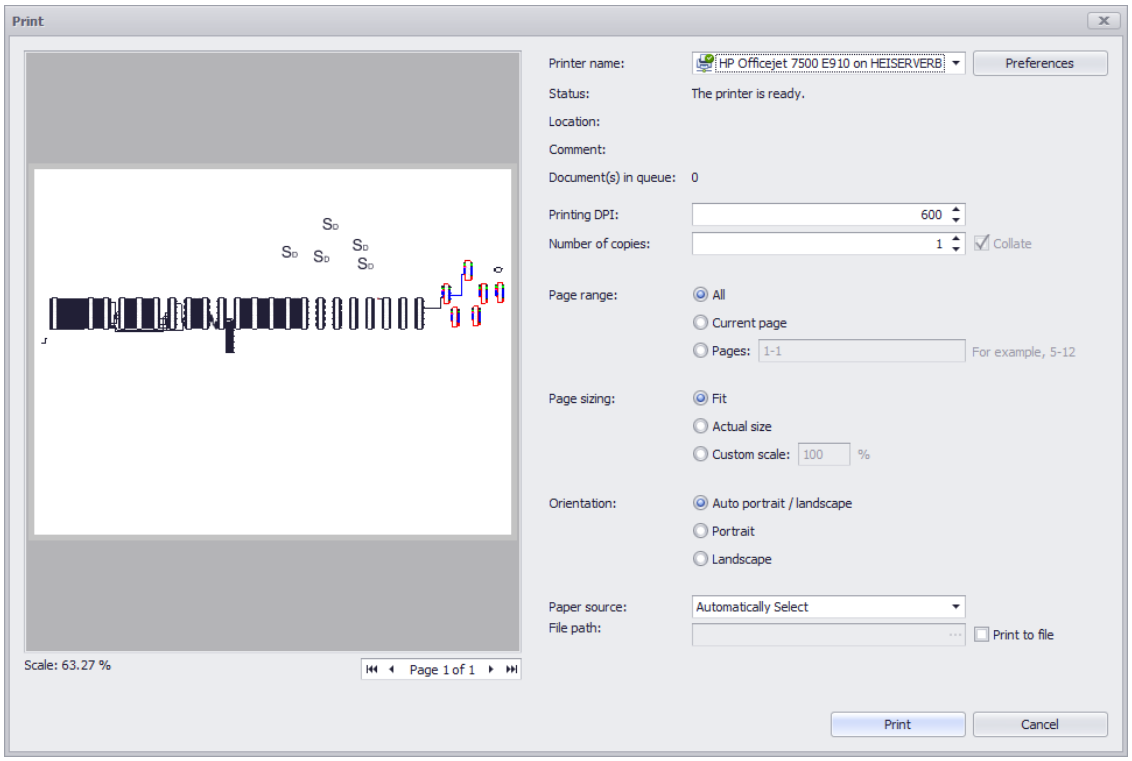
4.1.3.6.1 PDF Print Preview



Project Explorer > Double-click PDF File [Print]

Commandline: None

Explanation

This is the Print Preview Dialog for the PDF Viewer. It's pretty standard so we won't enumerate all the controls here.

Prerequisites

1. At least one pdf file saved in the project drawings path.

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4.2 Forms

Enter topic text here.

4.2.1 Application Menu Forms

4.2.1.1 Project Information

4.2.1.2 Account Info

4.2.2 Global Data Forms

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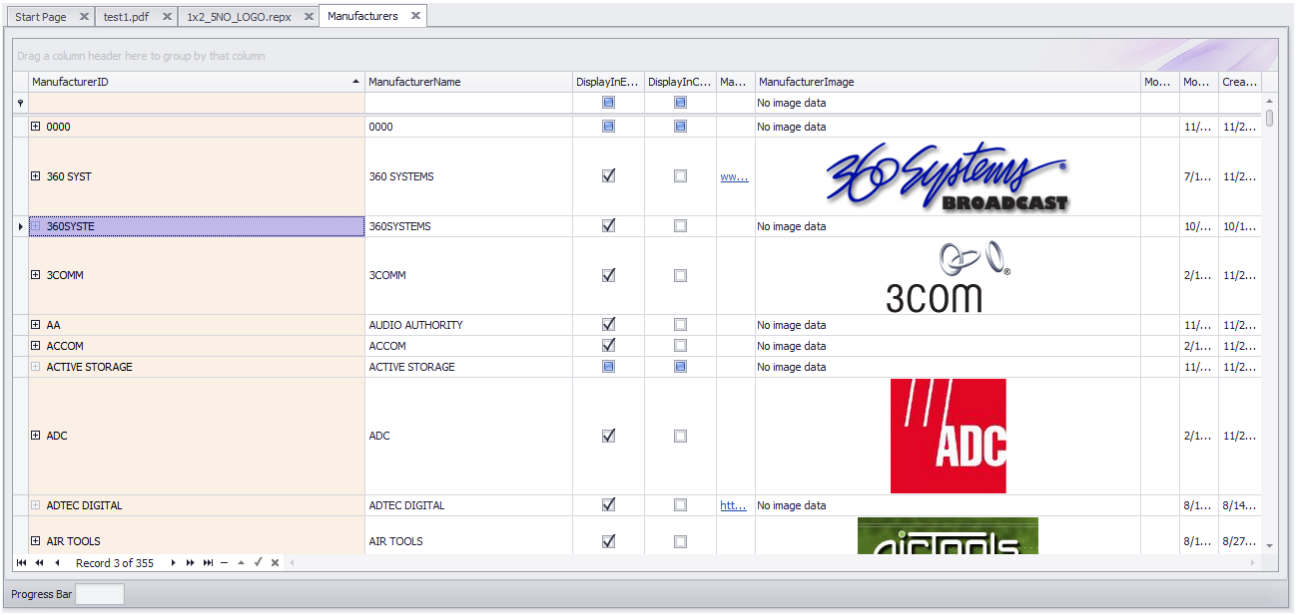
4.2.2.1 Manufacturers Grid



Database > Manufacturers

Commandline: man

Explanation

This tool provides access to the Manufacturers table of the Global Equipment database. The grid is hierarchical. The [+] buttons may be expanded to show related equipment.

Deletes here cascade, deleting any equipment that is associated with the Manufacturer.

Prerequisites

1. There is at least one Manufacturer added to the Global Equipment database.

Related Topics

Grid Basics 79

Form Options

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Item	Description
New	Show the New Manufacturers dialog 387
Attach Document ...	Any document may be attached to any record. This is a handy place to store manufacturer data sheets, images and such.
Remove Duplicates	This function scans the table for duplicate Manufacturer Names. If found the following occurs: • All equipment is rolled up under the top instance of the manufacturer. • All other instances are deleted. • The collection is saved. NOTE: a safety valve exists where if the Manufacturer is flagged to DisplayInCableTypes the function is ignored.

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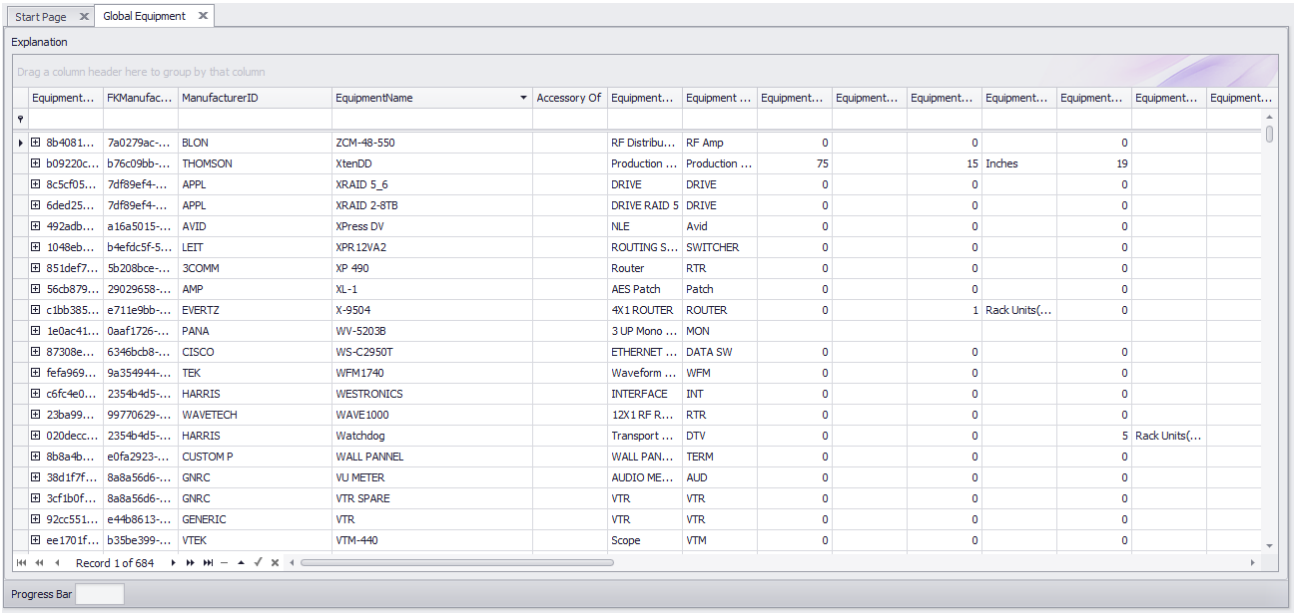
4.2.2.2 Equipment Grid



Database > Equipment

Commandline: eg

Explanation

This tool provides access to the Equipment table of the Global Equipment database. The grid is hierarchical. The [+] buttons may be expanded to show related Inputs and Outputs.

Deletes here cascade, deleting any I/O associated with the Equipment.

Prerequisites

1. There is at least one Manufacturer added to the Global Equipment database.

Related Topics

Grid Basics 79

Form Options

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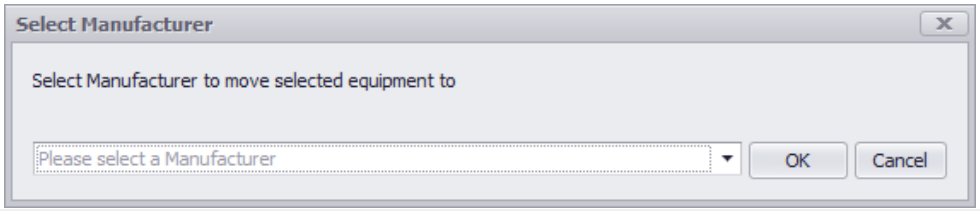
Item	Description
New	Show the New Equipment Wizard 389
Attach Document ...	Any document may be attached to any record. This is a handy place to store manufacturer data sheets, images and such.
Clean	This function scans the table for Equipment with no I/O. If found the following occurs: • The Equipment definition is deleted. • The collection is saved.
Transfer to Different Manufacturer	Allows movement of the selected device to a different Manufacturer. 

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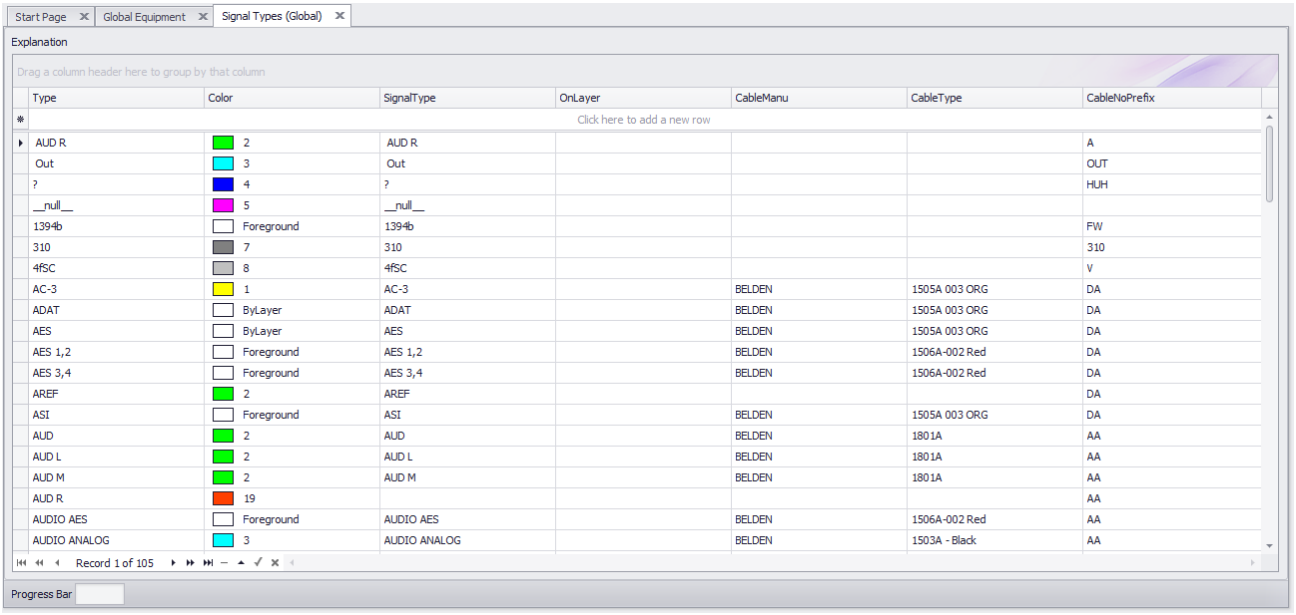
4.2.2.3 Signal Types Grid



Database > Signal Types

Commandline: st

Explanation

This tool provides access to the Signal Types table of the Global Equipment database. Many of the default display behaviors originate here, for instance:

- The color of pins on a block
- The color of cables
- The Cable Type associated with the Signal Type
- The Cable Number prefix

Prerequisites

1. None

Related Topics

Grid Basics 79

Form Options

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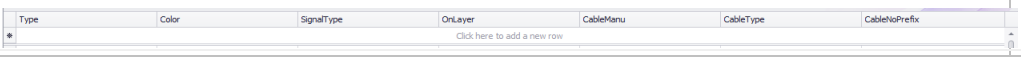
Item	Description
New	There is no **New** button on this grid. The New Record Row appears at the top of the grid: 
Rename I/O Signal Types	Rename the Signal Type in this grid and all I/O in the database.
Rebuild Signal Types from I/O	This function scans the Inputs and Output for Signal Types then: • Checks existing in this grid. • Add if not found. • Collection is saved.

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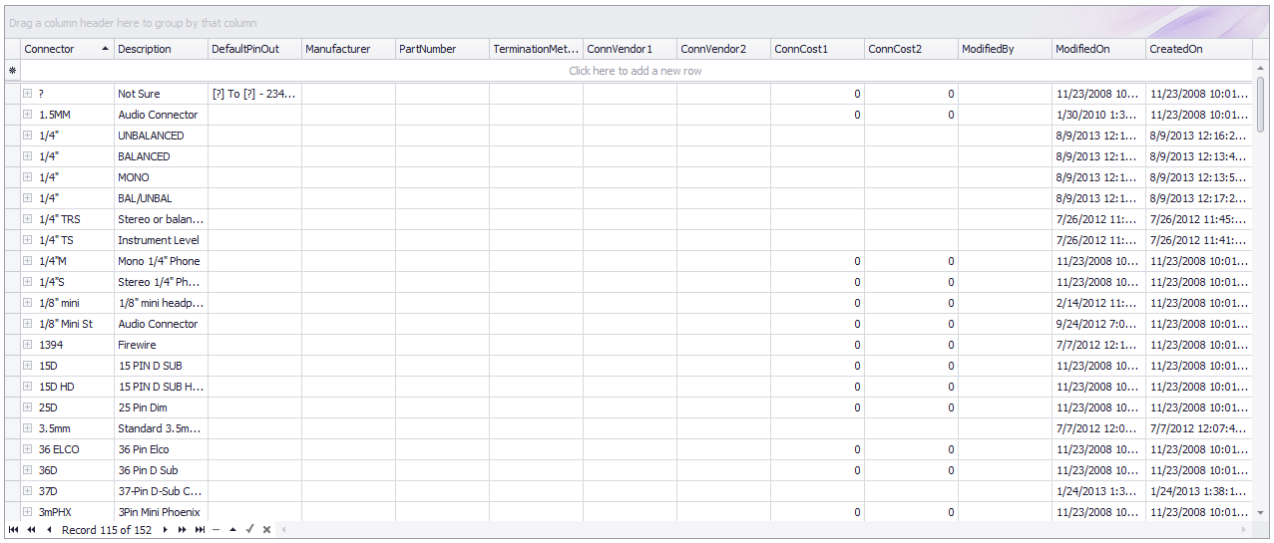
4.2.2.4 Connectors Grid



Database > Connectors

Commandline: cn

Explanation

This tool provides access to the Connectors table of the Global Equipment database.

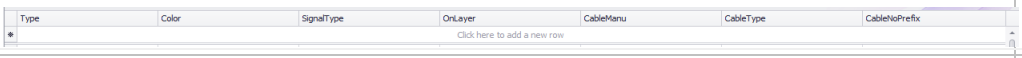
Prerequisites

1. None

Related Topics

Grid Basics 79

Form Options

Item	Description
New	There is no New button on this grid. The New Record Row appears at the top of the grid: 
Rename I/O Connector Types	Rename the Connector in this grid and all I/O in the database.

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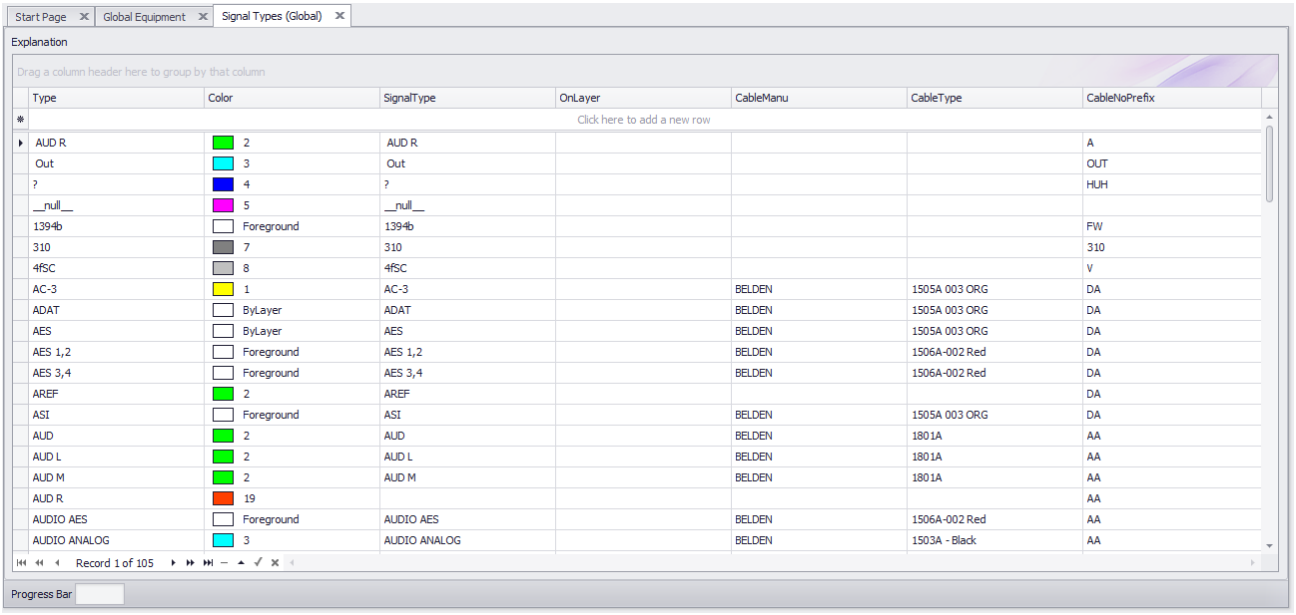
4.2.2.5 Cable Types Grid



Database > Signal Types

Commandline: st

Explanation

This tool provides access to the Signal Types table of the Global Equipment database. Many of the default display behaviors originate here, for instance:

- The color of pins on a block
- The color of cables
- The Cable Type associated with the Signal Type
- The Cable Number prefix

Prerequisites

1. None

Related Topics

Grid Basics 79

Form Options

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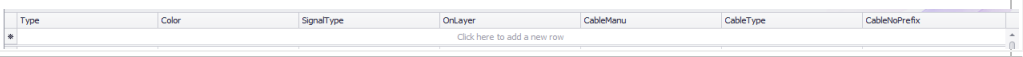
Item	Description
New	There is no New button on this grid. The New Record Row appears at the top of the grid: 
Rename I/O Signal Types	Rename the Signal Type in this grid and all I/O in the database.
Rebuild Signal Types from I/O	This function scans the Inputs and Output for Signal Types then: • Checks existing in this grid. • Add if not found. • Collection is saved.

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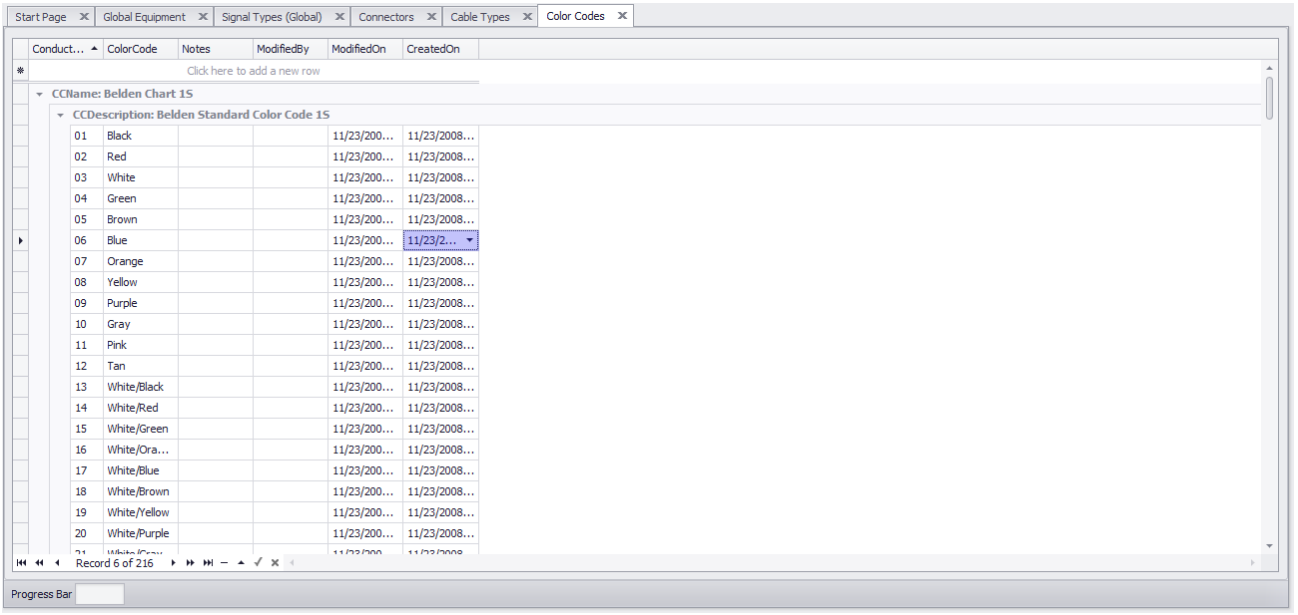
4.2.2.6 Color Codes Grid



Project Explorer > Color Codes

Commandline: showcolorcodesgrid

Explanation

This tool provides access to the Color Codes table of the Global Equipment database.

Prerequisites

1. None

Related Topics

Grid Basics 79

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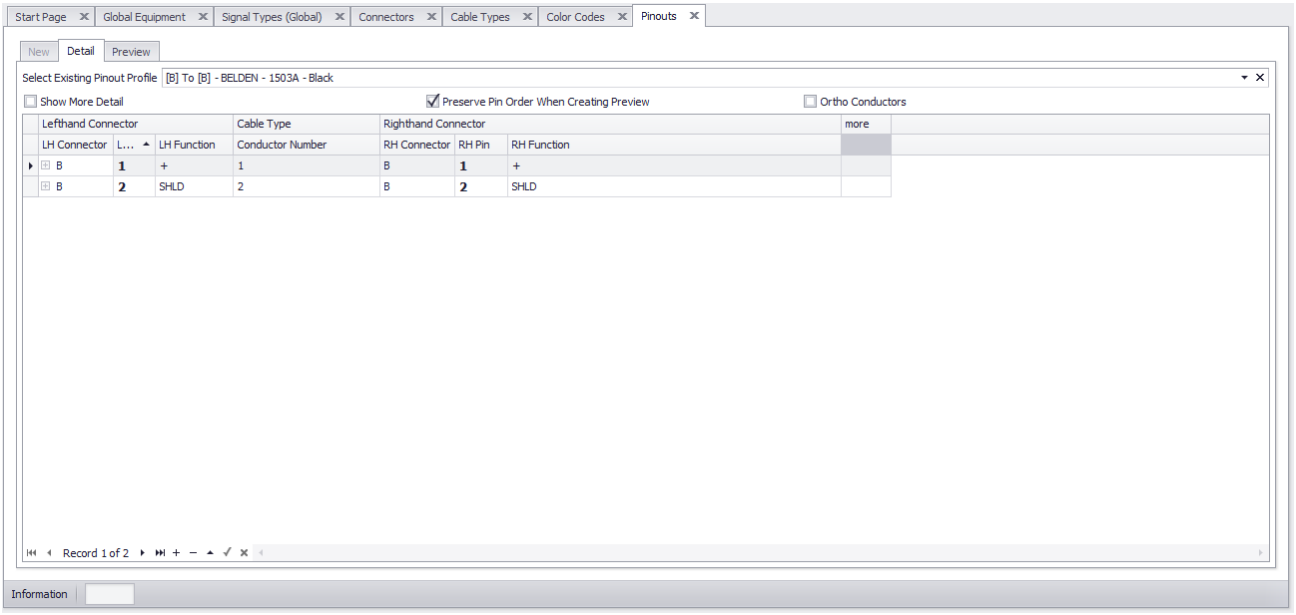
4.2.2.7 Pinouts



Database > Pinouts

Commandline: po

Explanation

This tool provides access to the Pinouts table of the Global Equipment database. The concept of the Pinouts tool is to create a data set that describes two connectors and the conductors between them. The Cable Type data needs to have conductor level data. The data may be attached at the project level to a cable. The data can also be churned into a preview.

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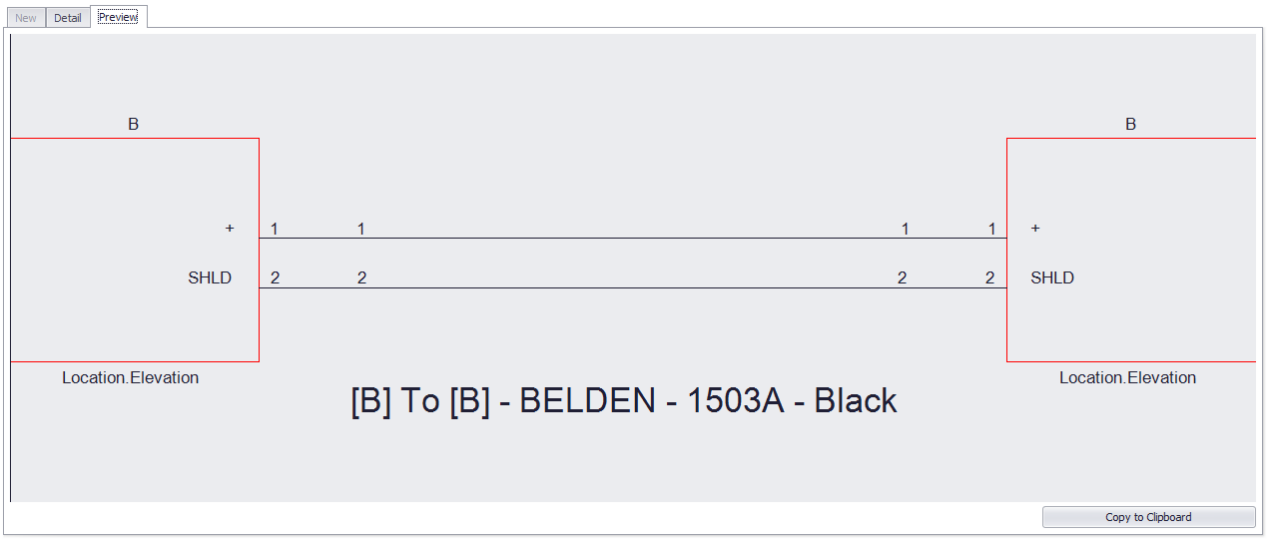

Prerequisites

1. None

Related Topics

Grid Basics 79

Form Detail Tab Options

Item	Description
Select Existing Pinout Profile	Select a named pinout to fill the grid and subsequent preview.
Show More Detail	Shows more rows of data to edit.
Preserve Pin Order When Creating Preview	How is the Preview created.
Ortho Conductors	
Pinout Grid	Edit the pinout data to assign the conductors to the pins and termination methods and so on.

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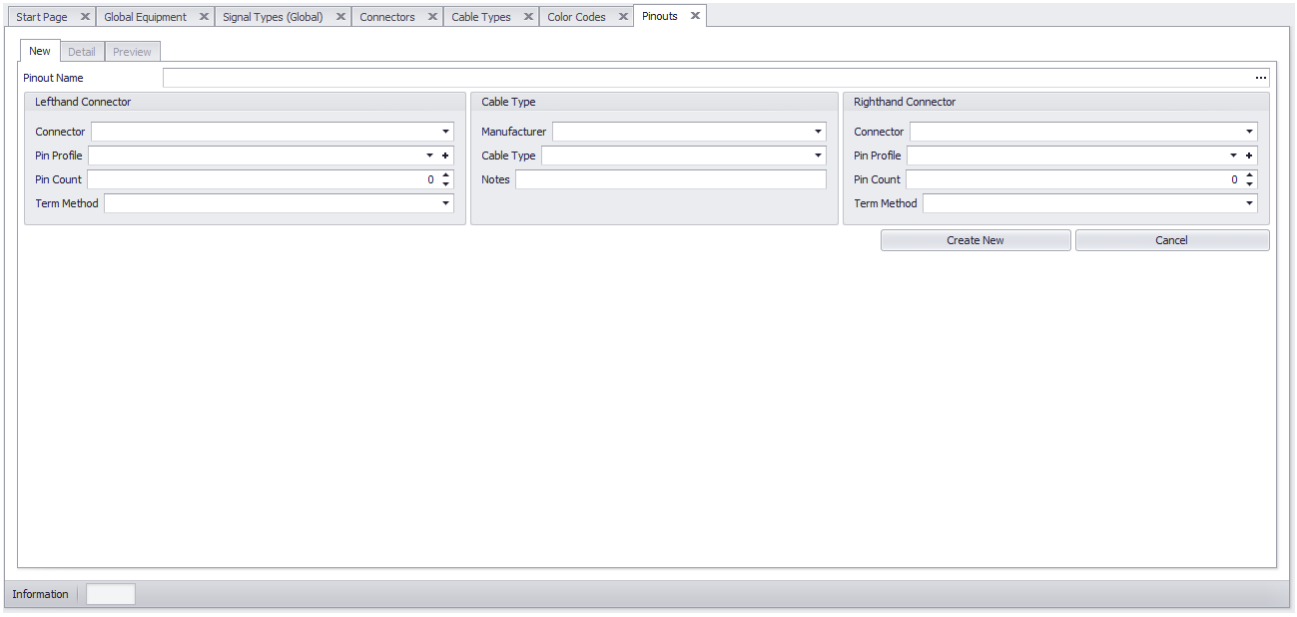

Clicking the New button enables the New Tab. From here you enter the overall data for the pinout. The Lefthand and Righthand connectors conductor counts, etc. Once the pinout is created you can edit the detail in the Detail tab.

Form New Tab Options

Item	Description
Lefthand Connector Info	Enter the connector type, pin profile (if any) and count.
Cable Type	Select the Cable Type. Remember this type must have conductor level data. Core Level data alone will not suffice here.
Righthand Connector Info	Enter the connector type, pin profile (if any) and count.

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4.2.3 Project Data Forms

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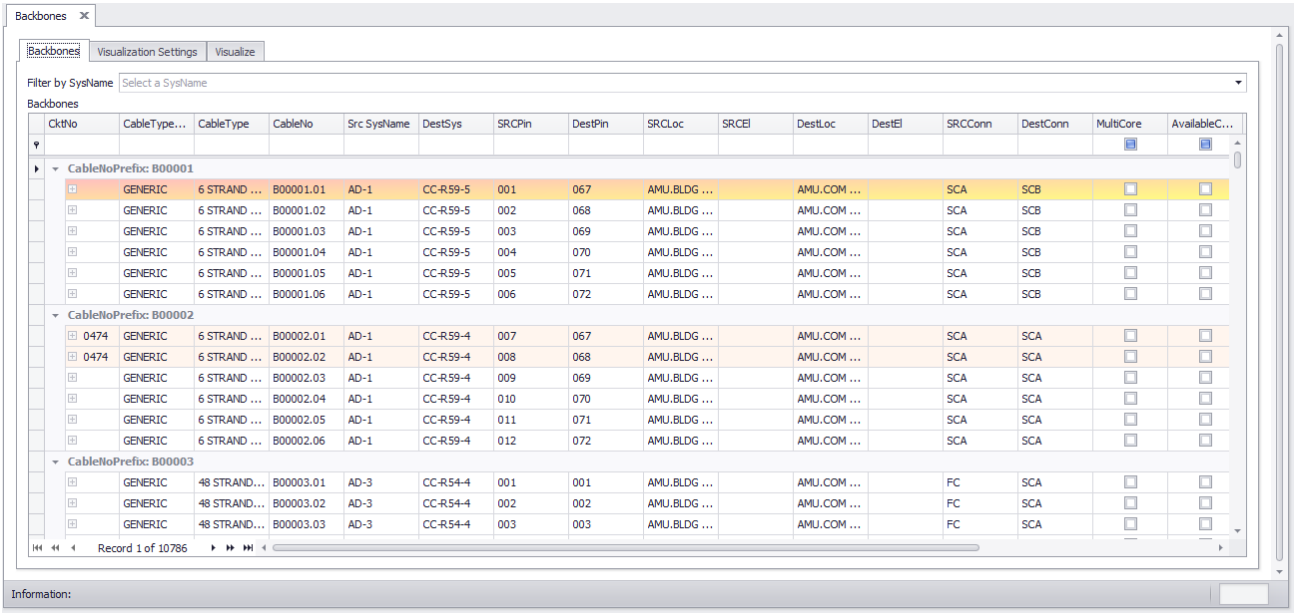
4.2.3.1 Backbone Grid (ENT ONLY)



Databases > Backbones

Commandline: bbg

Explanation

This is the Backbones view and includes a visualizer that can produce both ladder diagrams and riser diagrams. Here you can view and search Backbone data. You can also set the Status of a Backbone.

Prerequisites

Backbones created in the project database.

Related Topics

New Backbone 130

Backbones 125

Grid Basics 79

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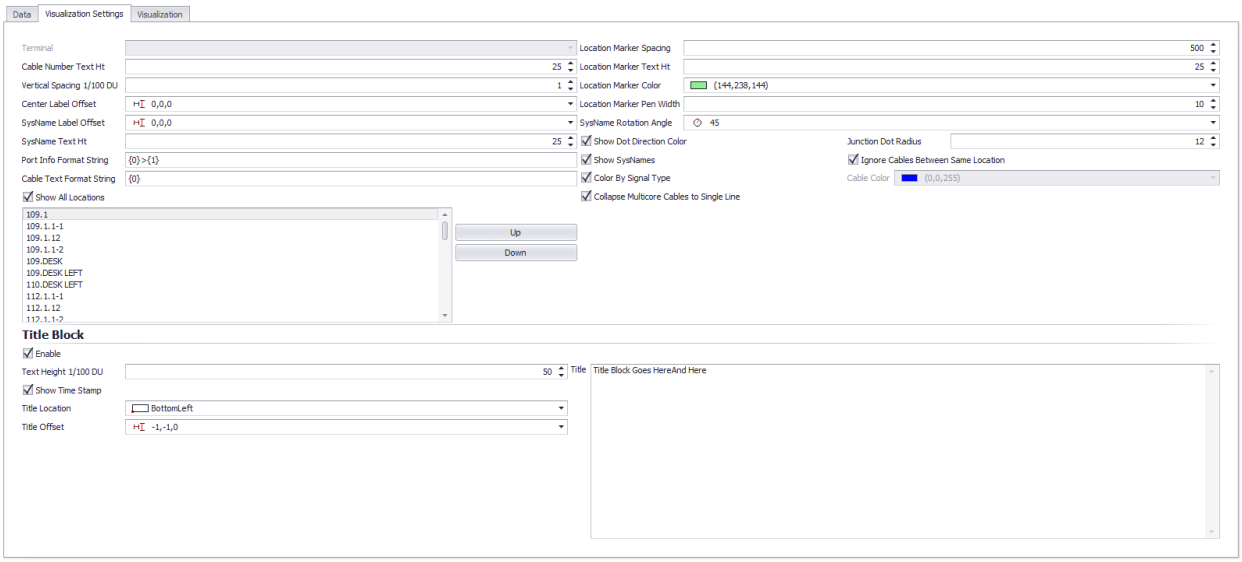
Data Tab Options

Item	Description
Search	Search the collection for the search term.
Find All	Clear the search field and return all records.
Tools	
Attach Document	Any document can be attached to any record. This is useful for storing cut-sheet data, test data, and images.
Rename Source Connector(s)	Rename all of the connectors on the source side of the cables that comprise the backbone.
Rename Destination Connector(s)	Rename all of the connectors on the destination side of the cables that comprise the backbone.
Rename Fiber Mode	Rename all of the fiber modes on the cables that comprise the backbone.



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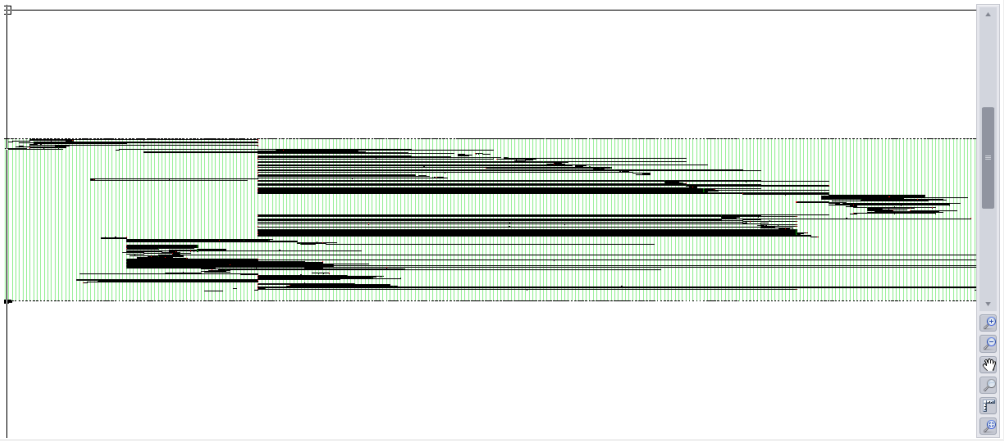
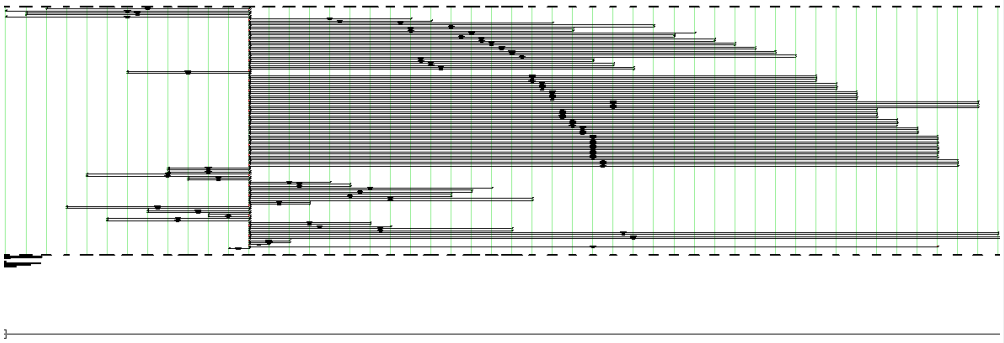
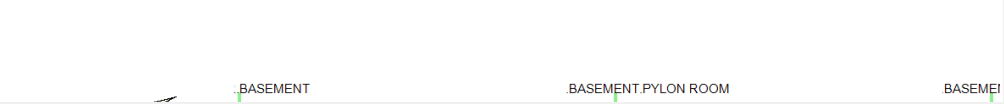
Visualization Tab Options

Item	Description
Show All	Shows all backbones in the database in the Visualize tool 
Current Record	Allows selection of only those backbones that touch the selected record. 
Search Depth	How many branches deep are we going to search.
Search Width	How many backbones per branch.
Appearance	
Location Marker Spacing	

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Location Marker Text Height	
Location Marker Color	
Junction Dot Radius	
Vertical Backbone Spacing(DU)	

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Center Label Format	String used to create the center label. Can make use of the following variables: {0} = Backbone Number {1} = Total Count {2} = Total Available Count {3} = Total Dead Count {4} = Single Mode Fiber Count {5} = Available Single Mode Fiber Count {6} = Dead Single Mode Fiber Count {7} = Multimode Fiber Count {8} = Available Multimode Fiber Count {9} = Dead Multimode Fiber Count Example: assume that our backbone number is 1001 with 12 single mode fibers of which 1 is dead and four are in use. **String:** B{0}-SM COUNT:{4} Avail:{5} Dead:{6} **Output:** B1001-SM COUNT:12 Avail:8 Dead:1 **String:** B{0} **Output:** B1001
Center Label Offset	Offset from center in DU
Show SysNames	Shows the SysName labels
Ignore Same Locations	Hides backbones that originate and terminate in the same location

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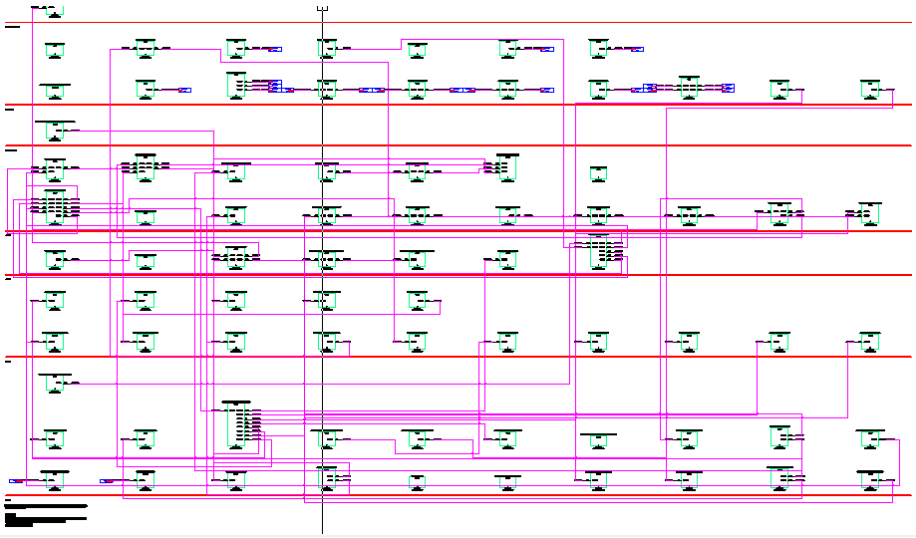
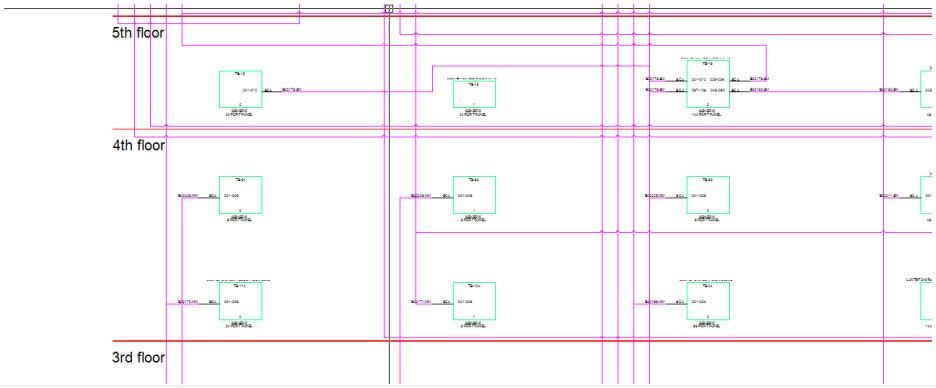
SysName Rotation Angle	Sets the rotation angle of the SysName label if shown
SysName Text Height (100th DU)	Sets the height of the SysName text if shown
SysName Text Offset	Offset from the endpoint of the backbone
Riser Diagram Mode	
Campus and Building	The Campus and Building for which to build the riser diagram 
Layout Max Columns, Column Spacing, Minimum Row Height	Determine the layout of the panels in the diagram 
Body Color, Body Width, Descriptor Locations	Determines the appearance of the body of the panels in the diagram

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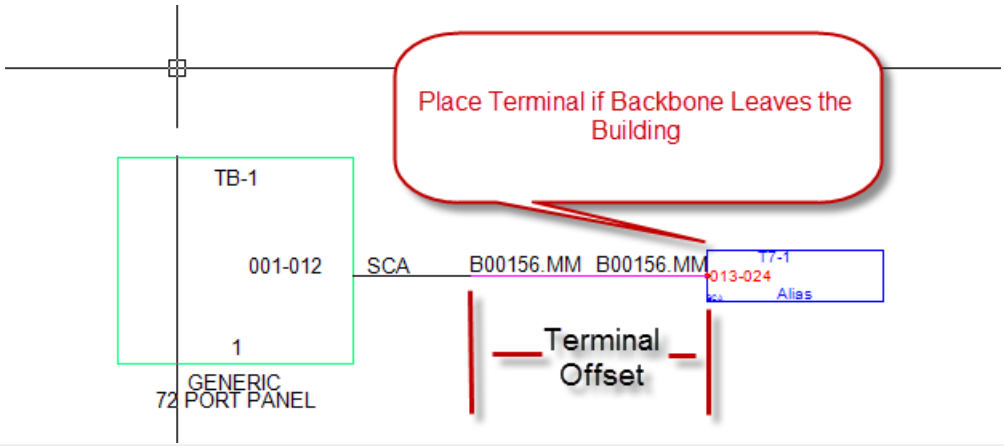
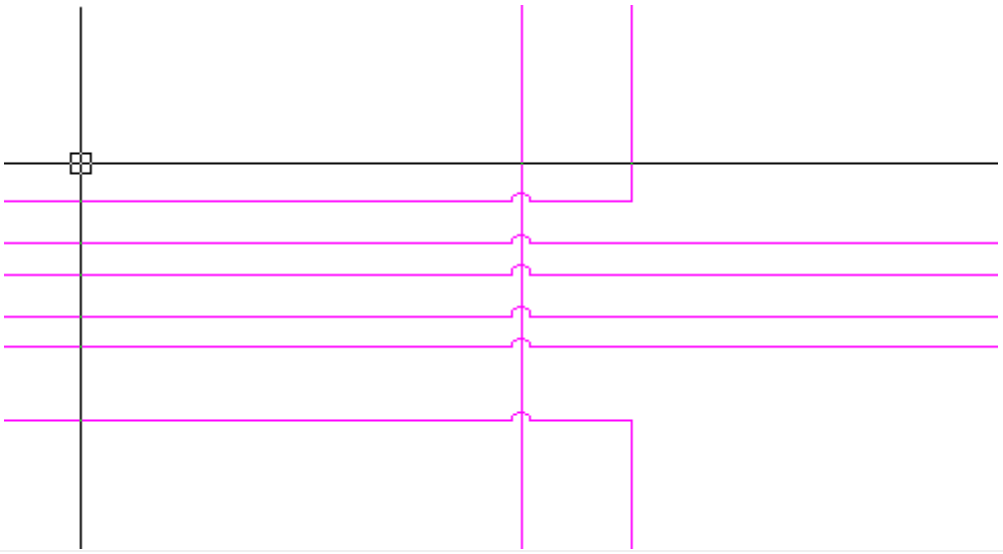
Show Terminals if Backbone Leaves the Building, Terminal Offset	If the other end of the Backbone is not in the selected building a terminal will be placed and a backbone drawn to it. The terminal's position from the port on the panel is determined by the **Terminal Offset** property. 
Apply Jumps	
Avoid Other Cables	Instructs the cable autorouter to attempt to avoid other cables.
Show Unresolved Backbones	If the Backbone cannot be placed in the drawing a list is generated. Enabling this setting shows the list as the function completes.
Title and Comment Block	
Show Title	Sets the visibility of the title/comment block

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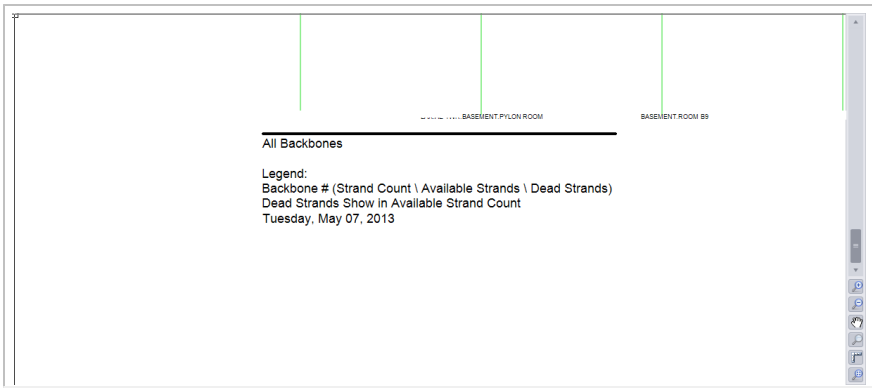
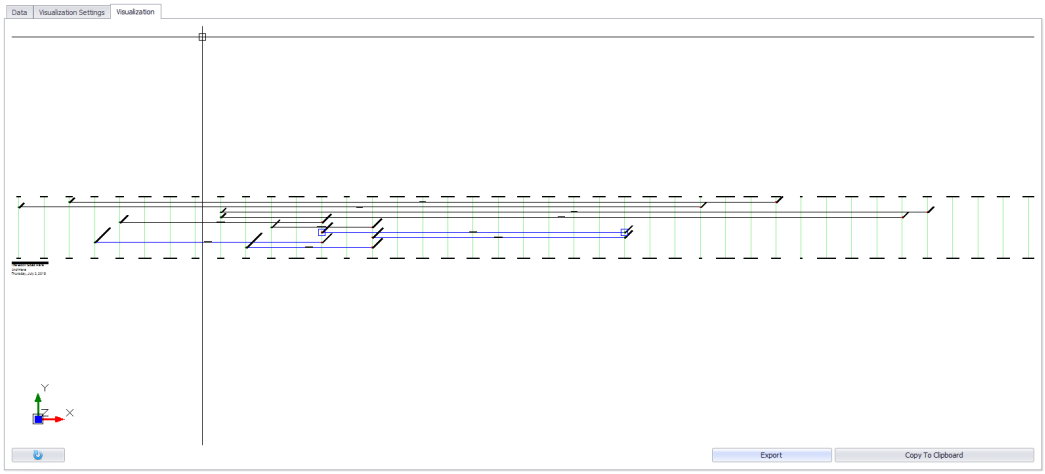
Title Position	
Show Time Stamp	
Title Text Height (100th DU)	
Title Offset	
Title	
Misc.	
Backbone Color by Signal Type	Pulls the backbone color from the global Signal Types database.
Show Directional Coloring	Shows green dots for the source end of the backbone and red dots for the destination end if shown.
Backbone Color	Sets all backbones to the color defined.
[Reset Default]	Button to reset the settings to the defaults.



Visualize Tab Options

Item	Description

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Export	Export to file.
Copy To Clipboard	Copy to clipboard
Refresh	Refresh the preview.

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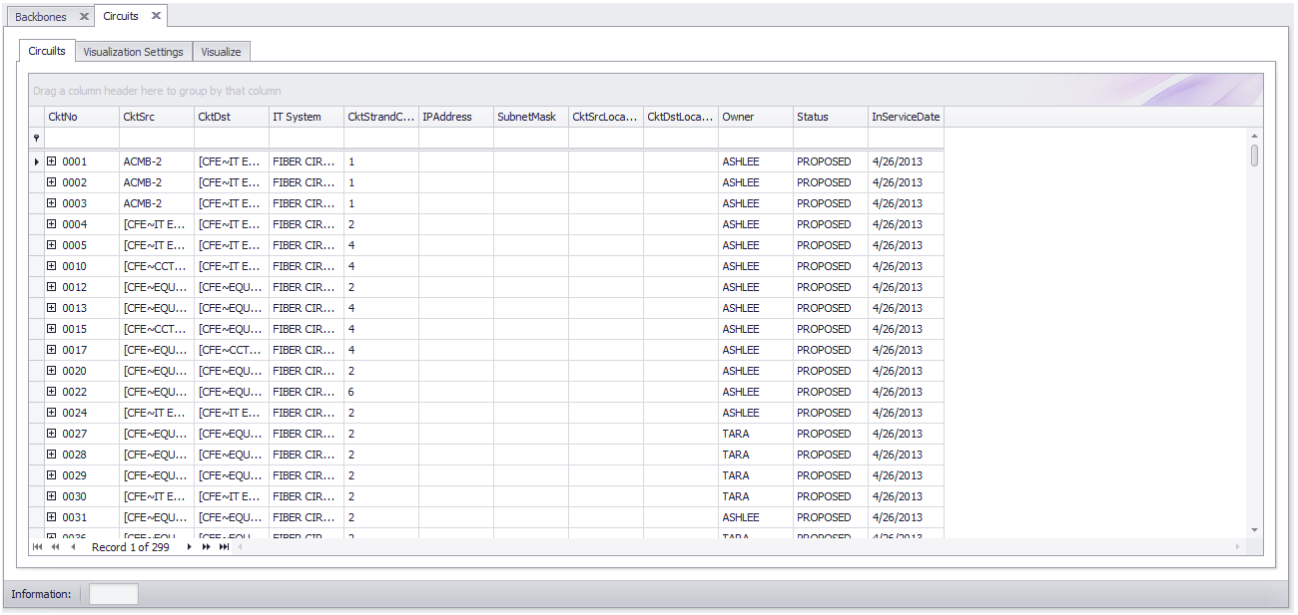
4.2.3.2 Circuits Grid (ENT ONLY)



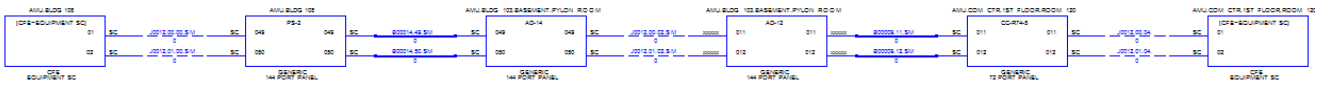
Databases > Circuits

Commandline: circ

Explanation

This is the Circuits view. Circuits are collections of cables. In most cases they include jumpers between panels and Backbones. Circuits consist of a set of ordered elements and a strand count.

This grid contains a Visualizer that lets you see the data in graphical form. The Visualizer associated with this grid will create a functional diagram of the selected Circuit.



Prerequisites

Creation of at least one Circuit

Related Topics

Circuits 143

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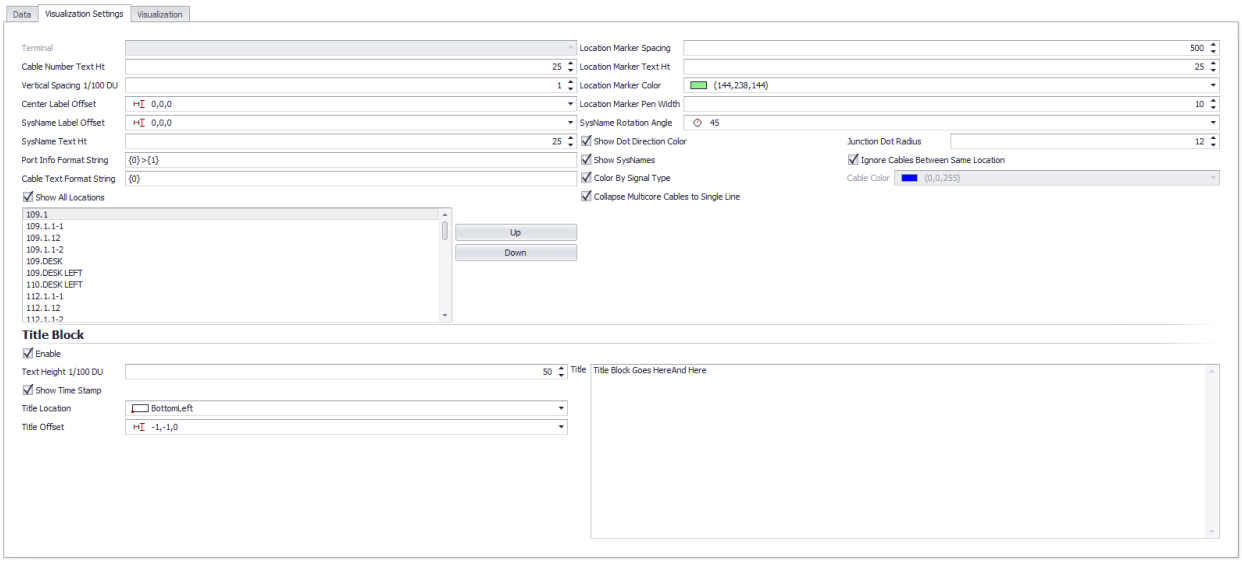
Combine Circuits 167

Grid Basics 79

Data Tab Options

Item	Description
Search	Search the collection for the search term.
Find All	Clear the search field and return all records.
Tools	
Attach Document	Any document can be attached to any record. This is useful for storing cut-sheet data, test data, and images.
Rename Circuit	Change the name of the Circuit
Output All Selected Circuits	Uses the grid selection to determine which Circuits to write out to files.
Combine Circuits	Displays the Combine Circuits 167 dialog.



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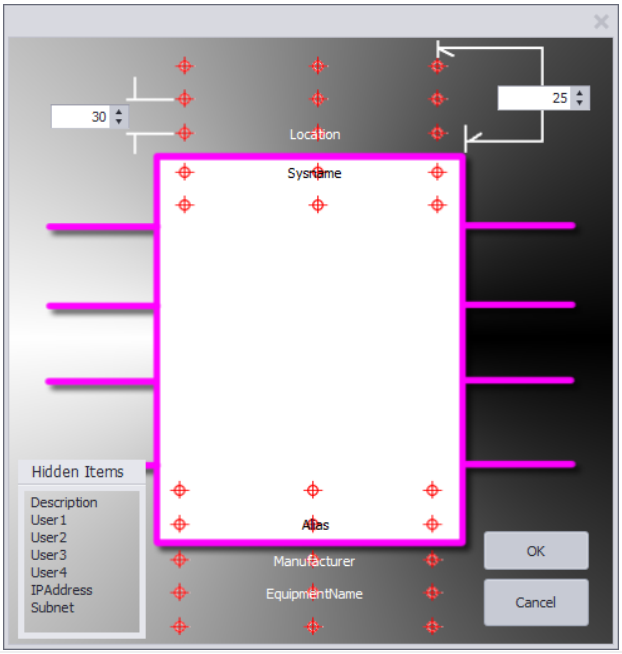
Visualization Tab Options

Item	Description
Source, Middle and Destination Shape	Choose one of the 16 stock shapes
Source, Middle and Destination shape Width in (100th DU)	How wide is it
Source, Middle and Destination shape Color	Set the color of the shape
Source, Middle and Destination shape Descriptor Locations Drag the descriptor to the location map or to the **Hidden Items** list to hide.	
Backbone Color **Jumper Color** **Horizontal Cable Color**	Sets the color

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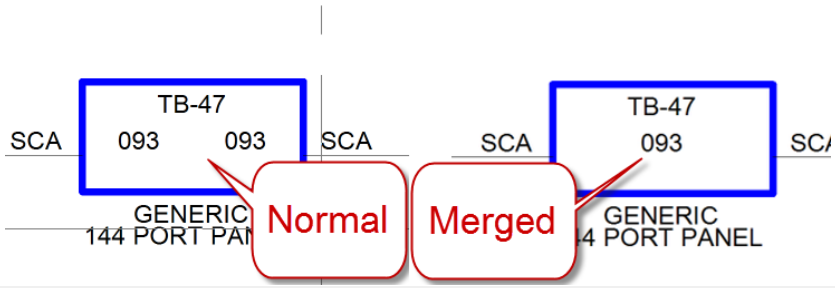
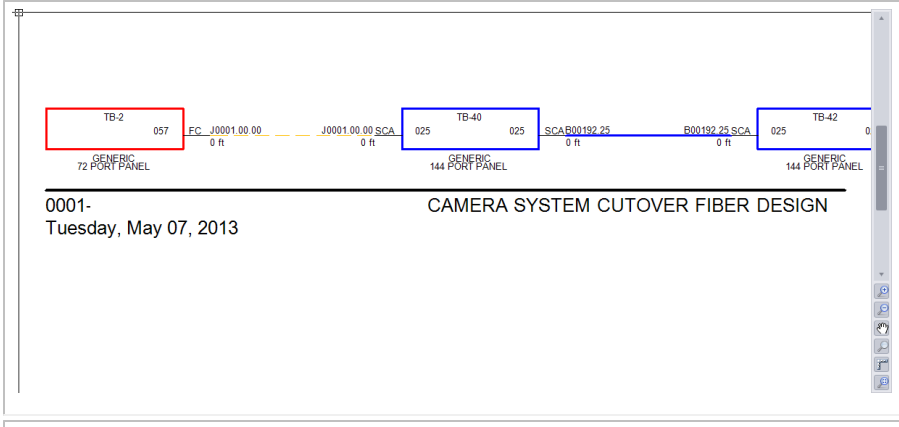
Merge and Center Text in Body	
Text Height	controls the height of all text in the visualization.
Layout	
Max Columns	The maximum number of blocks placed before a new row is started below.
Column Spacing	The distance between blocks
Row Spacing	The Distance between rows
Title and Comment Block	
Show Title **Title Position** **Show Time Stamp** **Title Text Height (100th DU)** **Title Offset**	
Title	You can type whatever you want in this field. In addition the following variables are available: {0} = Circuit Number {1} = It System
Misc.	

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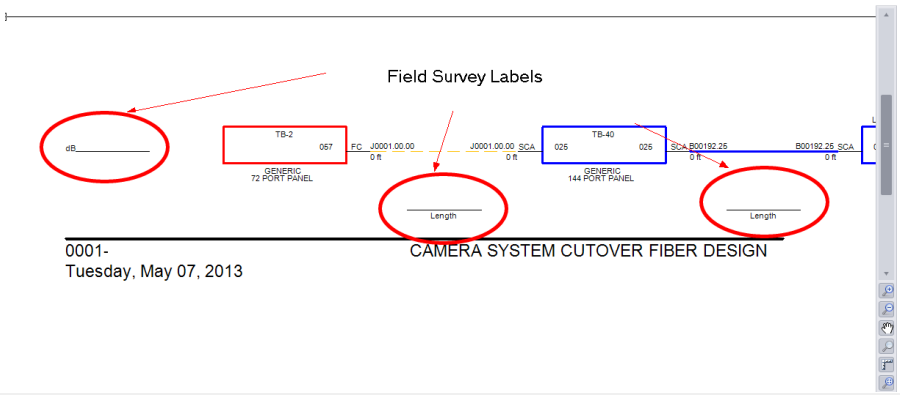
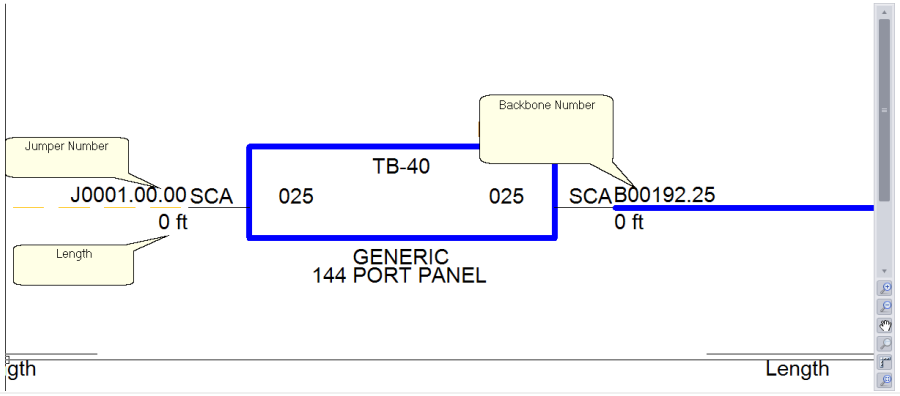
Show Attenuation Labels **Show Jumper Length Labels** **Show Backbone Length Labels**	Show field survey labels in the CAD preview 
Show Jumper Numbers **Show Backbone Numbers** **Show Length**	

Visualize Tab Options

Item	Description
Export	Export to file.
Copy To Clipboard	Copy to clipboard
Refresh	Refresh the preview.

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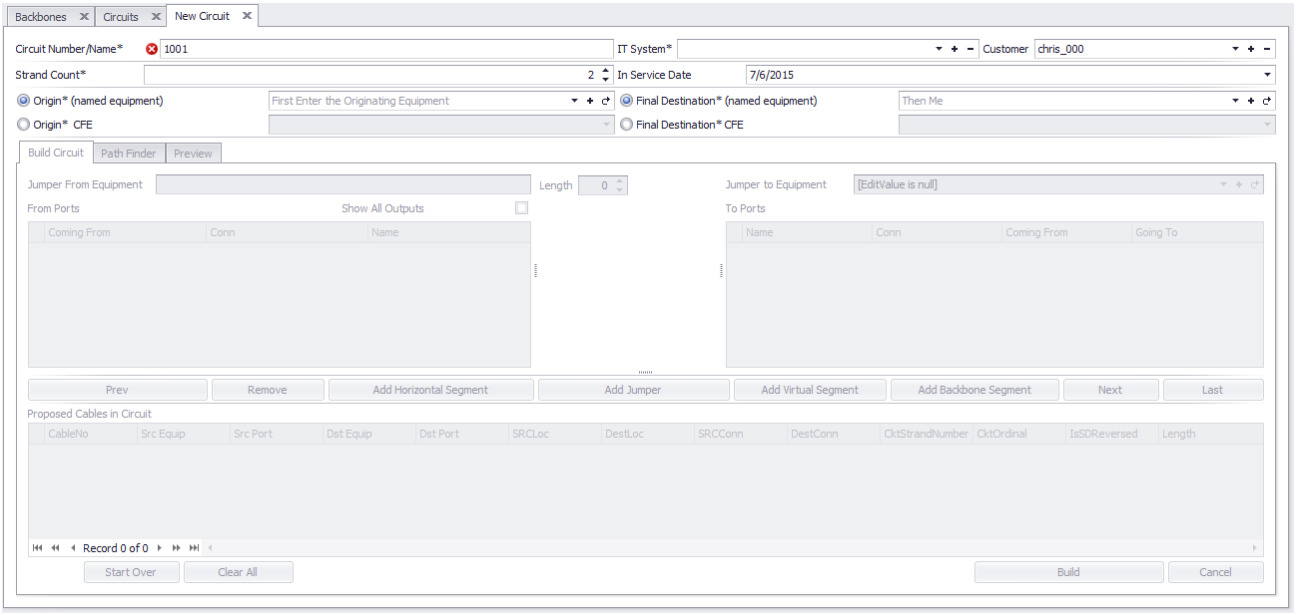
4.2.3.3 New Circuit (ENT ONLY)



Database > Circuits [File > New]

Commandline: st

Explanation

This tool provides a means but which to create a new circuit. Circuits can either be assembled manually by follow the paths of panels through Backbones and jumpering to the next element of the first and last elements may be defined and then handed to the Path Finder tool which will find and present candidate routes.

Prerequisites

1. Backbones added.

Related Topics

New Circuit 145

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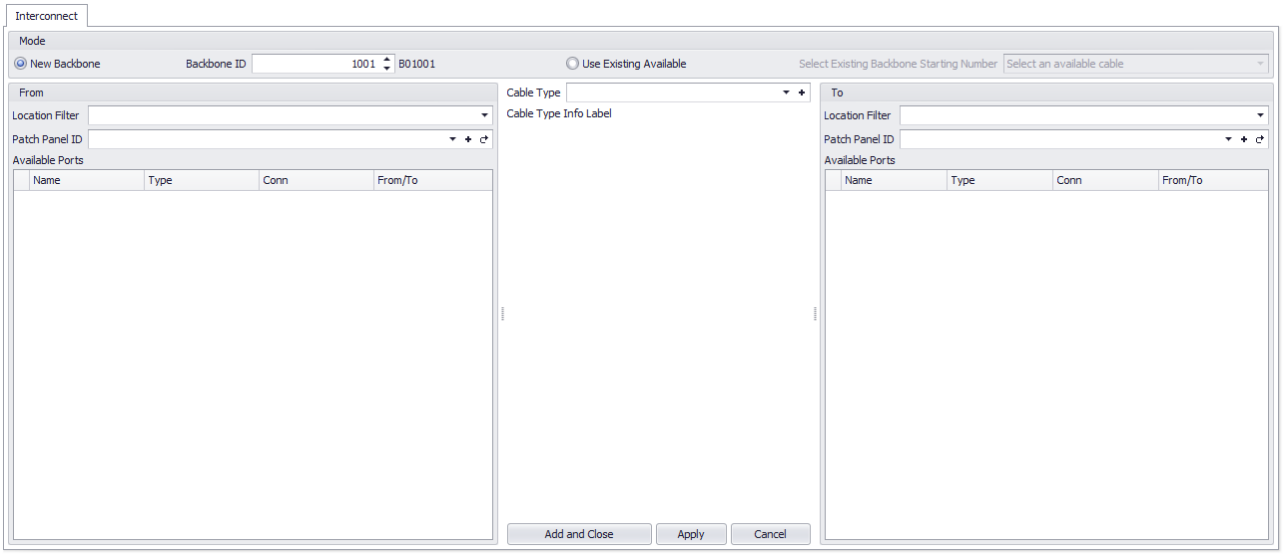
4.2.3.4 New Backbone (ENT ONLY)



Database > Backbones [File > New]

Commandline: none

Explanation

Create a new Backbone

Prerequisites

1. None

Related Topics

Backbones Grid 426

Backbones 125

Grid Basics 79

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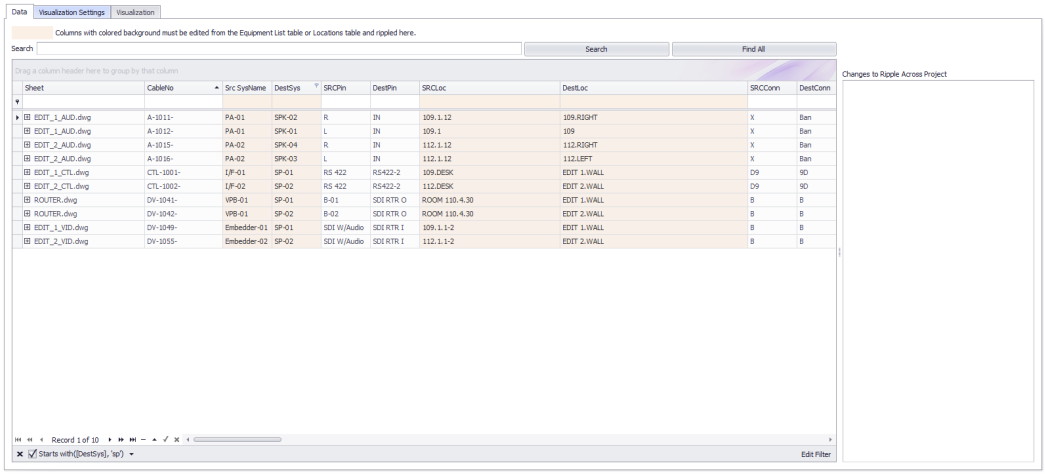
4.2.3.5 Equipment List

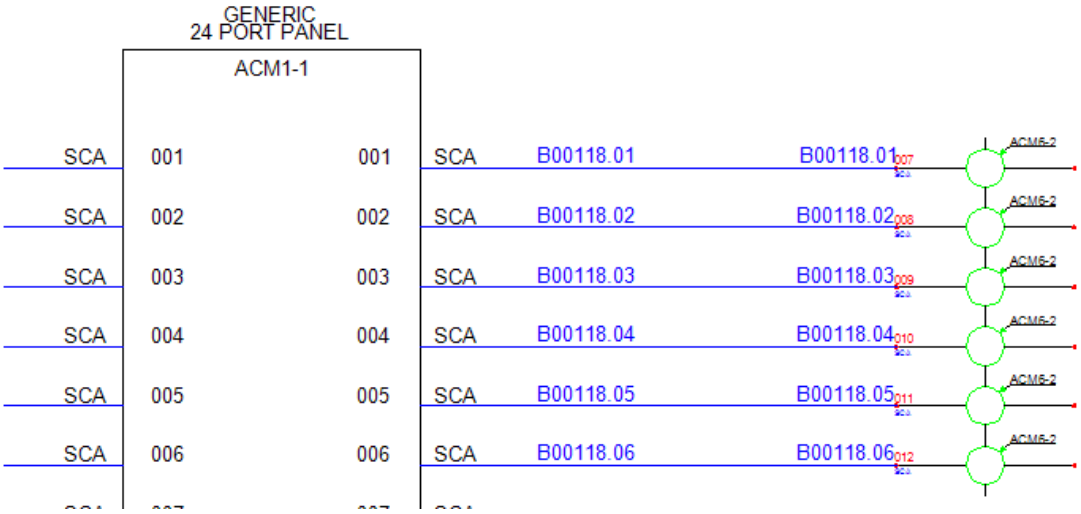


Databases > Equipment List

Commandline: sys

Explanation

This is the main Equipment List of all SysNames in the project. You can edit and ripple your changes from here. This grid contains a Visualizer that lets you see the data in graphical form. The Visualizer associated with this grid will create a system snapshot of the selected SysName.



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Prerequisites

Assigned SysNames

Related Topics

Assign SysName 347

Grid Basics 79

Data Tab Options

Item	Description
Search	Search the collection for the search term.
Find All	Clear the search field and return all records.
Ripple List	Changes you have made that may need to be rippled across the drawing set. The ripple will occur after you save the grid to the database. Note: you do not need to ripple changes that do not appear in a drawing. For example if you change the **Cable Type Manu** and **Cable Type** fields, neither of those fields have a corresponding display in a drawing. So no ripple is required to keep the drawing in sync with the database. If you are unsure - ripple.
Tools	
Attach Document	Any document can be attached to any record. This is useful for storing cut-sheet data, test data, and images.
Slurp Locations	Collect all location data from the Equipment list and populate the Locations table with it.

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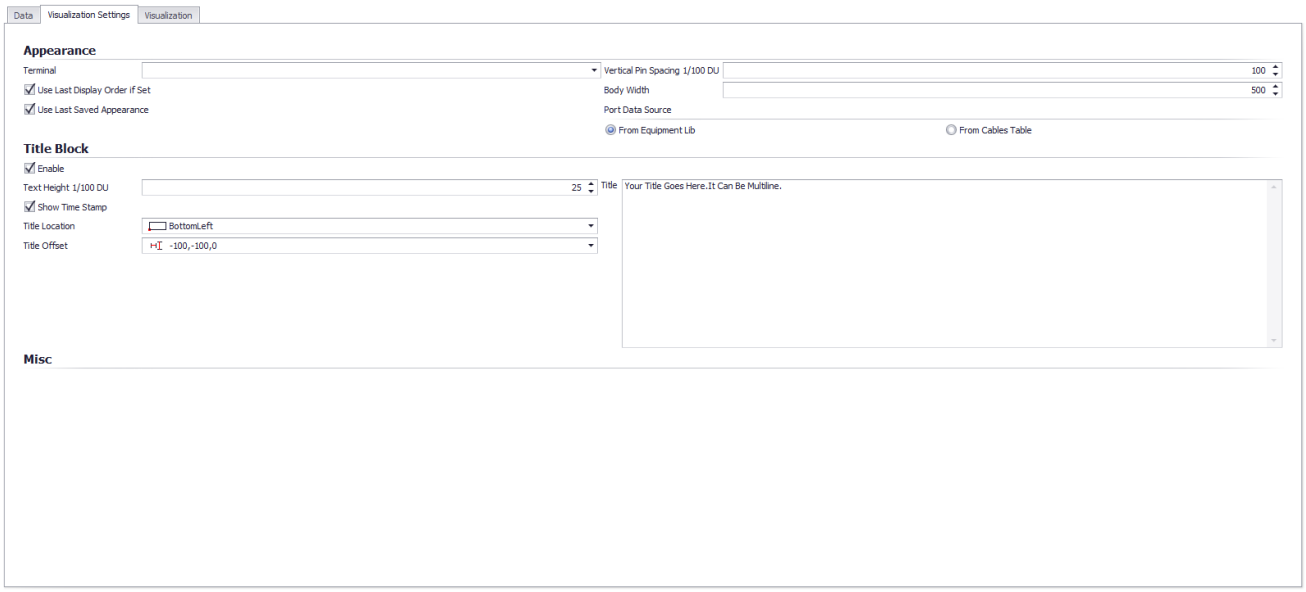

Visualization Tab Options

Item	Description
Terminal	Select the terminal to which we will attach the cables.
Vertical Pin Spacing 1/100 DU	How far apart vertically are the ports.
Use Last Display Order if Set	
Use Last Saved Appearance	Where is the SysName label positioned with reference to the end points of the polyline that represents the cable.
Body Width	The text height of the SysName label.
Port Data Source	Pull the port data from the Equipment Library which will show all available ports as defined in the Equipment Library or pull port data from the Cable table which will show only ports which have cables attached.
Title Block Enable	Title Block stuff
Text Height 1/100 DU	

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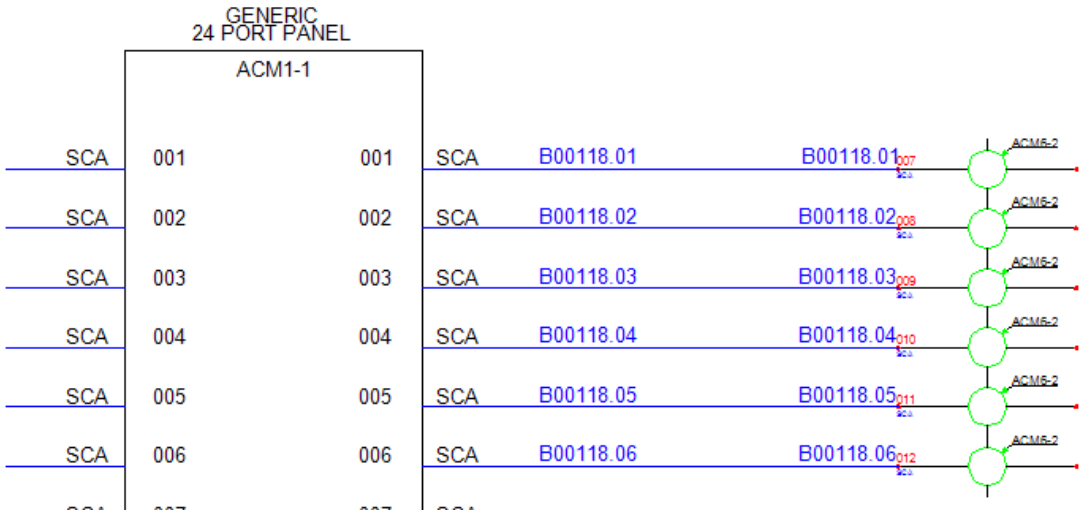
Title Location	
Title Offset	
Title	



Data Tab Options

Item	Description
Export	Export to file.
Copy To Clipboard	Copy to clipboard
Refresh	Refresh the preview.

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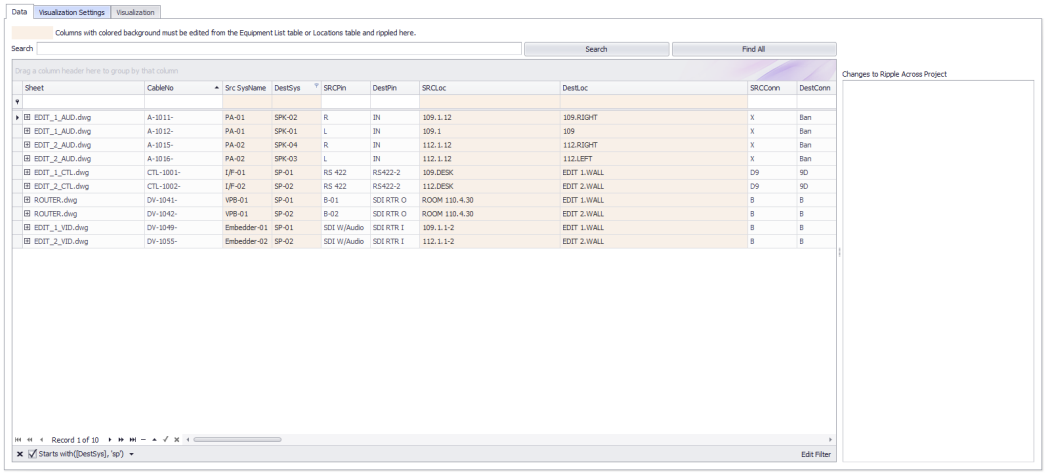
4.2.3.6 Cables



Databases > Cables

Commandline: cg

Explanation

This is the main Cables table view. You can print, export and edit this view. Some fields are marked read only because they inherit their data from other tables. Changes to those fields should be done in the other tables then rippled into this table.

This grid contains a Visualizer that lets you see the data in graphical form. The Visualizer associated with this grid will create a Ladder diagram of the selected cables.

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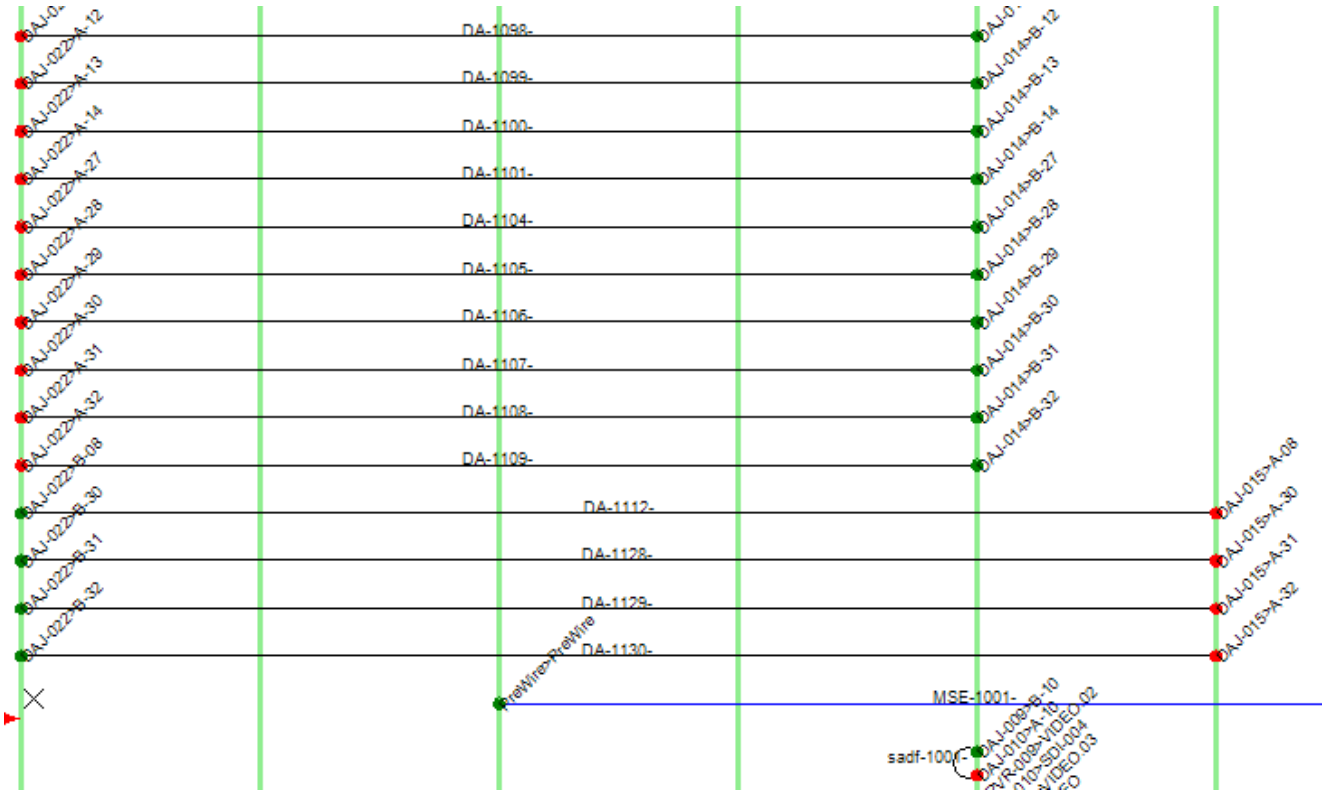

Prerequisites

Cable numbers assigned in a drawing.

Related Topics

New Cable 385

Grid Basics 79

Data Tab Options

Item	Description
Search	Search the collection for the search term.
Find All	Clear the search field and return all records.

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Ripple List	Changes you have made that may need to be rippled across the drawing set. The ripple will occur after you save the grid to the database. Note: you do not need to ripple changes that do not appear in a drawing. For example if you change the **Cable Type Manu** and **Cable Type** fields, neither of those fields have a corresponding display in a drawing. So no ripple is required to keep the drawing in sync with the database. If you are unsure - ripple.
Expert Mode	Removes the read-only flags and puts the grid in a completely editable state. Not for beginners.
Add Many	Only available in Expert Mode this tool adds blank records to the table that you can edit as a spreadsheet.
Tools	
Repair Equipment List	Scans the Cables table for SysNames then compares with the Equipment List. Missing SysNames are then added to the Equipment List.
Attach Document	Any document can be attached to any record. This is useful for storing cut-sheet data, test data, and images.

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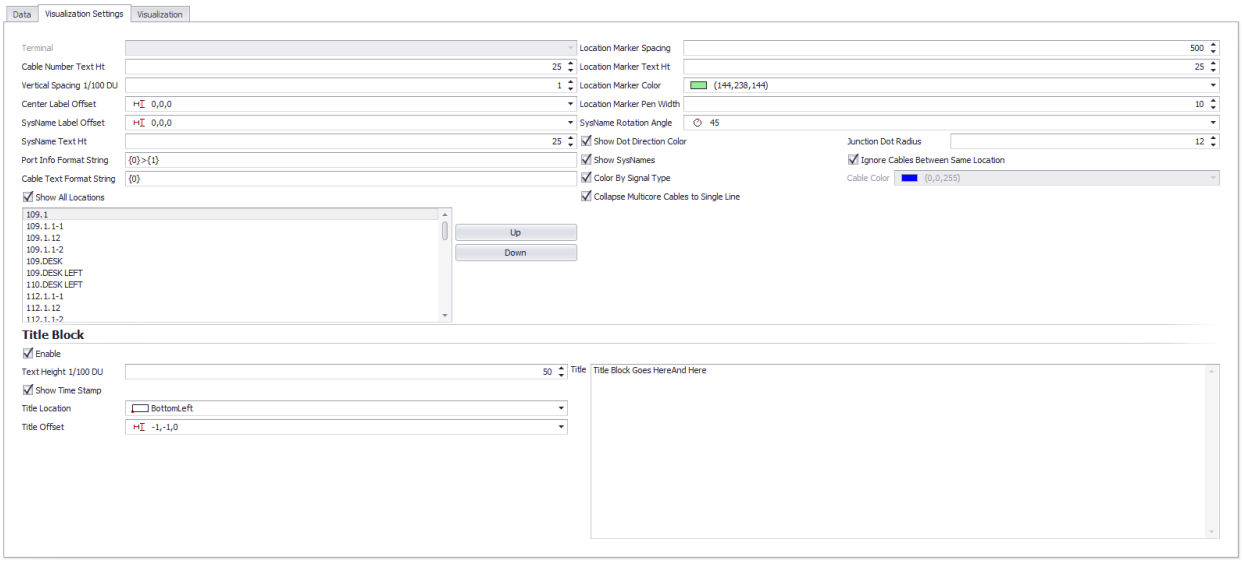

Visualization Tab Options

Item	Description
Terminal	Not yet implemented.
Cable Number Text Height	The text height of the Cable Number element
Vertical Spacing 1/100 DU	How far apart vertically are the cables.
Center Label Offset	Where is the center label positioned with reference to the center of the polyline that represents the cable.
SysName Label Offset	Where is the SysName label positioned with reference to the end points of the polyline that represents the cable.
SysName Text Hit	The text height of the SysName label.

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Port Info Format String	The following variables can be used along with the /n new line character to format the port info: {0}SysName {1}Port {2}Location {3}Alias {4}Connector {5}Cable Number {6}Cable Manufacturer {7}Cable Type **Example:** Assume that the SysName is VTR-01. The PortName is VID-OUT and the Location is RK-10 The following Port Info Format string: **{0}>{1}@{2}** Will produce the result: **VTR-01>VID-OUT@RK-10**
Cable Text Format String	The following variables can be used along with the /n new line character to format the Cable Text: {0}Cable Number {1}Cable Manufacturer {2}Cable Type {3}Length {4}Sheet
Location Marker Spacing	How far apart horizontally the vertical location markers are spaced.
Location Marker Text Hit	
Location Marker Color	
Location Marker Pen Width	

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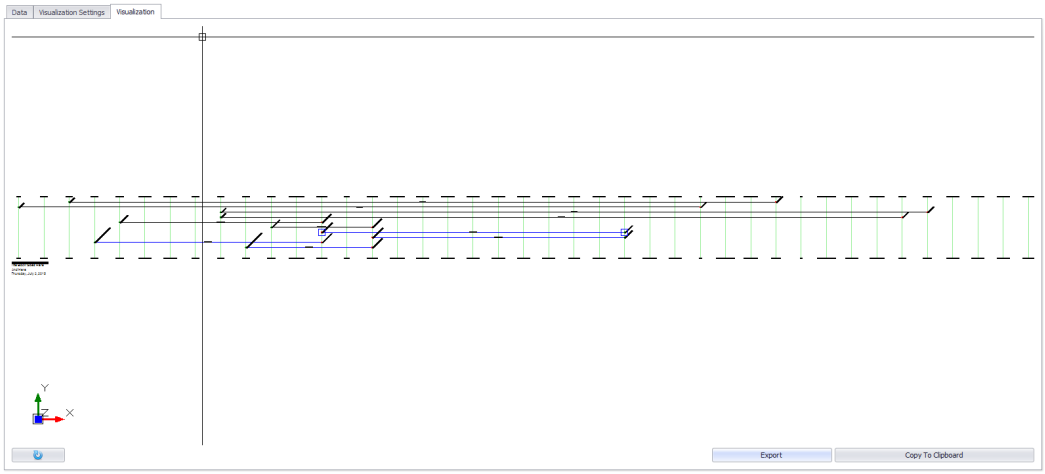
SysName Rotation Angle	
Show Dot Direction Color	Display a green dot on the source side and a red dot on the destination side of the cable.
Show SysNames	Show/Hide the SysName.
Color By Signal Type	Inherit cable color by Signal Type or set a single color for all cables.
Collapse Multi-core Cables to Single Line	Multi-core cables are represented by many records in the Cables table. You can choose to display a cable for each or collapse to a single cable.
Title Block Enable	Title Block stuff
Text Height 1/100 DU	
Title Location	
Title Offset	
Title	



Data Tab Options

Item	Description
Export	Export to file.

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Copy To Clipboard	Copy to clipboard
Refresh	Refresh the preview.

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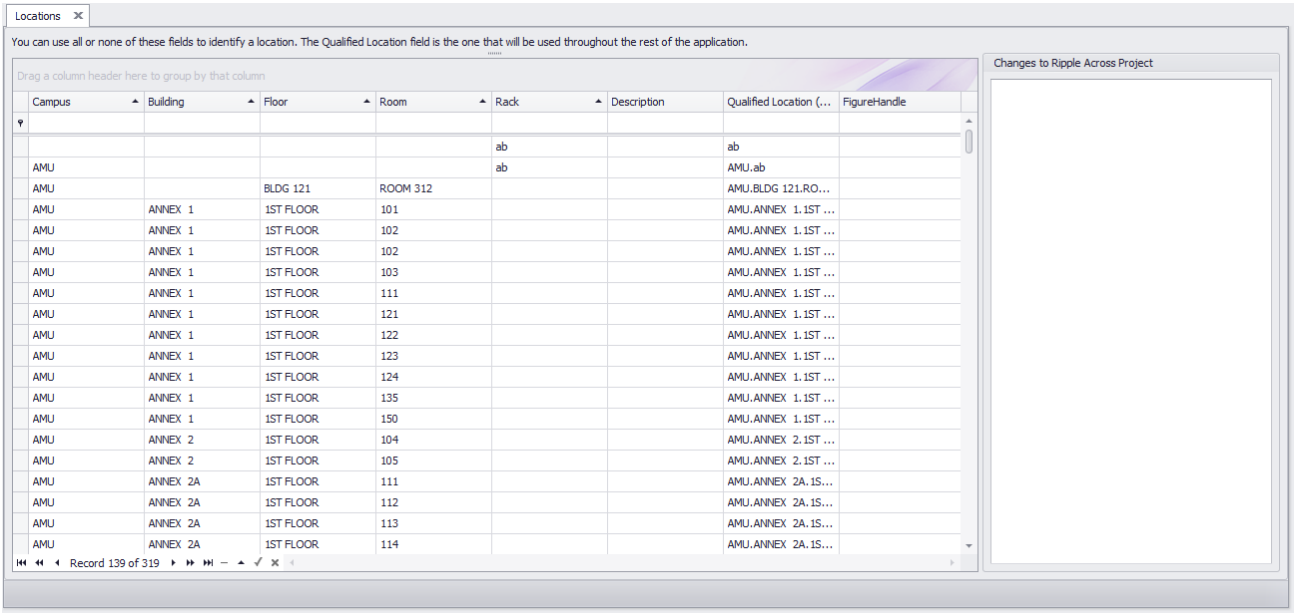
4.2.3.7 Locations



Databases > Locations

Commandline: showprojectlocationsgrid

Explanation

This is the main Locations table view. You can print, export and edit this view. Changes to this grid can be rippled throughout the project.

Remember that the only bit of data WireCAD actually uses from this grid is the **QualifiedLocation**.

Prerequisites

None

Related Topics

New Location Dialog 382

Grid Basics 79

Form Options

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Item	Description
Search	Search the collection for the search term.
Find All	Clear the search field and return all records.
Ripple List	Changes you have made that may need to be rippled across the drawing set. The ripple will occur after you save the grid to the database.

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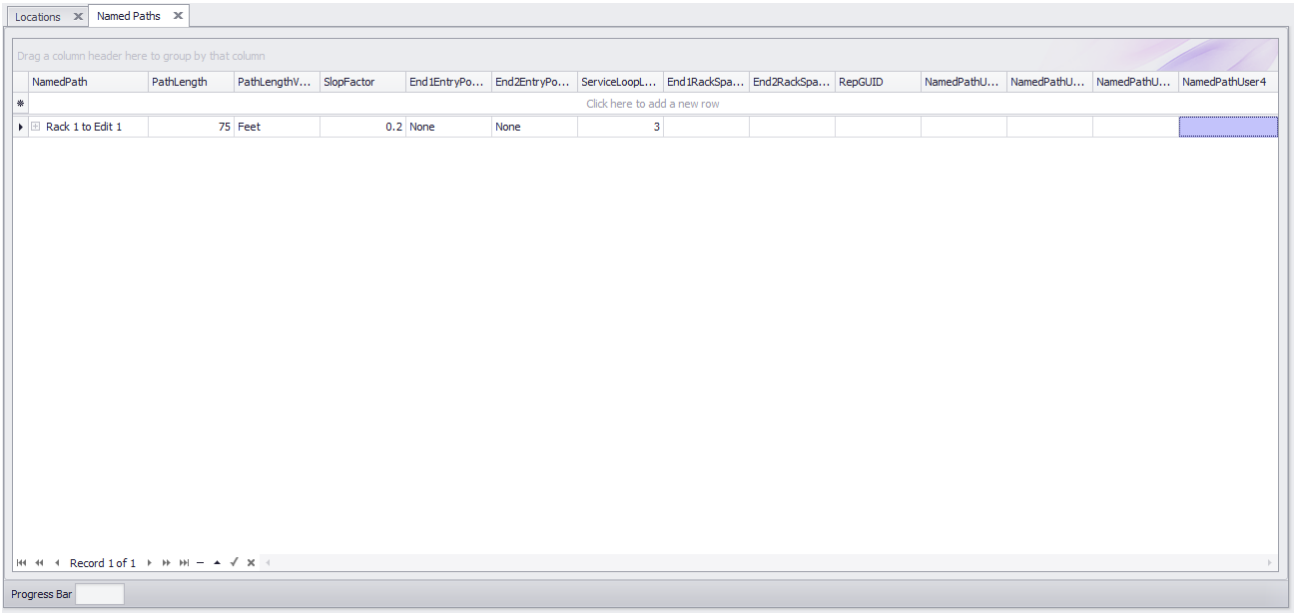
4.2.3.8 Named Paths



Databases > Named Paths

Commandline: shownamedpathsgrid

Explanation

The Named Paths grid is an organizational tool to keep track of key distances. We name a path and give it a distance and other factors to determine. You can use it as a reference, as well as a length calculator in the Assign Cable Numbers dialog.

Prerequisites

None

Related Topics

Assign Cables 350

Grid Basics 79

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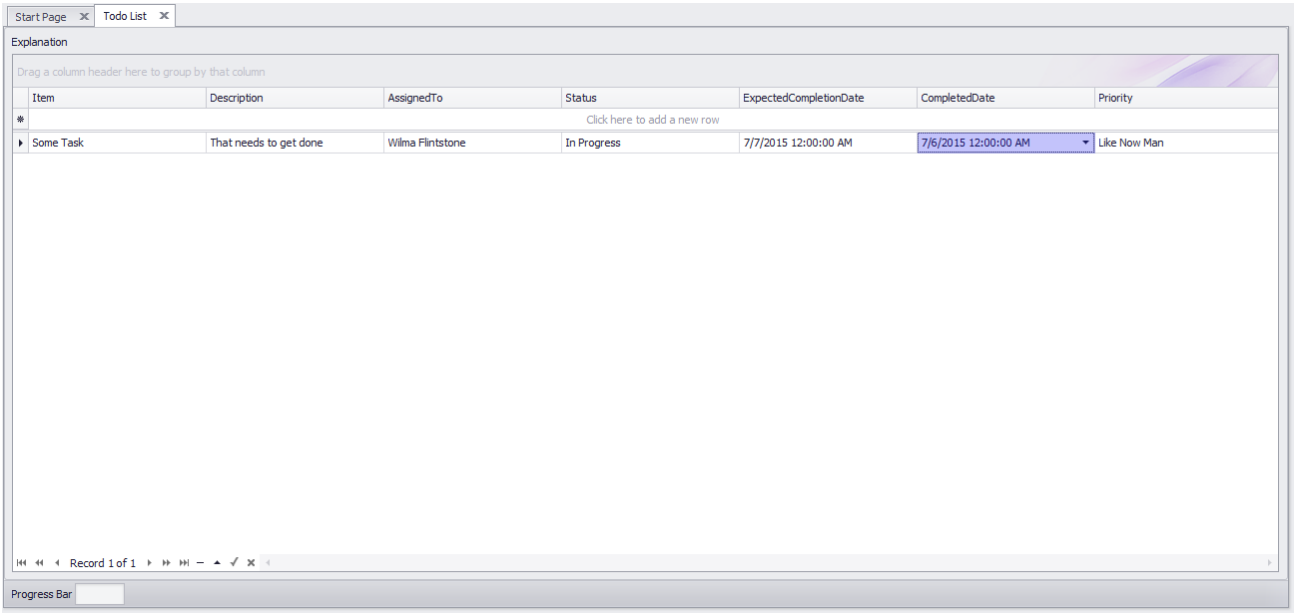
4.2.3.9 ToDo



Databases > Todo List

Commandline: tdl

Explanation

A To Do list. You can define the data that fills the following dropdowns in the Todo List Settings 271 panel:

- **Assignees**
- **Statuses**
- **Priorities**

Prerequisites

An active project.

Related Topics

Todo List Settings 271

Grid Basics 79

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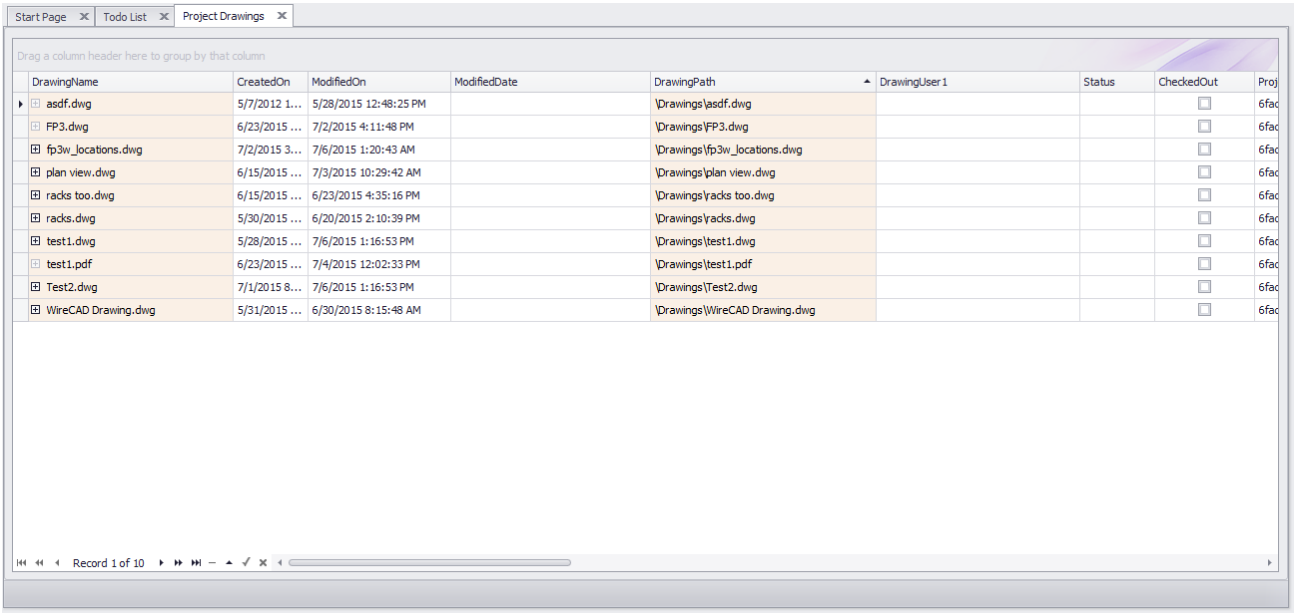
4.2.3.10 Drawings



Project Explorer> Project Databases > Drawings

Commandline: sdg

Explanation

This is the list of drawings in the Project\Drawings folder tree. The following changes in the Drawings table have occurred in WireCAD v8:

- The DrawingsPath has changed from absolute to relative.
- The tool now scans for and lists pdf files.
- The dwg and pdf file is embedded in the database for portability.

NOTE: to rename a drawing use the function in the Project Explorer. Right-click a closed drawing and select the context menu item Rename Drawing.

Prerequisites

An active project.

Related Topics

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Grid Basics 79

4.2.4 Report Forms

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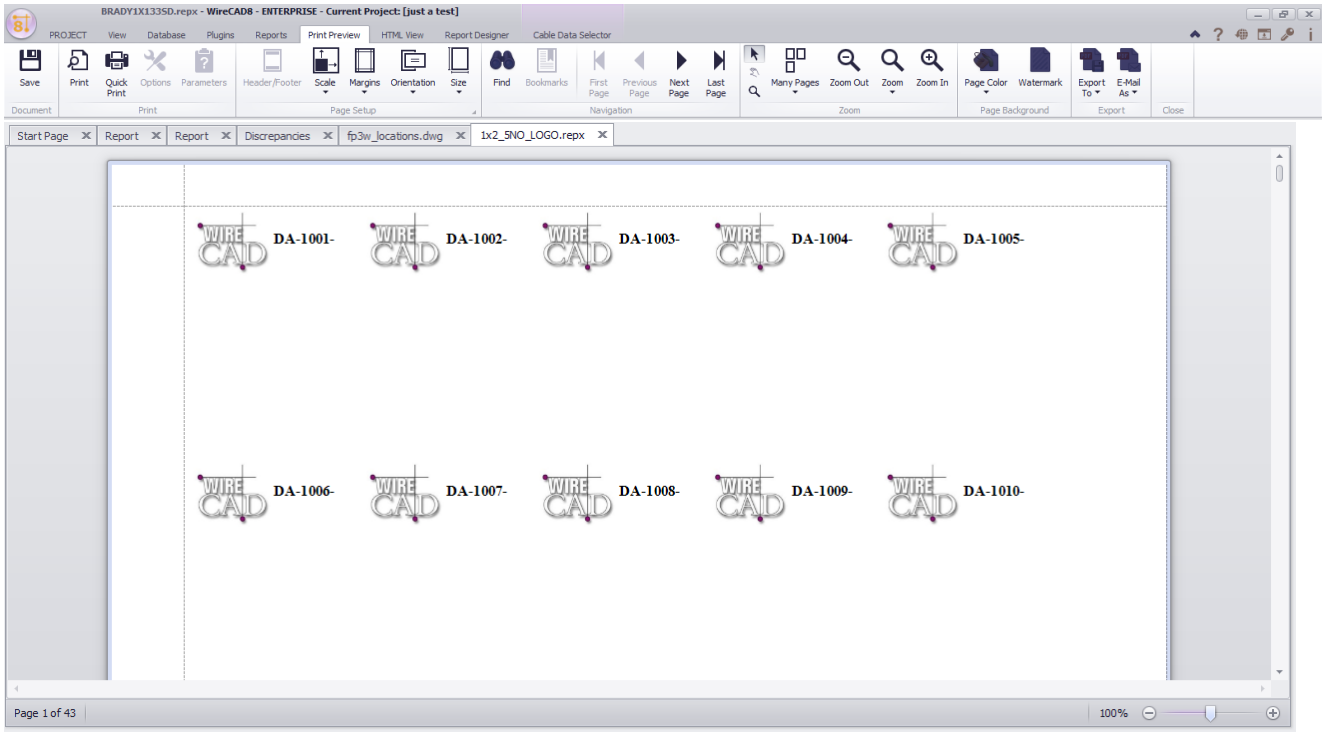
4.2.4.1 Print Preview

Visible only when the active environment is a report.



Explanation

This is the default view that loads when a report is loaded. From here you can determine the number of pages to print and to which device.

Form Options

Menu Item	Description
Save	Save the rendered document to the native print document format (.prnx). NOTE: this is the rendered document not the report design. The report design can only be saved from the Report Designer tab.
Print	Print with options.

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Quick Print	Print to the default printer.
Options	The Print Options dialog.
Parameters	Show the Parameters pane (if applicable to the report).
Header/Footer	Edit the Header/Footer if applicable to the report.
Scale	Obvious
Margins	
Orientation	
Size	
Find	Obvious
Bookmarks	
First Page	
Previous Page	
Next Page	
Last Page	
Select	Obvious
Pan	
Zoom	
Many Pages	
Zoom Out	
Zoom Percent	
Zoom In	
Page Color	Set the page background color

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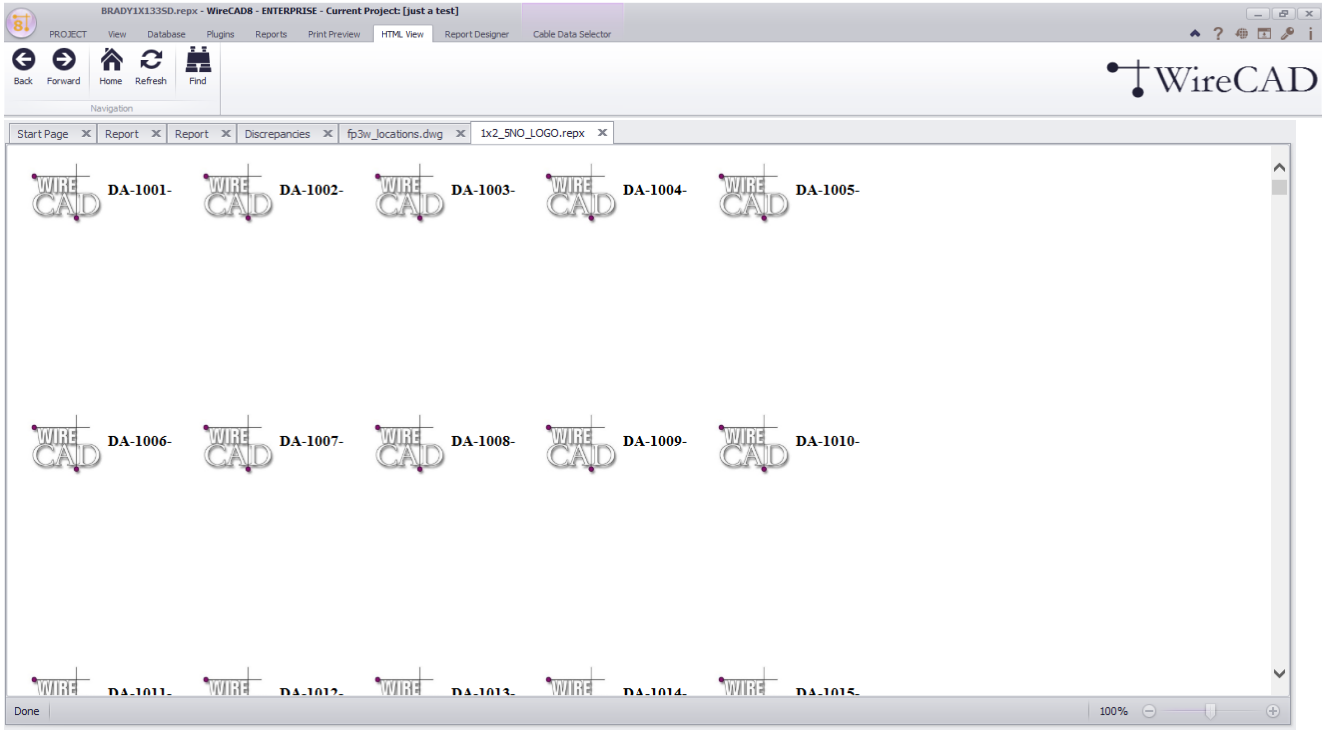
Watermark	Define the report Watermark. Not visible at all product levels
Export To	Obvious
E-Mail As	

4.2.4.2 HTML View

Visible only when the active environment is a report.



Explanation

This is the report rendered to html. The controls are self-explanatory.

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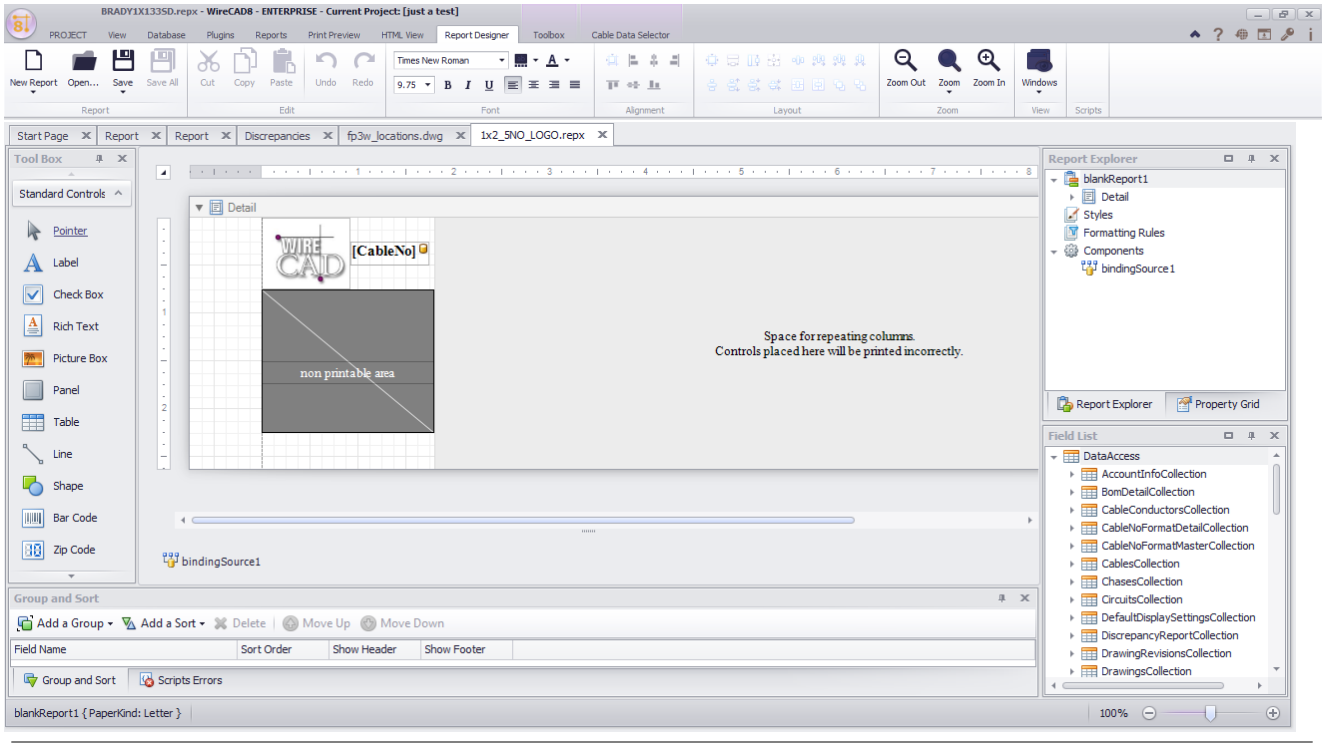
4.2.4.3 Report Designer

Visible only when the active environment is a report.



Explanation

Here we design the report. The menus are obvious so we won't bother. What may not be obvious the the Banded Report design and the Smart Tag. Smart Tags will be displayed on entities that are selected (if available) like so:

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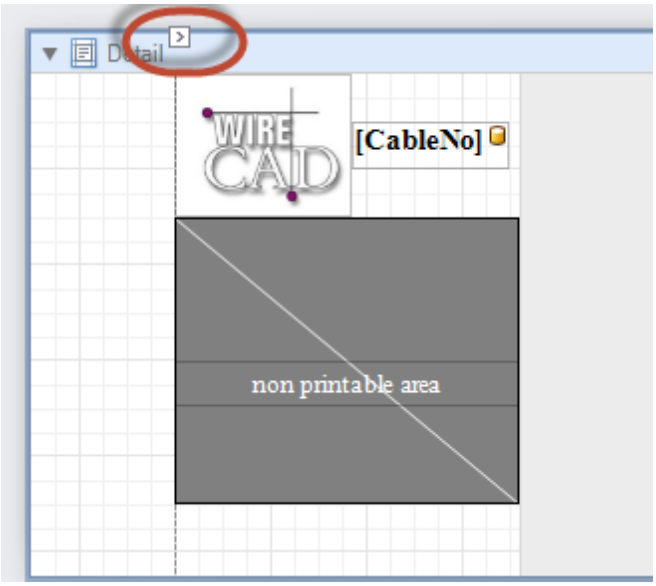
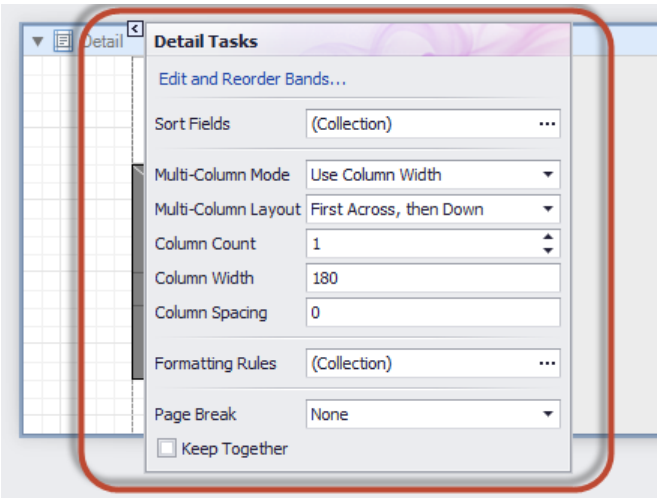


Smart tags can be expanded to so entity specify settings. Here we see properties specific to the Detail Band:



Related Topics

A discussion on report design can be found here 93.

Menu Item	Sub Menu	Description
New Report	**New Report**	A new blank report. You are starting from scratch.

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	New with Wizard	A new report using the New Report Wizard. We recommend finding an existing report that is close to the finished product and modifying that after a save as.
Open...		
Save	**Save**	Obvious
	Save As	
Save All		
Cut		
Copy		
Paste		
Font		The font settings for the currently selected object(s).
Alignment		The alignment settings for the currently selected object(s).
Layout		Tools to position and arrange the currently selected object(s).
View		Zoom the designer
Scripts		A collection of scripts associated with this report.

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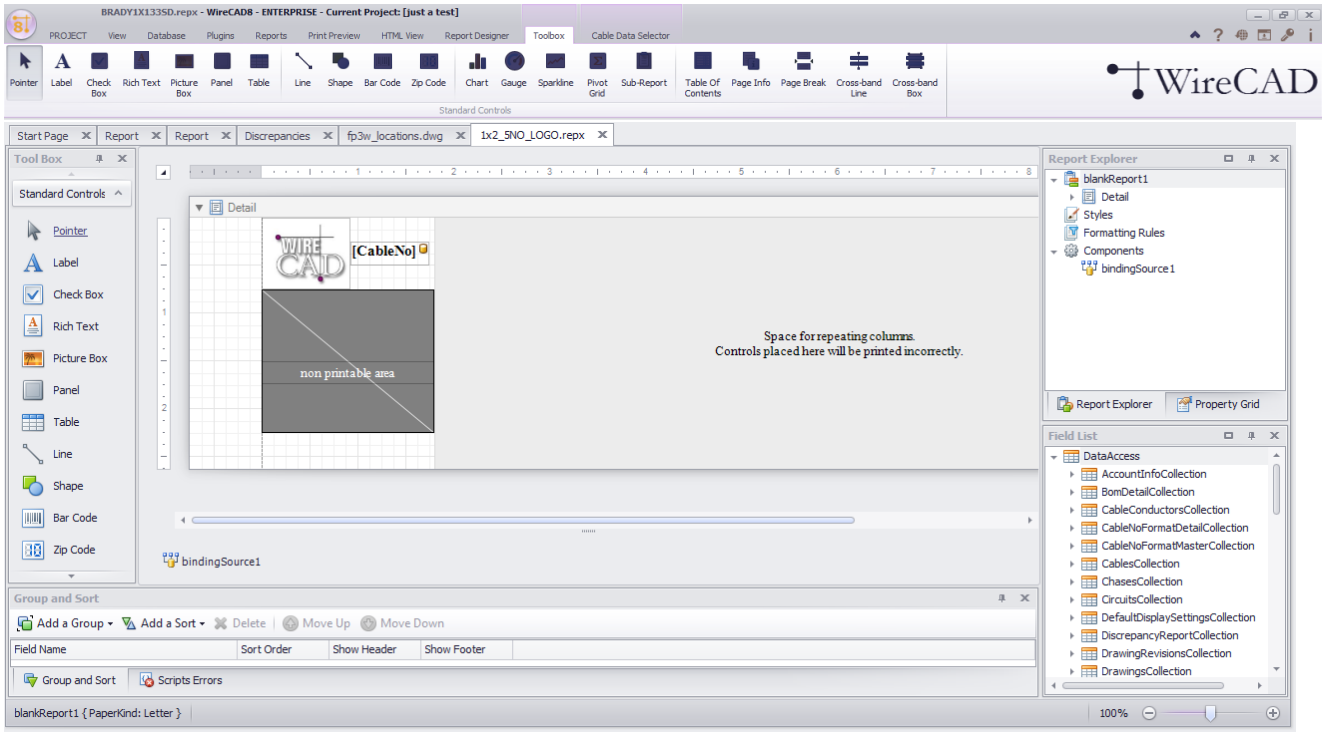
4.2.4.4 Toolbox

Visible only when the Report Designer Tab is active.



Any of these tools can be added to the report under design.

Menu Item	Description
Pointer	Selection tool
Label	The most common tool. Can be used to display static text or if the text is held in square braces[]. For example: a label with the caption S:[SRCSys]>[SRCPin] will render S:SomeSrcSys>SomeSrcPin once for every record in the collection.
Check Box	A Check Box is used to display True/False or Checked/Unchecked/Indeterminate values in a report.
Rich Text	The Rich Text control allows you to display formatted text in your report. It can represent static or dynamic text, or both. In addition to the capability to embed plain text into your report (using the Label control), you may need to display RTF or HTML content as well. WireCAD does not use RTF or HTML natively but there is no reason you could not put formatted text in a user field.

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Picture Box	**Picture Box** is used to embed static (stored along with the report definition) or dynamic (obtained from a data source) images into a report. It can display images of various file formats: BMP, JPG, JPEG, GIF, TIF, TIFF, PNG, ICO, DIB, RLE, JPE, JFIF, EMF, WMF.
Panel	The **Panel** control is a container that frames separate report controls to allow them to be easily moved, copied and pasted, and visually unites them in the report preview (with borders or a uniform color background).
Table	The **Table** is used to display tabular information in a report. Note Table reports should not be confused with hierarchical master-detail reports or cross-tab reports. You can create two tables simultaneously, e.g., one for showing column titles in the Page Header, and the other for showing regular information in the Detail band.
Line	The **Line** control draws a line of a specified direction, style, width and color. It can be used for both decoration and visual separation of a report's sections. Note that the Line cannot cross bands.

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<table>
<tr><td>Shape</td><td>The reporting engine provides you with the capability to embed shapes into your reports. You can simply add an Shape control to a report, choose one of the available shape types, and then print or export this report.
The following shapes are available:
Arrow
Brace
Bracket
Cross
Ellipse
Line
Polygon
Rectangle
Star</td></tr>
<tr><td>Bar Code</td><td>A Bar Code object. The supported bar code types are:<table><tr><th>1D Barcode Types</th><th>2D Barcode Types</th></tr><tr><td>Codabar</td><td>ECC200 - Data Matrix</td></tr><tr><td>Code 11 (USD-8)</td><td>GS1- Data Matrix</td></tr><tr><td>Code 39 (USD-3)</td><td>Intelligent Mail</td></tr><tr><td>Code 39 Extended</td><td>PDF417</td></tr><tr><td>Code 93</td><td>QR Code</td></tr><tr><td>Code 93 Extended</td><td></td></tr><tr><td>Code 128</td><td></td></tr><tr><td>EAN 8</td><td></td></tr><tr><td>EAN 13</td><td></td></tr><tr><td>GS1-128 - EAN-128 (UCC)</td><td></td></tr><tr><td>GS1 - DataBar</td><td></td></tr><tr><td>Industrial 2 of 5</td><td></td></tr><tr><td>Interleaved 2 of 5</td><td></td></tr></table></td></tr>
</table>

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	Matrix 2 of 5
	MSI - Plessey
	PostNet
	UPC Shipping Container
	Symbol (ITF-14)
	UPC Supplemental 2
	UPC Supplemental 5
	UPC-A
	UPC-E0
	UPC-E1
Zip Code	The **Zip Code** control transforms its content into a zip code. To specify the text for the control, use the ZipCode.Text property. Note that the Zip Code control can only display numeric characters and dashes. Other characters are displayed as empty zip boxes.
Chart	The **Chart** control visualizes the series of points using the available 2D chart types or 3D chart types. The chart type is defined via the View property of a series. And, a single chart can display multiple series, if their view types are compatible. A **Chart** contains multiple visual elements (diagram, axes, titles, labels, strips, constant lines, etc.) and, when any of these elements is selected, its properties are shown in the **Property Grid**.
Guage	The **Gauge** control provides you with the capability to embed graphical gauges into your report.
Sparkline	The **Sparkline** control displays a compact chart that is commonly used to reflect the flow of data for every row in a report.

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Pivot Grid	The **Pivot Grid** allows you to create a pivot table, an Excel-inspired data visualization application for multi-dimensional data analysis. Using the **Pivot Grid**, large amounts of data can be summarized and represented in a cross-tabular format that can be sorted and filtered. Also, since the **Pivot Grid** provides customization you can freely change the layout of the report based on your analysis requirements, using simple drag-and-drop operations. It also supports drill-down (to view the underlying data for calculated cells).
Sub-Report	The **Sub-Report** control is used to embed reports into each other; this allows you to create Master/Detail reports (reports with hierarchically linked data).
Table of Contents	The **Table of Contents** control allows you to provide your report with a table of contents that reflects the hierarchical structure of the report bookmarks.
Page Info	The **Page Info** is used to display auxiliary information on report pages, such as date, time, page numbers or user name.
Page Break	The **Page Break** control's sole purpose is to insert a page delimiter at any point within a report. This control is visually represented by a short line, attached to the report's left margin. The **Page Break** control is useful when you need to insert a page break between controls within a report band - for example, to divide subreports, so that the second subreport starts printing on a new page. You can also insert a **Page Break** before or after a specific report band using the Band.PageBreak property.
Cross-band Line **Cross-band Box**	Cross-band controls are used to draw lines and rectangles through several bands, as opposed to **Line** and **Shape** controls that can be used only within a single band. The following two cross-band controls are available: **Cross-band Line** allows for the drawing of vertical lines, which are not restricted to a particular band. For example, it can be used to emphasize a report section consisting of multiple band areas. **Cross-band Box** allows for the drawing of rectangles through several bands. It can be used to encompass a report section consisting of multiple band areas.

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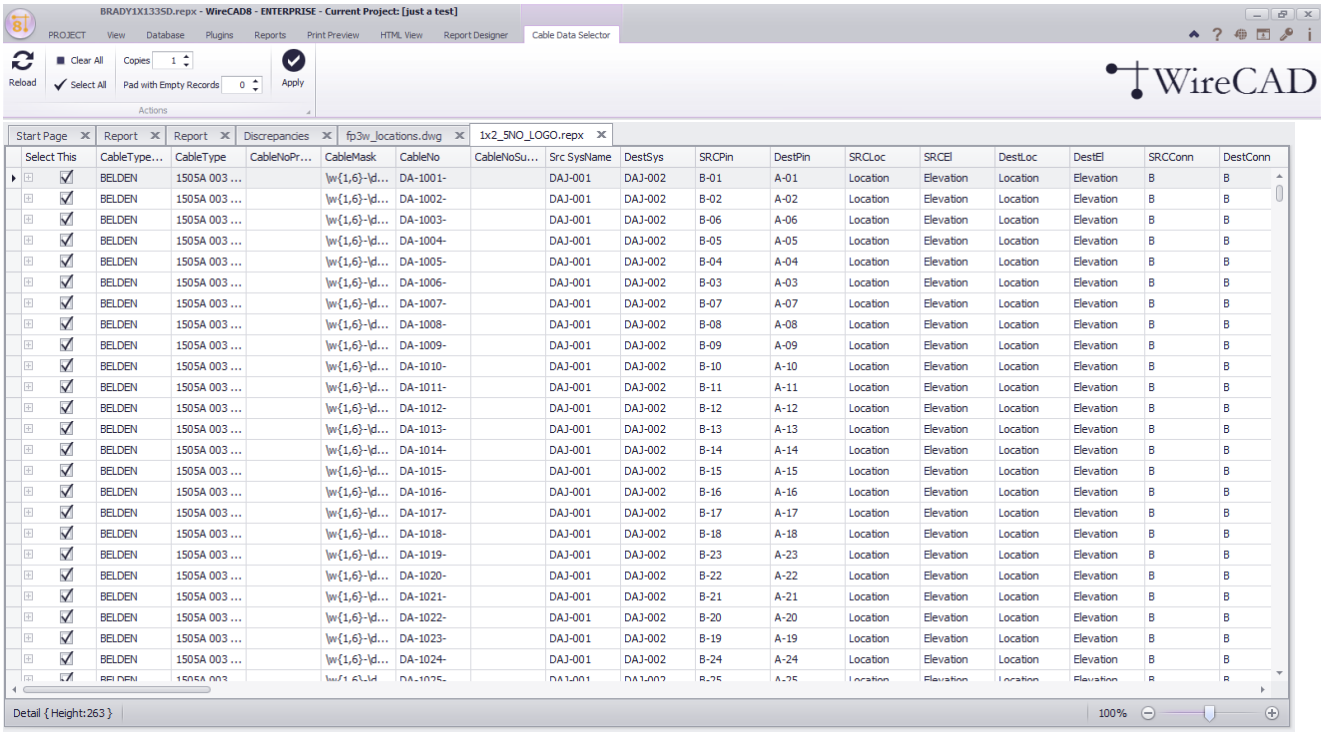
4.2.4.5 Cable Data Selector

Visible only when the active environment is a report.



Explanation

This tool allows you to pick and choose which cable records to print without having to create a complex filter. Simply select the records to print in the Select This field and set the number of copies to print then click the **[Apply]** button

Related Topics

Menu Item	Description
Reload	Reloads the data. All current selections are cleared then the data is reloaded from the Cables table.
Clear All	Uncheck all
Select All	Check all
Copies	Number of copies to print

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Pad with Empty Records	Useful when trying to use a label on a sheet of labels that has already had some use.
Apply	Do IT!

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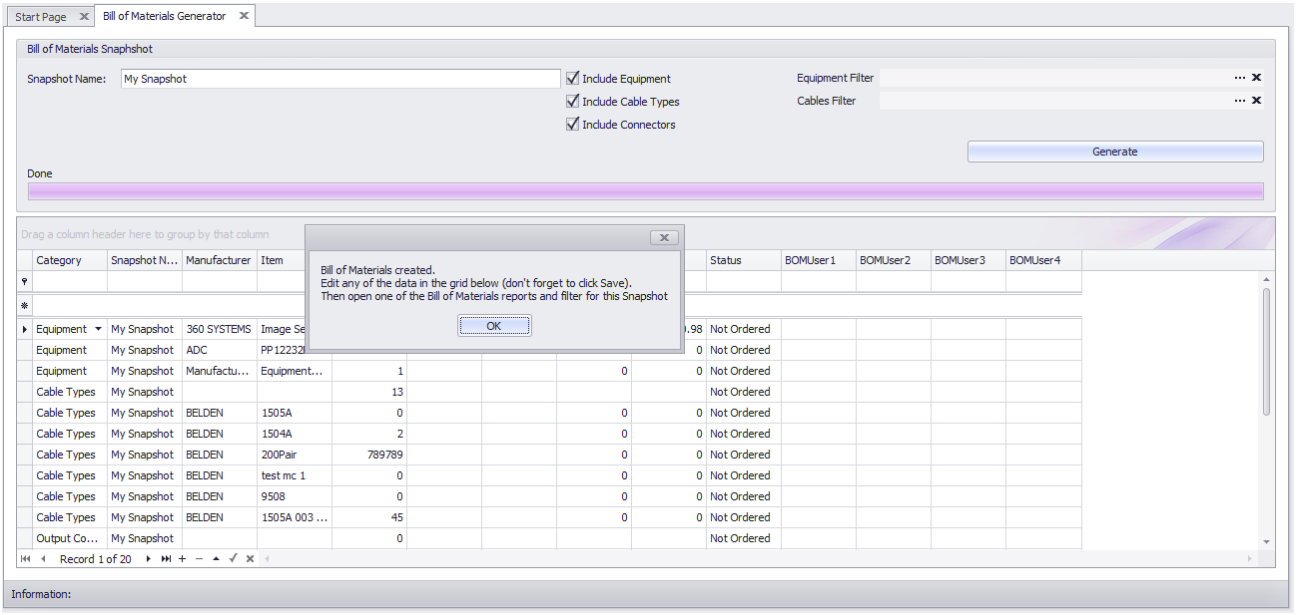
4.2.4.6 Bill of Materials Generator



Reports > Generate Bill of Materials

Commandline: bom

Explanation

Before a Bill of Materials (BOM) report can display data, that data must first be generated. We generate Bill of Materials data with a Snapshot Name. The report that you run will group be Snapshot Name.

You can choose which items to count in the BOM and refine your counts by creating filters.

One of the most common misunderstandings with the BOM generator is how it deals with cable lengths. The generator sums all lengths of a give Cable Type. But what if you have specified a premade cable of 2 meter length? In this case we don't want to total the length but rather the quantity. To handle premade cables take the following steps:

1. Create a new Cable Type[391] with the cable length in the name. For example an of the shelf 2 meter HDMI cable might be named: OTS HMDI 2m. This will show up in the Cable Type field of the Cables table and further in your BOM.
2. When entering the Cable Length for pre made cables enter the Length as 1.

In the BOM you will then see a count of your OTS HDMI 2m cables.

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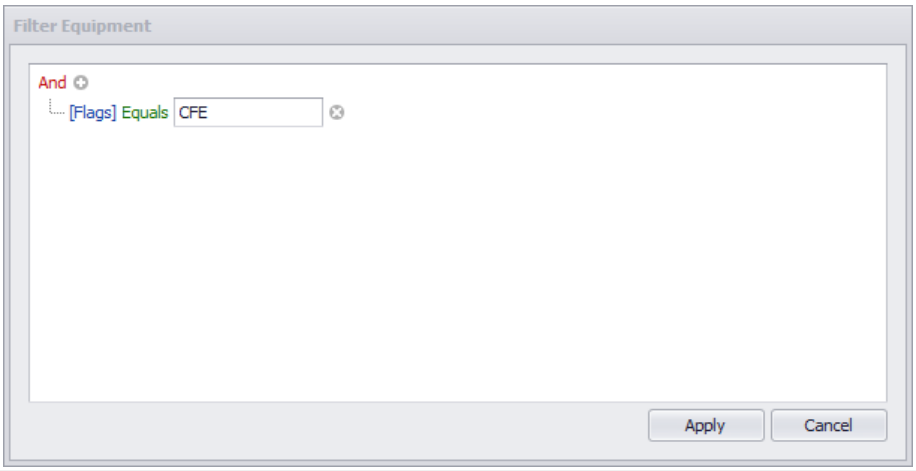
Prerequisites

1. You will need an active project with SysNames and Cable data.

Related Topics

Grid Basics 79

Form Options

Item	Description
Snapshot Name	Name is something unique that you will remember.
Include Equipment **Include Cable Types** **Include Connector Types**	What to include
Filter Equipment	Apply a filter to the set. Clicking the [...] 
Filter Cables	

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4.3 Tool Panels

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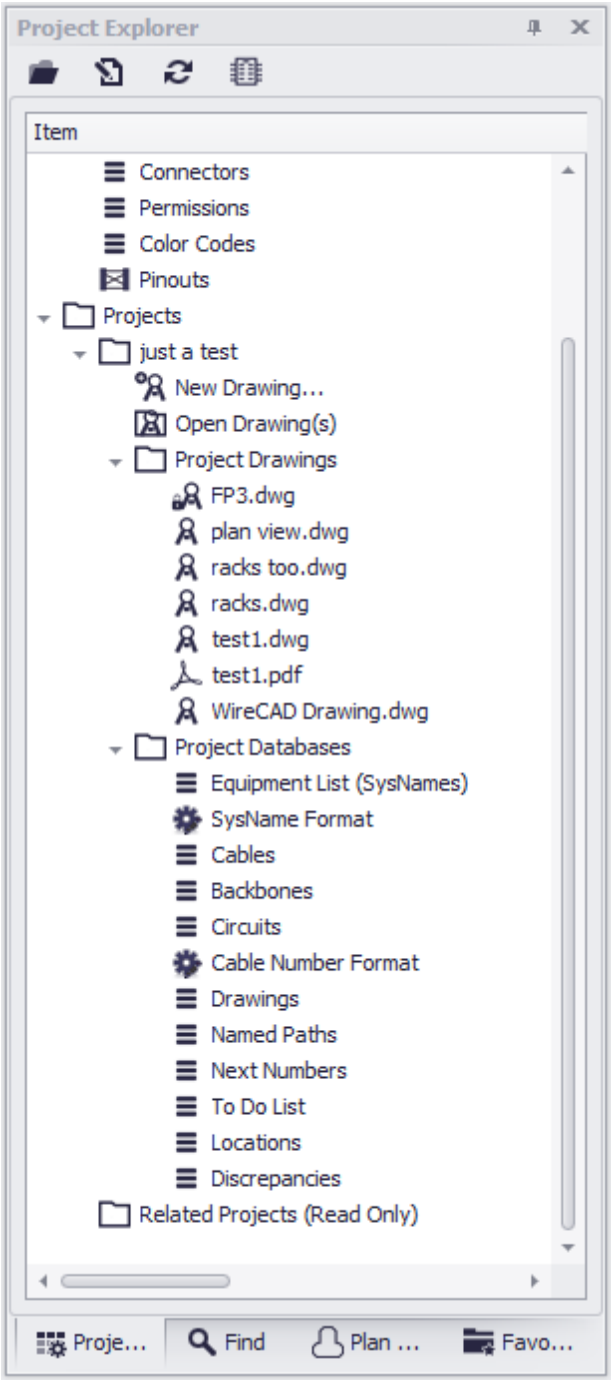
4.3.1 Project Explorer



View > Tool Panels > Project Explorer

Commandline: none

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Explanation

This is the main access point to the project. From here you can:

- Open global database grids.
- Open drawing(s).
- Open Project Database grids.
- Rename drawings.

Prerequisites

In order to see project related information you will first have to open a project.

Related Topics

Tool Panel Options

Item	Description
Open Project Folder	Show the current project folder in a windows folder browser.
Project Properties	Show the Project Info 410 form.
Refresh	Refresh the Project Explorer.
Equipment Library	Show the Equipment Library 323.

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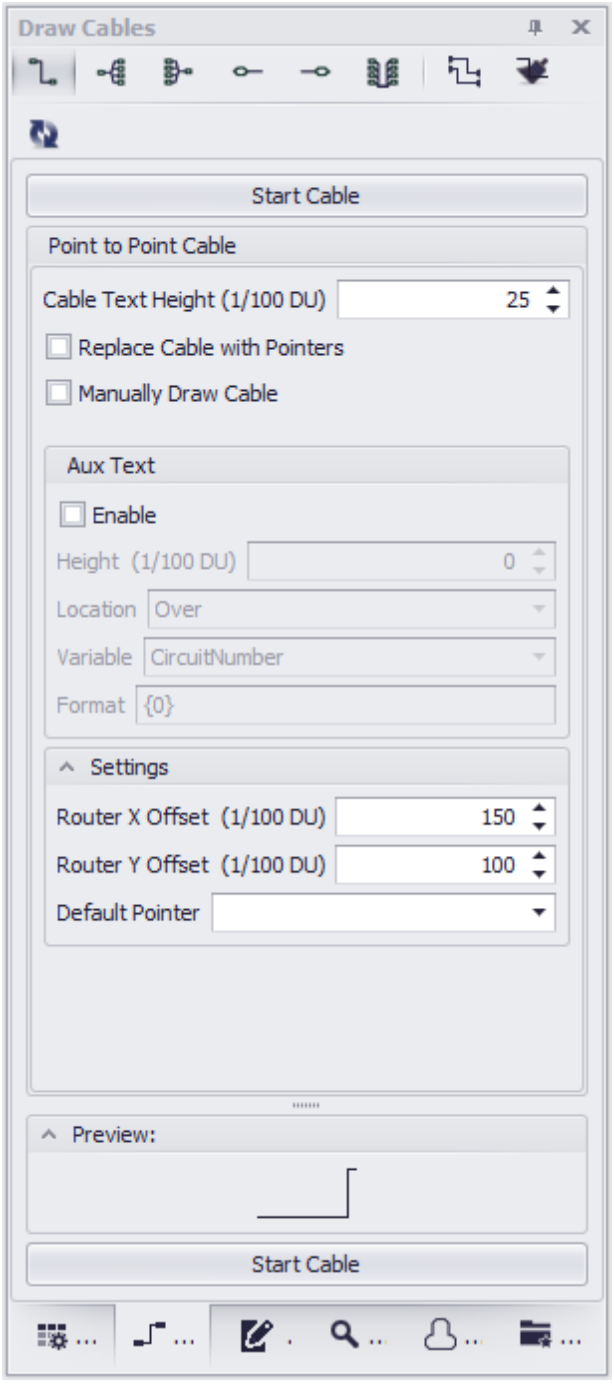
4.3.2 Draw Cables



View > Tool Panels > Draw Cables

Commandline: none

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Explanation

The Draw Cables tool panel is only active when the current environment is a drawing. This tool allows you draw several different types of cables:

- One-to-One - One output to one input.
- One-to-Many - One outputs to many inputs.
- Many-to-One - Many outputs to one input.
- Many-to-Many - Many outputs to many inputs.
- Terminal to Point - Drag a Terminal into the drawing an drop it on a connection point in the drawing. This will place the terminal on the left hand side of the block.
- Point to Terminal - Drag a Terminal into the drawing an drop it on a connection point in the drawing. This will place the terminal on the right hand side of the block.

Prerequisites

Requires and open drawing.

Related Topics

Draw Cables 45

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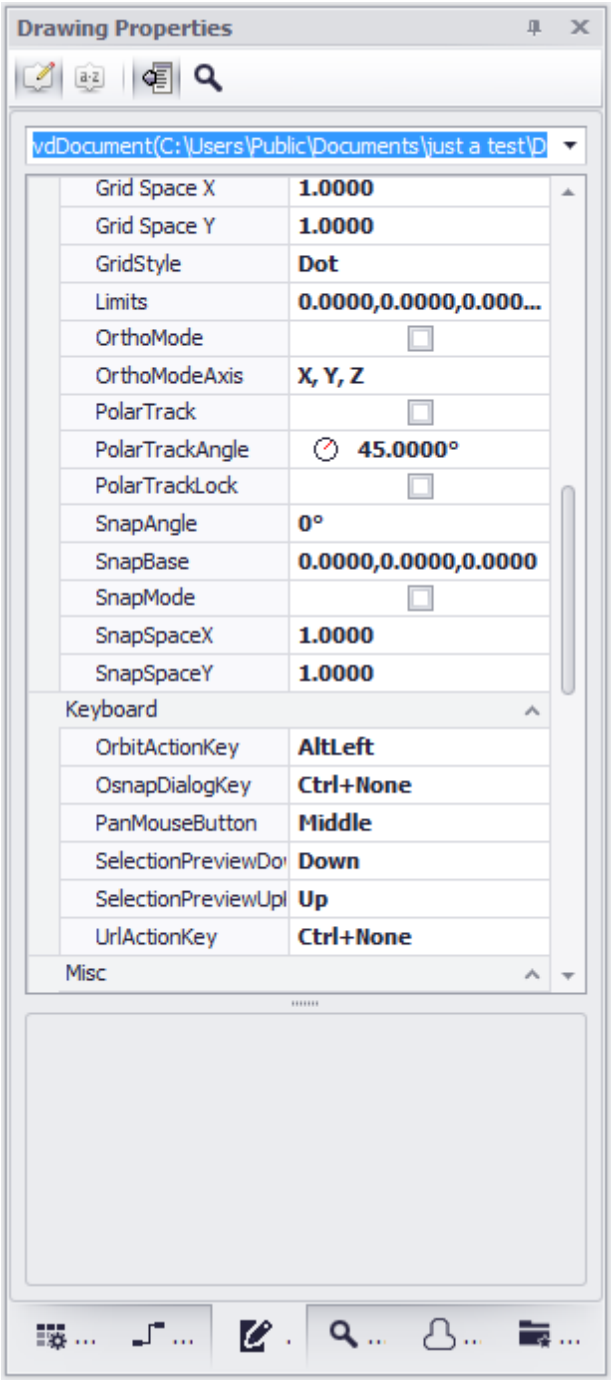
4.3.3 Drawing Properties



View > Tool Panels > Drawing Properties

Commandline: none

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Explanation

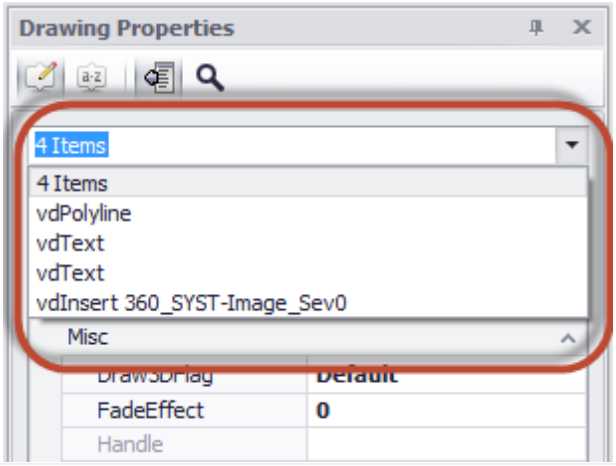
Provides access to the drawing properties. If no selection set exists in the drawing the general document properties are presented. If a selection exists then the common properties of all items in the selection set are displayed for edit. You may also select a single item from the selection set and edit all of its properties.

Prerequisites

An open drawing.

Related Topics

Tool Panel Options

Item	Description
Selected Object	This combo box displays the selected object and allows you to selected individual items from the drop down. 
Property grid	The properties displayed here will all have property editors that are specific to the entity type.
Sort/Group/Display Descriptions/Search toolbar buttons	

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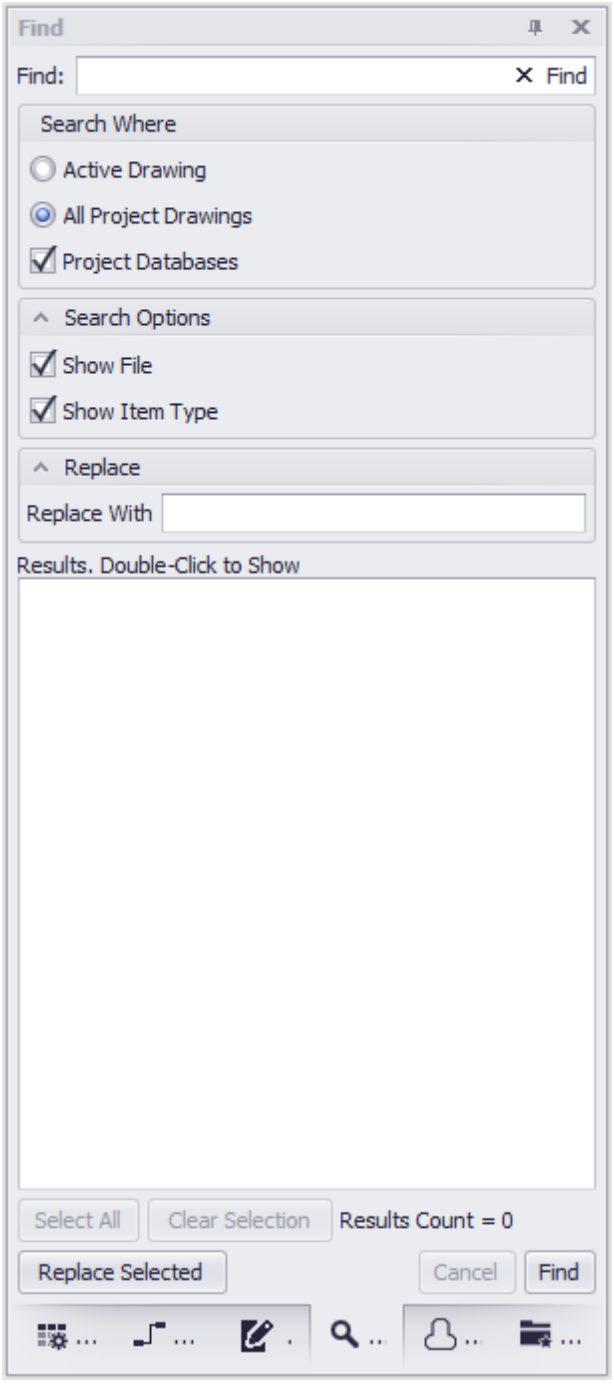
4.3.4 Find



View > Tool Panels > Find and Replace

Commandline: none

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Explanation

Find and replace text found in any drawing and in editable fields of the project databases. The found list will tell you the context in which the searched text appears.

NOTE: found text may occur in an invisible attribute.

Changiing a port name on a device using the Find and Replace tool requires that you change the text in the following contexts:

- The visible attribute.
- The invisible CP_IN or CP_OUT attribute string. This is a pipe delimited string that contains the name|conn|type. You must change the name portion of this.
- Any records that exist in the Project Cables table that reference that port.

Prerequisites

An active project

Related Topics

Tool Panel Options

Item	Description
Find	
Search Where	• Only the active drawing. • All project drawings • Project Equipment list, Project Cables, Project Backbones, Project Circuits.
Search Options	Show/hide the file name and context
Replace With	Some text

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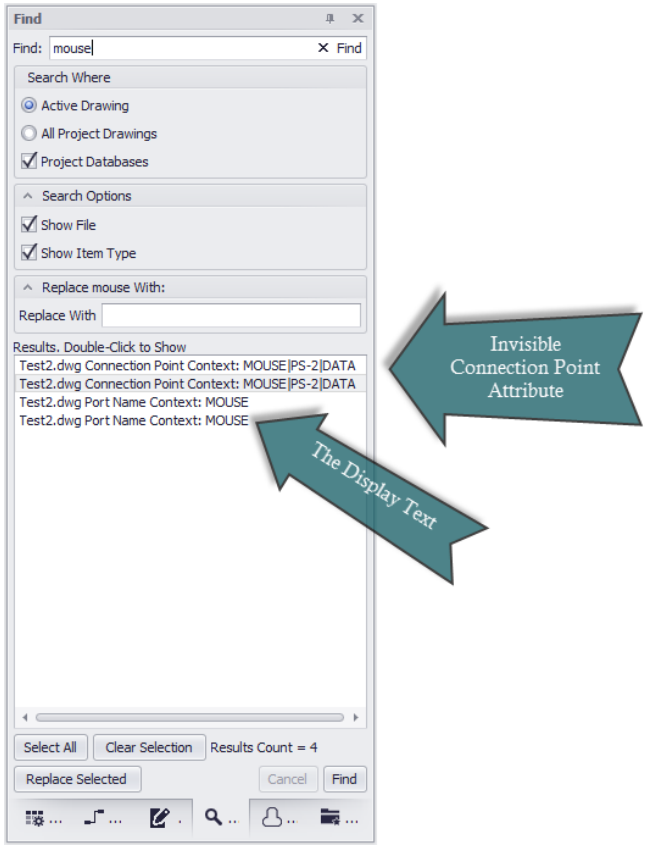
Results	 **Displays the context in which the text is found**
Replace Selected button	Do the replacement. The drawings and grids will need to be saved to commit the changes.
Find/Cancel	Do it! Cancel search.

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4.3.5 Plan View

View > Tool Panels > Plan View

Commandline: none

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Explanation

This tool panel provides three tabs. Each tab houses a gallery of Plan View blocks. The tabs are:

- **All Plan View Files** - Enumerates the %BLOCKS%\Plan View Files\ folder tree presenting a preview of each dwg file. Each sub folder will be added as a gallery group and items in that folder added to the group.
- **Project Plan View Items** - Provides a gallery item for each SysName in the Equipment List. If the SysName's equipment definition has an empty Plan View File, the project Default Plan View File is presented.
- **Equipment Library Plan View Files** - Shows all Equipment Library items that have data in the Plan View File field.

Prerequisites

An open project.

An open drawing.

Related Topics

Tool Panel Options

Item	Description
Place with Rotation and Scale	If checked then when placing the selected item in the drawing you will be prompted to scale the X, Y, Z and set the Rotation angle.
Plan View Galleries	Click an item to add it to the drawing. Then place (and scale/rotate).

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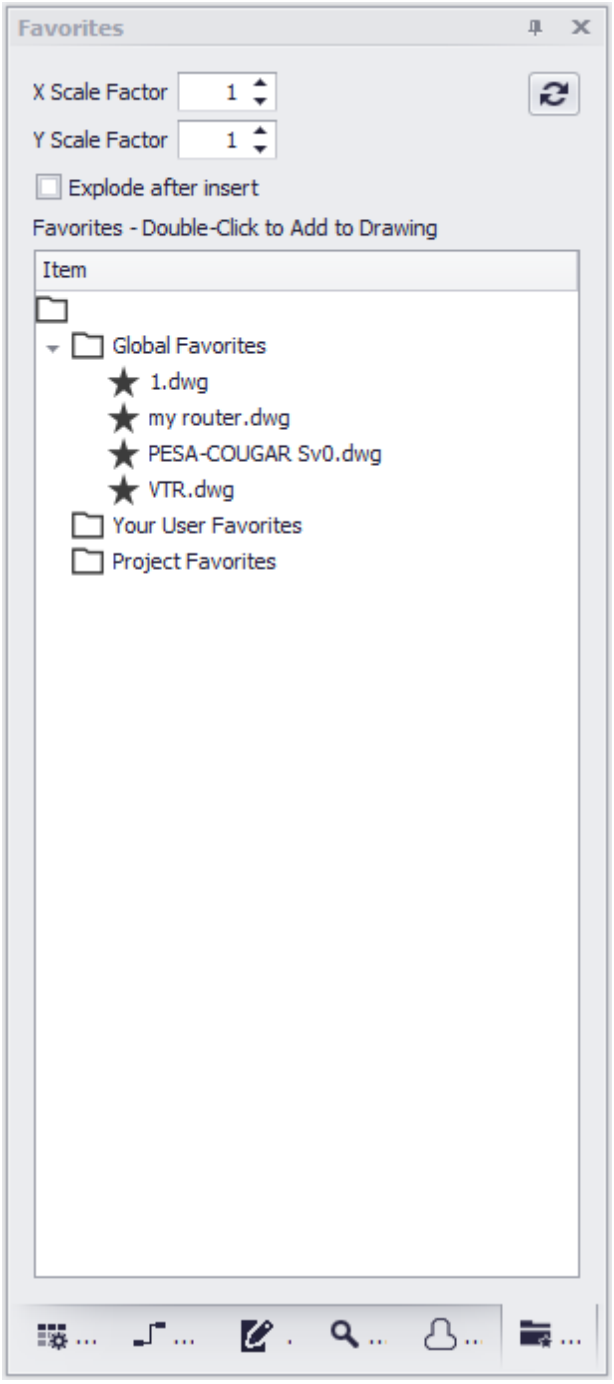
4.3.6 Favorites



View > Tool Panels > Favorites

Commandline: none

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Explanation

Often times we find ourselves creating the same block or circuit configuration over and over. These times are a great candidate for a Favorite. Creating a Favorite stores the item(s) as a block in the OS in one of three places:

- **Global** - Saves in the %BLOCKS%\Favorites path and may be visible to other user with the same support path.
- **User** - Saves to your user profile. Visible only to you.
- **Project** - Saves in the Project\Favorites folder for use by anyone with access to the project.

Prerequisites

A drawing with the block or configuration you want to save as a Favorite.

A drawing into which you wish to place a Favorite.

Related Topics

Tool Panel Options

Item	Description
Explode	If you have grouped a system together that includes multiple blocks and cables into a single block. It will need to be exploded back one level to expose the individual WireCAD objects.
Scale	
List	Double-click to add to the current drawing.

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4.3.7 Command Line

View > Tool Panels > Command Line

Commandline: none

Explanation

The Command Line interface to the application. Here you can view a history of commands and enter commads directly. All commands entered must be executed by clicking the [Enter] key.

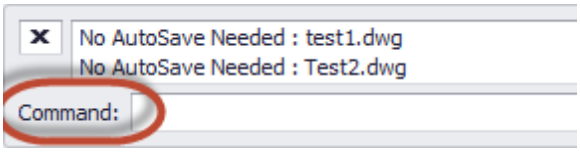
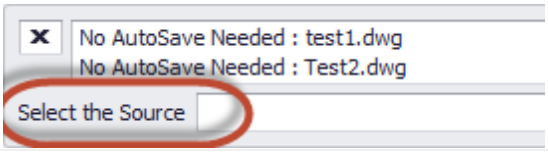
Prerequisites

None

Related Topics

My Space Bar is my Enter Key 273

Dialog Options

Item	Description
Command History	What went before
Command Prompt	What the application is expecting of you. If no job is running or no input is expected from you it will read: Command:,  Otherwise it will prompt you for some action: 
Command Line	Enter the command here
Calculator	

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A Note About the Index

The following index is generated from the online text and as such the page numbers may represent a sub chapter heading instead of the actual page.

The key word you are searching for will be in the sub chapter.

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