

## WireCAD v10 User Manual

© 2019 Holbrook Enterprises, Inc. dba WireCAD

## WireCAD v10

by Holbrook Enterprises, Inc. dba WireCAD

### WireCAD v10 User Manual

#### © 2019 Holbrook Enterprises, Inc. dba WireCAD

All rights reserved. You may copy or graphically reproduce this work for your own use, provided that no part of this work is reproduced in any form or by any means - graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems for profit - without the written permission of the publisher.

Products that are referred to in this document may be either trademarks and/or registered trademarks of the respective owners. The publisher and the author make no claim to these trademarks.

While every precaution has been taken in the preparation of this document, the publisher and the author assume no responsibility for errors or omissions, or for damages resulting from the use of information contained in this document or from the use of programs and source code that may accompany it. In no event shall the publisher and the author be liable for any loss of profit or any other commercial damage caused or alleged to have been caused directly or indirectly by this document.

Printed: November 2019

#### **Publisher**

Holbrook Enterprises, Inc. dba WireCAD.

Technical Editor: Britney Warrick

#### Special thanks to:

All the people who contributed to this document, to Lisa for being a WireCAD widow. And the kids for being willing to start over in Idaho.

Thanks to Brandon for unsexy words like html, and php.

Thanks to the Sales and Support teams.

To Tim and Barb for their excellent support.

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

## **Table of Contents**

L

	Foreword	1
Part I	Introduction	2
1	New in Version 10	
2	Software Activation	
3	License Agreement	
4	Licensing FAQ	25
5	Context Sensitive Help	
	Dialog Based Help	
	Form Based Help	
	Tool Panel Based Help	
	Settings Panel Based Help	
David II		24

### Part II WireCAD PRO Manual

34

Getting Started	
Grid Basics	
How To: Grid Functions	
How To: Round Trip Export/Imprt on all Grids	
Setting Up Your Global Data	
Signal Types	
Cable Types	51
How To: Create a New Cable Type	
How To: Open the Equipment Library	
Equipment Library	
I/O Tab	
Display Preferences Tab	
Creating a New Equipment Definition	
How To: Add Equipment to the Library	
How To: Add Some Inputs and Outputs	
Creating a New Project	
How To: Create a New Project	
Creating a New Drawing	
How To: Create a New Drawing	
Adding Equipment to Drawings	
How To: Add Equipment to Drawings	
Drawing Cables	
One to One Cables	
One to Many Cables	
Many to One Cables	
Many to Many Cables	
Terminal as Source	
How To: Place a Terminal as a Source	
Terminal as a Destination	
Splice Points	
Adapters	
Working with Pointers (on-sheet/off-sheet reference)	
How To: Link Many Pointers at Once	

Contents	
Contento	

II

	How To: Swap Pointers	
	Defining Locations	
	How To: Add a New Location	
	How To: Add Multiple Locations	
	Assigning Unique IDs (SysNames)	
	How To: Assign a SysName	
	How To: Assign Multiple SysNames	
	Assigning Terminals	
	How To: Assign Terminals	
	How To: Assign Multiple Terminals	
	How To: Swap Terminals	
	Assigning Cable Numbers	100
	How To: Assign a Cable Number	102
	How To: Assign Multiple Cable Numbers	102
	Rack Builder Tool	103
	How It Works	105
	Next Numbers Grid	110
2	Advanced Topics	111
_	Equipment List Visualizer	
	How To: Use the Equipment Visualizer	
	Cables Visualizer	
	How To: Use the Cables Visualizer	
	AutoScheme Tools	
	Auto Block	
	RatsNest	
	SysName Formatting	
	Cable Number Formatting	
	Using Your CAD Drawings With WireCAD How To: Customize Your CAD Blocks to Work with WireCAD	
	How To: Add a Port to an Existing CAD Block	
	Understanding Indexes	
	Sync Equipment with Database	
	Swap Equipment	
	How To: Swap Equipment	
	Edit Block in Place	
	How To: Edit a Block In Place	
	Rereference Pointers	
	Save and Ripple	
	Spare Cables	
	How To: Add a Spare Cable	
	Split Cables	
	How To: Split Cables	
	Aux Text	
	How To: Apply Aux Text to an Existing Cable	
	Title Block Manager	
	How To: Adjust Attributes in the Title Block Manager	
	Understanding Terminals	
	How To: Customize a Terminal	
3	Plan View and Layout Tools Dialogs	153
	Take Offs	154
	How To: Pull a Take-Off from a Drawing	155
	Location Boundary	157
	How To: Place a Location Boundary	159

Ш

	Draw Cable	
	How To: Draw a Cable in Planview	
	Populate Cables	
	How To: Populate Cables in Planveiw	
	Draw Prewire	
	How To: Draw a Prewire Cable in Planview	
	Populate Equipment	
	How To: Populate Equipment in Planview	
4	Reporting	168
	How To: Print Reports	
	How To: Print Reports with Parameters	
	How To: Filter Reports	
	How To: Filter a Report Using Parameters	173
	Report Design	176
	How To: Create a Standard Report	177
	How To: Create a Label Report	
	Report Design Basics	
5	Frequently Asked Questions	
	How To: Place Custom Titleblocks (Page Borders)	
	How To: Create Custom Titleblocks	
	Moving Projects (Pack Up/Check-Out)	
	How To: Packup/Check-out	
	How To: Check In a Project	
	How To: Unpack a Project	
	Synchronizing with Another Equipment Database	
	How To: Sync Equipment Databases	
	Setting Up On a Network	
	Upgrading from V9	
6	Choosing a Database Format	199
	How To: Setup a SQL Server	
7	Included Plugins	
	Pinouts	
	Find and Replace	
	How To: Find and Replace a Port Name	
	Translation Manager	
	How To: Translate a Form Caption	
	Block Extractor	
	Bulk Block Fixer	
	How To: Use a Manufacturer Front Panel	
	Batch Plot	
	Archive Project	
8	Project Rules	
-	Expression Syntax	
Part III	WireCAD CMS Tools Manual	220
	CMS Tools Concept	າາາ
	-	
2	CMS Basics	
	Backbones	
	The Backbone Grid	
	How To: Draw a Backbone	
	How To: Create a New Backbone	

Contents	IV
----------	----

Reference	319
GPS Settings	
Post Process Scripting	
Status Behaviour	
Output Settings	
Project Settings	
User Settings	
CMS Settings and Options	311
HOW TO: Create a Multistory Isometric Drawing to Display GPS Data	
Using Filters	
How To: Show Backbone Markers in your Drawing	
How To: Show Panel Markers in your Drawing	
How To: Show Location Markers in your Drawing	
How To: Associate GPS LAT, LON with your Locations	
System How To: Copy Calibration Data from another Drawing	
How To: Calibrate (Geo-Reference) Your DWG to the GPS Coordinate	00
Using Your DWG Drawings as Maps	
Using Filters	
How To: Show Backbone Markers in the Map Tool	
How To: Show Panel Markers in the Map Tool	
How To: Show Location Markers in the Map Tool	
How To: Associate GPS LAT, LON with your Locations	
Using the Map Tool	
GPS Mapping Tools	
Next Numbers Grid	
Exporting Circuit Data to Excel	
Import Circuit Data	
How To: UnMake a Real Circuit Into Blind Patches	
Path Finder Tab Combining Circuits	
How To: Create a New Circuit	
New Circuit Tool	
How To: Output Many Circuits to CAD	
How To: Output a Circuit to CAD	
Outputting Circuits to CAD	
Circuits Preview Settings	
Circuits Grid	
Circuits	
How To: Make a Real Circuit From Blind Patches	
How To: Discover Circuits From Blind Patches	
How To: Create a Blind Patch	
Blind Patch Tool	
Import Backbone Data	
Backbone Preview Export	
Backbone Visualization Settings	

1	Ribbon Tabs and Dialogs	320
	The Workspace	
	Ribbon Tabs	
	Application Menu	
	Project	
	File	
	Drawing	
	-	

3

Part IV

	CAD Tools	337
	Advanced Tools	343
	View	345
	Database	347
	Plugins	349
	Reports	350
	Plan View and Layout Tools	351
	Print Preview	352
	HTML View	352
	Report Designer	
	Toolbox	
	Cable Data Selector	
	GPS Mapping Tools For Drawings	
	GPS	
	Tools	
	Display	
	GPS Mapping Tools for Map Tool	
	File	
	Display	
~		
2	Dialogs	
	Application Menu Dialogs	
	New Project Wizard	364
	Project Save As	369
	Manage Security	371
	Packup / Checkout	374
	Unpack Project	376
	Check in Project	377
	Account Info	378
	Application Setup Wizard	379
	The Settings Dialog	387
	Application Settings	388
	Application Basic	389
	WireCAD Security	390
	Global Database Location	391
	Support Paths	392
	Organization	394
	Enable/Disable Plugins	395
	Todo List	396
	User Settings	396
	User Basic	397
	Projects List	399
	Drawing	400
	Drawing (advanced)	402
	Command Line Shortcuts	403
	CMS	404
	Expert Mode	405
	Project Settings	
	Project Basic	
	Advanced	
	Locations	
	Delete Handling	
	Enterprise CMS	
	Export Settings CMS	

Contents	VI
	1

Project Rules	
Status Behaviour CMS	
GPS Settings CMS	
Archive Project	
Cable Text Search Window	
Drawing Dialogs	
CAD Dialogs	
New Drawing Wizard	
Print Preview	
PDF Export	
Export to Visio	
Layers	
Layouts	
Point Styles	
Text Styles	
Dimension Styles	
Model Space Boundaries	
Groups	
Images	
Image Editor	
Rectangular Array	
Purge	
Inserts Dialog	
XREF Manager	
Swap Equipment	
Swap Pointers	
Swap Terminals	
Edit Attributes	
Add Attribute Definition	
X Properties Grid	
Edit X Properties	
Singleline Text Editor	
Multi-line Text Editor	
Sync Insert Decision	
Validate Deletion	
Zoom Scale	
Advanced Tools Dialogs	
Equipment Library	
Find	
Inputs/Outputs	
Display Preferences	
Add Ports	
Copy Port Data	
Incoming Signal Types Map	
Save Equipment As	
Descriptor Map	
Rack Builder Tool	
Assign Sysname	
Assign Cable Number	
Assign Terminals	
Assign Terminal No Database Reference	
Assign Splice	
SysName Error Check	
Add Multi-core Cable	

Cable Error Check	
Auto Block	
Ratsnest	
WireCADify Block	
Add Connection Point	
Cable Connection Exists	
Plan View and Layout Tools Dialogs	
Take Offs	
Spare Cable	
Location Boundary	
Draw Backbone (ENT Only)	
Draw Cable	
Populate Cables	
Draw Prewire	
Populate Equipment	
Data Dialogs	
New Location	
New Cable	
,	
<sup>o</sup>	
	535
5	
•	
-	
Application Menu Forms	
Project Information	
Permissions Grid	
Global Data Forms	
Manufacturers Grid	
Equipment Grid	

	Contents	VIII
Defaul	t Signal Types Grid	
	chars Grid	561

Cable Types Grid	
Color Codes Grid	
Pinouts	
Project Data Forms	
Backbone Grid (CMS ONLY)	
Blind Patch Form (CMS ONLY)	
Circuits Grid (CMS ONLY)	
New Circuit (CMS ONLY)	
New Backbone (CMS ONLY)	
Project Signal Types Grid	
Equipment List	
Cables	
Locations	
Named Paths	
ТоDо	
Drawings	
Index Grids	
Unassigned Cables	
Unassigned SysNames	
Cables by Drawing	
SysNames by Drawing	
Cables by SysName	
Orphaned Cables	
Orphaned SysNames	
Import Project Data	
Discrepancies	
Next Numbers Grid	
Project Rules	
Report Forms	
Print Preview	
HTML View	
Report Designer	
Toolbox	
Cable Data Selector	
Bill of Materials Generator	
PDF Viewer	
Plugins Forms	
Translation Manager	
Map Tool	
ol Panels	
Project Explorer Draw Cables	
Drawing Properties Find	
Favorites	
Command Line	
riting Plugins	620
lo World	C07
ILJ WWLJIILJ	

4

Part V

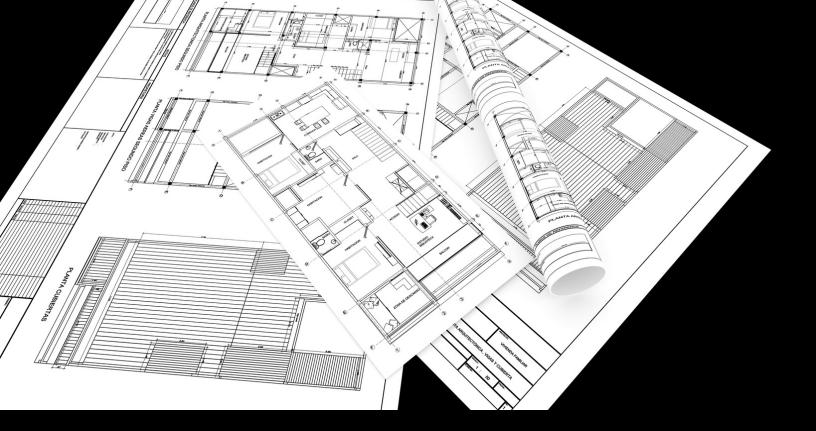
1

IX	WireCAD v10 User Manual

3	Registering Your Plugin	. 631
	Index	634

## 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.



# Introduction

## 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<sup>™</sup> 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 with our automated tools.

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.

### 1.1 New in Version 10

### Major Function Changes

- Completely reworked the Equipment Library and the Library SDK.
- Modified the Assign SysName dialog to clarify the different modes of operation.
- Modified the Assign Cables dialog to clarify the different modes of operation.
- Added support for ACAD 2018 drawings.
- Added PDF Import to drawing function.
- Dramatically decreased project load time.
- Dramatically decreased drawing open/save time.

- Dramatically improved full ripple times.
- Faster project switching.
- Added swap Project Location Delimiter function. Allows you to change the LocationDelimiter and ElevationSlotDelimiter variables mid project.
- Modified the Equipment Library to provide port markers. We have provided 38 marker variants and an SDK event to register your own through code.
- Modified the Equipment Library to include Bidirectional ports. If a port is marked as Bidirectional it appears on both the Inputs and Outputs list but can be selected for inclusion in the block from only one side or the other.
- Added AutoWidth property to the display prefs of the Equipment Library.
- Added support for grouped ports
- Implemented round-trip export-import on the project grids.
- Implemented round-trip export-import on the global grids.
- Added Title Block Manager.

#### **Minor Function Changes**

- Added Swap Pointer Function. Allows universal change of pointer style.
- Added Swap Terminal Function. Allows universal change of terminal style.
- Added setting to disable progress bar. This helps larger drawings load faster.
- Added Arc Text tool.
- Removed drawing rulers. This was done to stabilize some WIN10 installations that were not displaying the ruler correctly and were throwing exceptions.
- Added project drawing file system watchers for renaming and creating drawings in the active project folder.
- Added splitter bar to Project Systems Grid for better resizing.
- Added the ability to create multiple new drawings from the New Drawing Wizard.
- Modified the Crosshair setting to allow larger sized crosshairs.
- The ModifiedByUser field is now honored in the Equipment Library.
- The ModifiedBy field is now deprecated.
- Removed support for Tags in user defined shapes.
- Moved the tool panel tabs to the left side and added a user setting to allow return to the bottom position.
- Modified the response to missing SysName to better guide the user.
- Added Image field to global Connectors table.

#### So, let's get started!

#### Speed

As we mentioned, speed was the watchword for this effort. We have been working much closer to the hardware to take full advantage of multi-core processors and parallel programming techniques to increase the speed of many of the mundane and long playing operations. We now use all processor cores as well as parallel programming techniques to increase program speed.

Below are some of our benchmarks:

Operation	v9 Execution Time	v10 Execution Time
Demo Edit Suite Project Open	30 seconds	2.15 seconds
Edit_1_VID.DWG open	10+ seconds	3.8 seconds
Project Signal Types full ripple	3+ minutes	1.3 seconds

There are similar numbers on all of the ripple operations as well as the drawing save and application close functions.

#### Equipment Library

We have completely redone the Equipment Library. Completely!

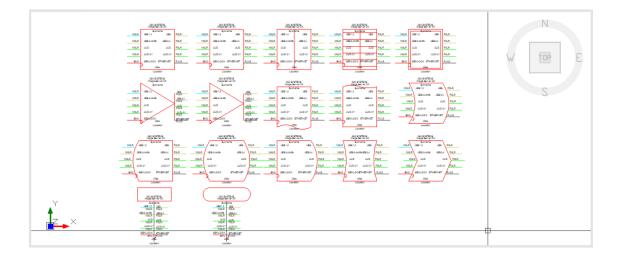
We have made the library faster to load and preview. All of the pertinent information is on the main page. Select a Manufacturer and all of its equipment is shown along with the detail data for the selected device.

We have increased access speed to the Community Library.

Inputs/Outputs	s Display Preferences C	Options			SYSTEMS]-[Image Server 2K]			
iquipment Library Equipment	Add Manufacturer		Community Library	h Find		d Download Pirst Previous Community Library is online with 103		
r Manufacturers		Your Equipment					Stock Shapes	Preview
nter text to search	V Find Clear	Image  Image	ManufacturerDisplayName 360 SYSTEMS	EquipmentName Image Server 2K	EquipmentDescription Mpeg 2 Video Server	Type (SysName Prefix) SRVR		^ ( Auto 2
Manufacturer Name	Manufacturer Image		360 SYSTEMS	Instant Replay	Audio Sampler	IR		
360 SYSTEMS	do Customer ~	Nothing to see here. Right	360 SYSTEMS	IMAGESVR	SERVER	SERVER		
300 STSTEMS	Ho Systems -	Nothing to see here. Right	360 SYSTEMS	IMAGESVR_v1	SERVER	SERVER		
360SYSTEMS	No image data	Nothing to see here. Right	360 SYSTEMS	Router	Router	RTR		
3COMM ACCOM	3COM						Rectangle	Display As:     O     Functional Block
	No image data	Details - Image Server 2K has	12 inputs and 19 out					U
ACTIVE STORAGE	No image data	Full Name	s 15 inputs and 16 out		- Image Server 2K	A		Concept Block
		Name		Image Server		^		Signal Types Only Block
		: Description		Mpeg 2 Video			; ···· ···	Mappable Terminal From File
ADC		Type (SysName Prefix)		SRVR			· · · · · ·	User Defined Shape from File
	AUG	Front Panel File		%BLOCKS%	2D_ELEVATIONS\2U_2D_EL.DWG			<u> </u>
		Plan View File						Front Panel from File
ADTEC DIGITAL	No image data	Image		Nothing to se	here. Right-dick to add image.		Rounded Rectangle	Front Panel from Dims
AIR TOOLS	the second se	Weight		2.25				O Plan View from File
ALK TOOLS	airlools	Weight Unit of Measure		Pounds		×		
AIWA		Height Height Unit of Measure		2 Rack Units(RI	0	~		
		Width		19	<i>n</i>	•		Add to Drawing
ALA	AJA	Width Unit of Measure		Inches		~		/ \
	VICCO SYSTEMS	Depth		12				
		Depth Unit of Measure		Inches		×		
	(A)	Power		50				Create SysName
AKG		Power Unit of Measure		Watts		~	Rounded Rectangle - Tor	
	COOL S	Voltage Unit of Measure		120 VAC		M		
	~	Unit of measure		VAC		Y .		✓ Exit

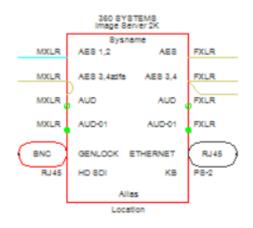
### Shapes

The Library now supports many more stock shapes and the ability to code your own in the SDK.



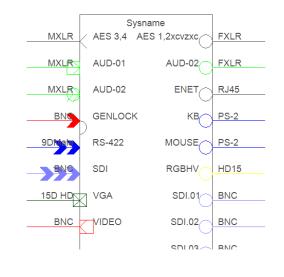
### Pin Types

The Library now supports many more pin types and the ability to code your own in the SDK.



### **Port Markers**

The Library now supports port markers and the ability to code your own in the SDK.



#### **Bidirectional Signal Types**

The Library now supports bidirectional signal types. A bidirectional signal type is one that might be displayed on either side of a block depending on document flow.

The new bidirectional port flag is used to ensure that a port so flagged can only be selected once. If it is selected on the input side it cannot be selected on the output side and vice versa.

rts 🖸		ected Inputs	×.	Copy Port Da Copy Selection Corement Se	on Down	nother Devic	82	Select All Clear Inputs All Inputs Sel	응용 Clear All 물용 Clear Outputs 응물 All Outputs ection	Sort Display Order Display Order	ny -										
		Tee	ute (nexts	on the lef	Discussion of the last	(a)				Сору				(ports o	o the si	abthan	d cida)			Stock Shapes	Preview
Name	Group	Туре	Conn			PinType	Marker	Modified			N 4	Group			IsBidi			Marker	Modif	Â	Auto 2
SDI		SDI 🗸	BNC ¥	~	11		× v			eorder List	AES		AES	FXLR		7					
SDI-001		SDI	BNC				No		N	eorder List	AES		AES	FXLR		12					
SDI-002		SDI	BNC	~	1		No		INS	Outs	AUD		AUD	FXLR		5					
SDI-003		SDI	BNC	~	3		No				+ AUD-		A V	F V		8	~	~			L.#
SDI-004		SDI	BNC	~	3		🗙 (No.		T	T	ETHE		ETHE.	RJ45		6					
VIDEO		VID	BNC	¥	9		X (No				KB		DATA	PS-2		15				Rectangle	Display As:
AES 1,2		AES 1,2	MXLR	<ul> <li>Image: A start of the start of</li></ul>	5		(No.		+	+	MOU.		DATA	PS-2		9					Functional Block
AES 3,		AES	MXLR	<b>~</b>	10		🗙 (No				SDI		SDI	BNC		4					Concept Block
AUD		AUD	MXLR	1	4		X (No.		Select	: By Signal Type	SDI.0	1	SDI	BNC		17					0
AUD-01		AUD	MXLR	<b>~</b>	3		🗙 (No				SDI.0	3	SDI	BNC		14					Signal Types Only Block
GENLOCI	c	VID	BNC	<b>v</b>	6		🗙 (No		1	AUD	SDI		SDI	BNC		0					Mappable Terminal From
HD SDI		HD SDI	RJ45	1	12		X (No			AES 1,2	SDI		SDI	BNC		1				-	User Defined Shape from
RS-422		CNTL	9DMale	✓	8		🗙 (No			VID	SDI		SDI	BNC		2					Front Panel from File
										CNTL.	SDI		SDI	BNC		3					Ŭ
										AES	VGA		VGA	15D		16				Rounded Rectar	Front Panel from Dims
					1 <sup>0</sup> _0						VIDE.		VID	BNC		10					O Plan View from File
				A81.41	No.					SDI	VIDE.		VID	BNC		13					
				cho ar a						HD SDI	VIDE.		VID	BNC		11					
			BIOIT	1519 a 910						ETHERNET											Add to Drawin
			the potr	000						DATA											
		Ports mi	ed Inecteo							VGA										Rounded Rectar	Create SysNam
																				NOUNDED RECLA	
																					Exit

### **Port Grouping**

The Library now supports port grouping. The groups have several properties that control their appearance:

- Input/Output Enable Grouping
- Input/Output Group Spacing the vertical distance between groups
- Input/Output Group Port Name Concatenation Mode controls the way the group name is combined with the port name field to represent the combined information in the cables database.
- Input/Output Group Format String if the **Group Port Name Concatenation Mode = UseFormatString** then the format string will control the port name.
- Input/Output Group Marker

360 SYSTEMS Image Server 2K									
Bysname									
MXLR	AE8 1,2		AES	FXLR					
MXLR	AE8 3,4zdf		AE8 3,4	FXLR					
MXLR	AUD 4	23	AUD	FXLR					
MXLR	AUD-01		AUD-01	FXLR					
BNC	GENLOCK	ŧ	THERNET	RJ45 P8-2					
RJ45	HD SDI	اً ،	MOUSE	P8-2					
90Male	R8-422								
BNC	801	۱.	801	BNC					
BNC	8DI-001		8DI.01	BNC					
BNC	801-002		801.03	BNC					
BNC	801-003		801-001	BNC					
BNC	8DH004		801-002	BNC					
BNC	VIDEO	ļ	801-003	BNC					
			801-004	BNC					
			VGA	15D HD					
			VIDEO.01	BNC					
		BNC							
			VIDEO.03	BNC					
		Vias							

### Port Adder Dialog

We have reworked the Port Adder dialog to support:

• Bidirectional signal types

- GroupingInput Pin Type selection
- Output Pin Type selection
- Input Port Marker Selection
- Output Port Marker Selection

🔀 Add Ports				? 🗙
Tips				
Consider naming patchbay ports A-# an It doesn't matter which side you place a When selecting the connector gender al	port on. You can always move it later. ways consider that WireCAD needs the CA	BLE END of the connection, not th		ection of more that one port of the same name.
Add to Which List:	Port Name:	enter port name	×	Add Multiples:
	Group:			Add Multiple Ports
Inputs (Left Side)	Connector (Cable End):	select connector	× +	Count (Appends #):
Outputs (Right Side)	Signal Type:	select signal type	× +	Starting @: 1
◯ Both	- Input Ports			Leading Zeros: 0
OBidirectional	Input Pin Style:	Normal	~	
	Input Port Marker	(None)	~	
	- Output Ports			
	Output Pin Style:	Normal	~	
	Output Port Marker	(None)	~	- Finally Append Characters
	Add Ports and Close	e Close Ap	ply	

### SysName Assignment Dialog

The new SysName Assignment Dialog clarifies the dialog mode via the use of a radio button selection to determine user intent.

	Manufacturer	360 SYSTEMS		✓ Equipment Name	Image Server 2K	
				Equipment Name	Image Server 2K	¥
	Action					
adio button group	New Next Number	SRVR-001				
select intent	New Manual Entry	SRVR-001				
	<ul> <li>Select Existing</li> </ul>	Select Existing SysName				~
	Alias	SRVR-001				
	Location	Location	~	+ Elevation	Elevation	<b>~</b>
	User 1			User2		
	User3			User4		
	IP Address			Subnet Mask		
	Power Consumption	50		Power Consumption Un	it Watts	
	Weight	2.25		Weight Unit	Pounds	
	Vendor 1	a		Vendor 2	b	<b>v</b>
	Flags			▼ BTU		0
			Show Me		OK	Cancel
	Status					

### Cable Number Assignment Dialog

The new Cable Number Assignment Dialog clarifies the dialog mode via the use of a radio button selection to determine user intent.

1	<mark>x,</mark> Edit Cable	Data						1	×
	ED	MON-02 VID.1-LOOP MON-02 M 110.3.37	V	-10	12-	В	-V.1	10XL-01 QC SWR ROOM 110.2.35	
Radio Button group to select intent	New Next N     Edit existing     Select Exist		V-1012- Select an existing cable					Add Multi-core Ca	bles
	CableTypeManu			~	CableType				× +
	SignalType	VID							~
	NamedPath Integrator	Select a Named Path		~	Length				0 ¥
	User 1 User 3				User2 User4				
	<b>Sheet</b> Pinout	MACHINE_ROOM.dwg	)		]				~
	Vendor 1			~	Vendor 2				~
	Calc time= 00:00	0:00.0033597				Show Me	U	lpdate Car	ncel

### Round Trip Export/Import

We have added the ability to export any grid to Excel then modify it in Excel and import the changes back into WireCAD.

In order for this to work you must make sure to export the table's primary key field - usually xxxxGUID where xxxx is the name of the collection that is being exported.

Failing to export the primary key will disable round trip importation and the imported data will be appended to the table.

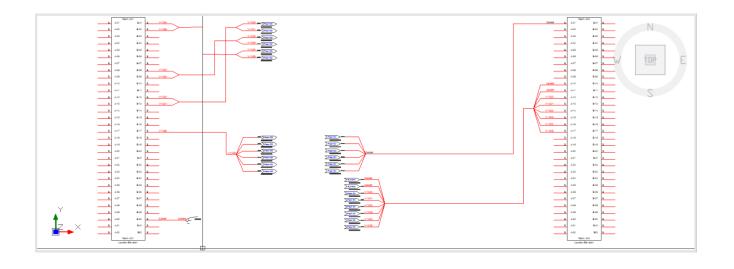
### Pointers On Multi-relational Cables

Pointers can now be added to multi-relational cables. The following functions have been enabled:

- Link/Traverse. Double-click to link. [Ctrl]Double-click to traverse. Just like a normal pointer.
- Link Selected Pointers. Link a group of pointers on/off sheet.
- Assign Cable Number. Just like any other cable, double-click the cable to assign.

The following functions have not yet been enabled:

- Reverse linking to a flipped pointer.
- Using a Many-to-One cable to a pointer then pointer to a One-to-Many will not collapse/expand that number of records in the database automatically.



#### Swap Pointers Function

We have added a long requested feature to allow you to change all pointers of a selected type to that of another.

If you get into the project and decide that something about a pointer does not please your eye you can now change it easily.

Simply select the pointer on the source side of the cable and launch the function. Then select the replacement values. All pointers on and off sheet will be replaced and updated.

Swap Pointers		×								
This function will replace pointer sets in this and other draw	wings.									
Select the _S and _D pointer to replace with.	Select the _S and _D pointer to replace with.									
This function works on-sheet and off-sheet. If the other pointer is on another sheet, that drawing will be opened and the pointer replaced.										
Don't forget to save all drawings when this is finished.										
THIS CAN TAKE A WHILE. Be patient.										
Outgoing Pointer _D WC3_Pointer_D										
Incoming Pointer _D		~								
Incoming Pointer _S		~								
	ОК	Cancel								

#### Swap Terminals Function

We have added a long requested feature to allow you to change all terminals of a selected type to that of another.

If you get into the project and decide that something about a terminal does not please your eye you can now change it easily.

Simply select the terminal and launch the function. Then select the replacement value. All terminal on that sheet will be replaced and updated.

Swap Terminal	×
This function will rep	lace TERMINALS - JACKS, JBOXES, ROUTERS.
It requires two varia	bles:
Select the outgoing	terminal. The suffix must match in order to be swapped.
Don't forget to save	all drawings when this is finished.
THIS CAN TAKE A W	/HILE. Be patient.
Outgoing Terminal	wc3_eu_hn_d
Incoming Terminal	×
	OK Cancel

#### Title Block Manager

We have added a long requested feature to manage your title blocks throughout the project.

The information is common to all the drawings in the project. You can choose to have the title block data updated manually or on drawing open.

Adding a title block to the tool enumerates the block's attributes, whereupon you assign project variables to the attribute and set the update mode.

There are many project variables that you can assign to the attributes as well as a string constant value.

In the example below we have assigned the some string constants to the Title1-3 attributes and then assigned project variables to others.

र					Project	Title Block Manager		- 🗆	>
Titleblock Manager									
00	Ē	244	h	Å	<b>S</b>				
Add Remove	Edit Company Info	Edit Client Info	All Manu	ual All On Open	Update Active Drawing Now				
Page Borders	Data	3	N	Mode	Update				
Page Borde	rs			Attribut	es				
WC11x17				Tag Strin	9	Attribute Value	String Constant	Update Mode	
				Title 1		None		Manual	
				Title 2		None		Manual	
				Title 3		None		Manual	
				Title 4		None		Manual	
				REV		None		Manual	
				Drawing	#	None		Manual	
				Sheet		None		Manual	
				Drawn By	:	None		Manual	
				Checked	By:	None		Manual	
				1		None		Manual	
				ISSUED 1		None		Manual	
			1	DATE 1		None		Manual	
				2		None		Manual	
				ISSUED 2		None		Manual	
				DATE 2		None		Manual	
				3		None		Manual	
				ISSUED 3		None		Manual	
				DATE 3		None		Manual	
				4		None		Manual	
				ISSUED 4	ł	None		Manual	
				DATE 4		None		Manual	
				5		None		Manual	
				ISSUED 5		None		Manual	
				DATE 5		None		Manual	
				Scale		None		Manual	

### New Drawing Wizard

We have added a long requested feature to allow multiple new drawings to be created from the New Drawing Wizard.

🔀 New Drawing		?	x
New Drawing	(s)		
Name the	Drawing(s)		
Cra	wing 1 wing 2 wing 3 Jsers\Public\Documents\WireCAD\WireCAD10\Demo Projects\Edit Suite Demo Project\Drawings	>	
	Next > C	ancel	

#### 1.2 Software Activation

WireCAD v10 offers 2 program levels with two licensing models:

PRO Perpetual License. This license is issued as a replacement to users of WireCAD v9 XLT/PRO with current Assurance.

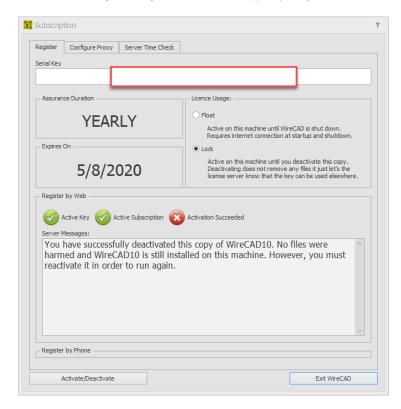
PRO Subscription License. This license has an expiration date with a range of 30 days to 3 years.

CMS Perpetual License. CMS fiber management tools only support the perpetual license model.

An activation key is all that is required to change program levels. If you have questions about the licensing scheme  $\frac{\text{click here}}{25}$ .

#### 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**

The mechanism by which we float licenses is the license lease. Leases can float or lock to a machine. During the activation of your software you will be prompted to pick a lease period.

Subscrip	otion		
Register	Configure Proxy	Server Time Check	
Serial Key			
Assura	nce Duration		Licence Usage:
	YEAR	LY	<ul> <li>Float         Active on this machine until WireCAD is shut down.         Requires internet connection at startup and shutdown.     </li> </ul>
- Expires	: On		Lock
	E (0 (0)		Active on this machine until you deactivate this copy.
		tive Subscription	Deactivating does not remove any files it just let's the license server know that the key can be used elsewhere.
Server You harr	ar by Web Active Key Active Key Messages: have successfu	tive Subscription 🔞	license server know that the key can be used elsewhere.
Server You harr reac	Active Key CA Active Key Active Key Active Key Active Key Active	tive Subscription 🔞	Activation Succeeded

Once activated the application operates until it is shut down whereupon it released the license(if web connected); thus making the license 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.

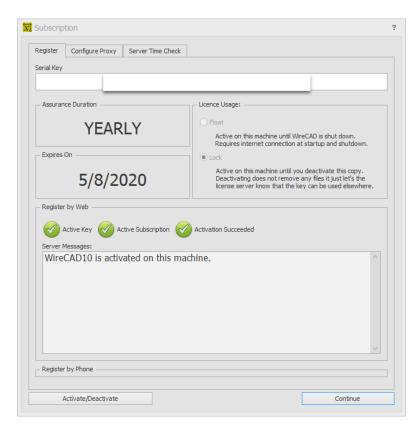
NOTE: Subscription keys must be activated via the web at least once per subscription period and cannot be activated by phone.

#### How To: Activate WireCAD

1. Enter your authorization key (it's the really long one that ends in 90. If you fail to enter the key correctly you will not be able to proceed.

Subscription			
Register	Configure Proxy	Server Time Check	
Serial Key			
	1	234-1234-1234-1234-1234-1234-1234	8

- 2. If you have successfully entered a valid key and you are web connected you will be able to activate by web.
- 3. Select the Float/Lock mode and click [Activate/Deactivate]. If you are successful your screen will look like this:



- 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.

If no connection is available you will see the dialog configured like this:

	Configure Proxy	Server Time Check	
Serial Key			
	otion Duration ———		Licence Usage:
	???	?	⊖ Float
			Active on this machine until WireCAD is shut down. Requires internet connection at startup and shutdown.
- Trial Exp	pires On		O Lock
	- (- (- )		Active on this machine until you deactivate this copy.
	5/8/20	019	Deactivating does not remove any files it just let's the license server know that the key can be used elsewhere.
	r by Web		
– Registe	r by Phone		
	much compact to the	a licence conver pla	ease call 1 (866) 273-5298 or 1 (661) 253-4370
			m with your Key and Unique Machine TD. We will cond
(intern	ational) or email	support@wirecad.co	m with your Key and Unique Machine ID. We will send the box below and click Continue.
(intern you an	ational) or email	support@wirecad.co . Enter the value in t	the box below and click Continue. Activation Code (provided by us)
(intern you an	national) or email ad Activation Code	support@wirecad.co . Enter the value in t O (provide this to us)	he box below and click Continue.
(intern you an	national) or email : nd Activation Code is Machine's Unique II	support@wirecad.co . Enter the value in t O (provide this to us)	the box below and click Continue. Activation Code (provided by us)
(intern you an	national) or email : nd Activation Code is Machine's Unique II	support@wirecad.co . Enter the value in t O (provide this to us)	the box below and click Continue. Activation Code (provided by us)
(intern you an	national) or email : nd Activation Code is Machine's Unique II	support@wirecad.co . Enter the value in t O (provide this to us)	the box below and click Continue. Activation Code (provided by us)
(intern you an	national) or email : nd Activation Code is Machine's Unique II	support@wirecad.co . Enter the value in t O (provide this to us)	the box below and click Continue. Activation Code (provided by us)
(intern you an	national) or email : nd Activation Code is Machine's Unique II	support@wirecad.co . Enter the value in t O (provide this to us)	the box below and click Continue. Activation Code (provided by us)

Call the number above. We will need the Machine ID and will read you back an activation code that you will enter in the box.

Then click the **[Continue]** button.

You will receive a message box indicating the success of the activation.

#### Troubleshooting 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).
- 6. License count exceeded.
- 7. Subscription expired (Applies only to subscription keys).

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

- 1. You have provided an incorrect Machine ID.
- 2. The WireCAD technician has entered an incorrect value.
- 3. You have entered an incorrect value in the activation field.

#### **1.3 License Agreement**

#### License Agreement

YOU SHOULD CAREFULLY READ THE FOLLOWING TERMS AND CONDITIONS BEFORE OPENING THIS PACKAGE AND/OR BY USING THE SOFTWARE. OPENING THIS PACKAGE OR USING THE SOFTWARE INDICATES YOUR ACCEPTANCE OF THESE TERMS AND CONDITIONS. IF YOU DO NOT AGREE WITH THEM, YOU SHOULD PROMPTLY RETURN THE PACKAGE TO THE LOCATION WHERE YOU PURCHASED THE SOFTWARE, UNOPENED WITH PROOF OF PURCHASE, AND YOUR MONEY WILL BE REFUNDED.

Holbrook Enterprises, Inc. provides this program and licenses its use. Holbrook Enterprises, Inc. retains the ownership of this product.

#### LICENSE

Permitted Uses/You May:

\* Use the software on any computer provided the software is used on only one computer and by one user at a time.

\* Copy the program into any machine readable or printed form for backup or modification purposes in support of your use of the program on a single machine.

Prohibited Uses/You May not:

\* Make copies of the documentation or software, except as noted above.

\* Distribute, rent, sub-license, transfer, or lease the software or documentation.

\* Alter, modify or adapt the software or documentation, including, but not limited to, translating, decompiling, disassembling, or creating derivative works.

This license and your right to use the software automatically terminate if you fail to comply with the provisions of this License Agreement.

#### TERM

The license is effective until terminated. You may terminate it at any other time by destroying the program together with all copies, modifications and merged portions in any form. It will also terminate upon conditions set forth elsewhere in this Agreement or if you fail to comply with any term or condition of this Agreement. You agree upon such termination to destroy the program together with all copies, modifications and merged portions in any form.

IF YOU TRANSFER POSSESSION OF ANY COPY, MODIFICATION OR MERGED PORTION OF THE PROGRAM TO ANOTHER PARTY, YOUR LICENSE IS AUTOMATICALLY TERMINATED.

#### TRADE SECRET

You acknowledge that the software constitutes valuable trade secret information that is the exclusive property of Holbrook Enterprises, Inc..

#### Automatic Updates

Holbrook Enterprises, Inc. may periodically check the web for updates.

No personal information will be transferred.

#### LIMITED WARRANTY

Holbrook Enterprises, Inc. warrants for a period of 30 days from the date of original delivery to you that the program will substantially conform to the published specifications and to the documentation, provided that it is used on the computer hardware and with the operating system for which it was designed. Holbrook Enterprises, Inc. warrants the diskette(s) on which the program is furnished, to be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of delivery to you as evidenced by a copy of your receipt. This warranty gives you specific legal rights. You may have other rights that vary from state to state.

DURING THE WARRANTY PERIOD, IF THE SOFTWARE DOES NOT PERFORM AS WARRANTED, YOUR EXCLUSIVE REMEDY SHALL BE TO SEND THE SOFTWARE TO HOLBROOK ENTERPRISES, INC.

WHICH SHALL, AT ITS OPTION, EITHER REFUND TO YOU THE PRICE PAID OR REPAIR OR REPLACE THE SOFTWARE.

To the extent permitted by applicable law, Holbrook Enterprises, Inc. disclaims all other warranties, either or implied, including, buy not limited to, warranties of merchant ability and fitness for a particular purpose. Holbrook Enterprises, Inc. makes no warranty as to title. No Holbrook Enterprises, Inc. dealer, distributor, agent, or employee is authorized to make any modification or addition to this warranty.

#### LIMITATION OF LIABILITY

Because programs are inherently complex and may not be completely free of errors, you are advised to validate your work. TO THE EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT WILL HOLBROOK ENTERPRISES, INC. OR ANY OF ITS PRINCIPALS OR AGENTS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER ARISING OUT OF THE USE OF OR INABILITY TO USE THE PROGRAM OR DOCUMENTATION, even if advised of the possibility of such damages. Specifically, Holbrook Enterprises, Inc. is not responsible for any costs or damages including, but not limited to, those incurred as a result of lost profits or revenue, loss of use of the computer program, loss of data, the costs of recovering such programs or data, the cost of any substitute program, claims by third parties, or for other similar costs. IN NO CASE WHATSOEVER SHALL HOLBROOK ENTERPRISES, INC.'S LIABILITY EXCEED THE PRICE PAID FOR THE LICENSE TO USE THE SOFTWARE.

SOME STATES DO NOT ALLOW THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Should you have any questions concerning this Agreement, you may contact Holbrook Enterprises, Inc. by writing to: Holbrook Enterprises, Inc. 1112 6th Street South Nampa, ID 83651 (866) 273-5298 U.S. and Canada

#### (661) 253-4370 International

support@wirecad.com

You acknowledge that you have read this agreement, understand it and agree to be bound by its terms and conditions. You further agree that it is the complete and exclusive statement of the agreement between us which supersedes any proposal or prior agreement, oral or written, and any other communications between us relating to the subject matter of this agreement.

# 1.4 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 PRO and CMS and for subscription keys. You may disable this feature by selecting the Lock option on the License Usage section 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. You will need to fill out and return an Affidavit of Machine Failure attesting to the fact the the machine cannot and will not run WireCAD ever again.
- 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.

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

A:If you have already activated WireCAD in Float mode the click the [Activate/Deactivate] button and proceed to deactivate. Then set the License Usage to Lock and Activate.

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 hot-fixes.
- 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: Depends. If you have been issued a perpetual key, your license 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 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.

# 1.5 Context Sensitive Help

WireCAD v10 is tightly coupled to the help file.

When you first start WireCAD we enable **Beginner Mode**. In this mode your moves are reflected in the help system. As you launch functions the help system will display context sensitive help for forms and dialogs.

You can enable/disable Beginner Mode from: Application Menu>Settings... [User][Expert Mode]

You can get context sensitive help in the following ways from within the application:

# 1.5.1 Dialog Based Help

Each dialog in WireCAD v10 has a ? in the upper right-hand corner.

X New Drawing	?×
O New Drawing	
Select a Template Drawing	
Image: Note of the image o	
	Next > Cancel

Clicking this will open the help file to a section specific to that dialog.

😰 WireCAD		-		×
招 (中 中) (計 ) (部・ Hide Back Forward Home Print Options				
Contents Index Search F + Navigation: Reference > Dialogs > Drawing Dialogs > CAD Dialogs >				^
Up Welcome New Drawing Wizard		t	<b>↑</b> ,	2
Introduction				_
🗄 🔖 WireCAD PRO Manual				
WireCAD CMS Tools M				
🗷 📡 Ribbon Tabs and C Select a Template Drawing				
Application Mei     Add Automp				
Didwing biolog				
AND				
ANSLED ANSLED				
PPID PT     BO_ALLandsage deg     V     DO_ALLandsage deg     V				
2 Export				
2 Layers Net > Cond				
2 Layout:				
? Point S				
Text St				
2 Dimens				
2 Model:				
2 Groups Use Model Space Boundaries				
2 Images				
2 Image I Hold Space Text House T				
Rectar     Prind Ougut Text Height 4				
Purge     Core (Interer				
Swap E				
I Lott Att     If the Agen       I Add Att     If the Agen				
Redt XF				- 1
Singleli     Drawing > File > New				
? Multi-lir Commandline: nd				
2 Sync Ir				
2 Validat Explanation				
2 Zoom S				
Advanced Create a new drawing for the project somewhere in the project\drawings\ folder tree.				
W Flan View (				
Data Dialogs     Select a template drawing. Template drawings are drawings that are placed in the Tem	plate Drawings Su	pport F	ath. Th	ey
Benefit Dialogs				1
<ul> <li>Set whether to display Model Space Boundaries. These are bounding rectangles based of</li> </ul>		the Mo	del Spa	ce 🗸
text height used and the desired output text height of the viewmont	<u>\$</u>			

# 1.5.2 Form Based Help

To display context help for the active form click **F1** or the **Help** menu item



Project File View Data	ebase Plugins	Reports	2	2			🖶 Copy	Down			pment List (S	ysNames	) Table	â										?⊕∎⊿ •↓WireCA
v Save Print Export Send	D. Add Many	Exit	Undo	Refresh (	Clear Delete S Data Row	elected	Increment Σ Funct			ttach Doc e-Index C				Todo										<b>WireCA</b>
File					Edi						Tools			Todo										·
- 1	Start Page Ja V	Signal	Types (Proje	a v a	Project Fox inmer	t Liet (S	veNamee) a	v	Cables + × F	Project Dr.	awinne Ja	×												
ect Explorer 🛛 🖗 🛪 🗸 🚽					rioject Equipmen	ic use (s	yprivatilies) a	_		-TOJECT DI	amingo 🕶													
9 C ()	Data Visualiza	tion Settin	gs Visuai	lization																				
	Col	umns with (	colored back	ground must be	edited from the	Equipm	ent List table (	or Locat	ions table and ripple															
	Search										Ace					Search				Fin	d Al			
											Active	For												
Global Databases	Drag a column he																							Changes to Ripple Across Project
Equipment ubrary Default Signal Types	CableType	Cable	Cab Cab	d CableNo	▲ SrcSys	SRC.	. SRCPin	SRC	SRCLoc	SRCE	l DestSys	DST		Dest.oc	Des	DestConn	Inte	Sheet A	va S	ign Rep.	Mult.	Ava	Dat	
Cable Types	9 n <b>o</b> c	* <b>0</b> :	*@c #@c	- CC	*@c	n <b>a</b> c	• <b>D</b> <	a 🛛 c		<b>،</b> ۵:	* <b>D</b> ¢	a 🗖 c	100	AD2	n 🛛 c	10×	a∎t –	* <b>0</b> ¢		0: 10:			- 1	^
Connectors	BELDEN	1801A		A-1004-	VTR-02	VTR	MON-R	х	ROOM 10.2	8	1001-01	QC	R.2	ROOM 110.2	35	37D		MA	- A	UD				
Permissions	BELDEN	1801A		A-1005-	VTR-03	VTR.	MON-L	х	ROOM 110.3	20	100L-01	QC	L.3	ROOM 110.2	35	37D		MA		UD				
Color Codes	BELDEN	1801A		A-1006-	VTR-03	VTR.	MON-R	х	ROOM 110.3	20	1001-01	QC	R.3	ROOM 110.2	35	37D		MA	- A	UD				
Projects	E BELDEN	1801A		A-1007-	VTR-04	VTR.	MON-L	х	ROOM 110.3	14	10xL-01	QC	L.4	ROOM 110.2	35	37D		MA		UD				
Edit Suite Demo Project	E BELDEN	1801A	w(	A-1008-	VTR-04	VTR	MON-R	x	ROOM 110.3	14	1001-01	oc		ROOM 110.2	35	370		MA		up				
名 New Drawing 図 Open Drawing(s)	E BELDEN	1801A	wf	A-1009-	02R-01	02	CRL	1/4	109	DES	PA-01	PA-01	L	109.1	12	x		EDI		up				
Project Drawing(s)	BELDEN	1801A		A-1010-	02R-01		CRR	1/4	109	DES	PA-01	PA-01		109.1		x		EDI		up				
Project Databases	E BELDEN	1801A		A-1011-	PA-01	PA-0		X	109.1	12	SPK-02	SPK		109	RIG			EDI		AN			-	
Project Signal Types	BELDEN			A-1012-	PA-01	PA-0		x	109.1	12	SPK-01	SPK		109	LEFT			EDI		AN				
Equipment List (SysNames)	E BELDEN	1801A		A-1013-	02R-02			1/4	110		PA-02	PA-02		112.1		X		EDI		UD				
🎲 SysName Format	BELDEN	1801A		A-1014-	02R-02			1/4	110		PA-02	PA-02		112.1	12			EDI		up				
Cables	E BELDEN		wf	A-1014-	PA-02	PA-02		X	112.1	12	SPK-04	SPK		112	RIG			EDI		AN				
Gable Number Format	BELDEN	1801A		A-1015-	PA-02 PA-02	PA-0		x	112.1	12	SPK-04 SPK-03	SPK		112	LEFT			EDI						
Drawings Named Paths	E BELDEN		w(	A-1018-				^ 37D	ROOM 110.2	35	AMU-01			ROOM 110.2		X		MA		UD				
Next Numbers					10XL-01																			
To Do List	BELDEN	1801A		A-1018-	10XL-01			37D	ROOM 110.2	35	AMU-01			ROOM 110.2		X		MA		uo				
Locations	Đ			CTL-1001-			RS 422	D9	109		SP-01			EDIT 1	WALL			EDI	R					
Discrepancies	Đ			CTL-1002-	I/F-02		RS 422	D9	112		SP-02	SP-02		EDIT 2	WALL			EDI						
Rules	E			CTL-1003-	CP8-01			D9	109.1	10	VTR-01			ROOM 110.2		90		MA		NTL				
Related Projects (Read Only)	Đ			CTL-1004-	CP8-01			D9	109.1	10	VTR-02			ROOM 110.2	8	90		MA		NTL				
	Ŧ			CTL-1005-	CP8-01		. B-03	D9	109.1	10	VTR-03			ROOM 110.3	20	9D		MA		NTL				
	Ð			CTL-1006-	CP8-01			D9	109.1	10	VTR-04			ROOM 110.3		9D		MA		NTL				
	Ð			D-1001-	CPU-01		FIREWIRE	IEEE	109		I/F-01	1/8		109		1394		EDI		ATA				
	÷			D-1002-			MON-01	HD15			Cmon-01	Cm		109		15D HD		EDI		GA				
	Ð			D-1003-	CPU-01	EDI	MON-02	HD15	109	DESK	Cmon-02	Cm	VGA	109	DES.	15D HD		EDI		GA				
	÷			D-1004-	CPU-02	EDI	FIREWIRE	IEEE	112	UN	I/F-02	I/F	1394	112	DESK	1394		EDI		ATA				
	œ			D-1005-	CPU-02	EDI	MON-01	HD15	112	UN	Cmon-03	Cm	VGA	112	DES	15D HD		EDI	v	GA				
	÷.			D-1006-	CPU-02	EDI	MON-02	HD15	112	UN	Cmon-04	Cm	VGA	112	DES.	15D HD		EDI	🗆 V	GA				
	E BELDEN	8723		D-1007-	CPU-01	EDI	USB	USB	109	DESK	VPB-01	VPB	A-09	ROOM 110.4	30	в		EDI		ATA				
				DA-1001-		CON	AES 3,4	EVID	Location	Elou	SRVR-011	SRV	AFC	Location	Elau	MXLR		MA		ES				

For example clicking the **Help** menu when the **Cables** database is the active form. Displays the following help topic.

2	WireCAD	- 🗆 🗙
Hide Back Forward Home Print Options		
Contents Igdex Search Favorites	Navigation: Reference > Forms > Project Data Forms: Cables	← ↑ → 0
Teageorer Lini     Categorer Lini     Categor	Databases > Cables Commadilie: cg Explanation This is the moin Cables table view. You can print, seport and soft this view biologic read with because table view. You can print, seport and soft this view biologic contains a Visualizer that lets you see the data in graphical the This socialed with the prival read to the data in the common sector of the common sector	s to those fields
	Prerequisites Cable numbers assigned in a drawing. Related Topics	
	New Cable Grid Basics	~

# 1.5.3 Tool Panel Based Help

The same follows for tool panels. Click the ? icon to show a help topic specific to that tool panel.

Project Explorer		0	×	
Item  Global Databases  Global Databases  Equipment Librar  Cable Types  Connectors  Permissions				
Content to the second s	Image: Control of the second secon	Tool Panels:     If of     Tool Panels:     If of     Tool Panels:     Tool Panels     Tool Panels     Tool Panels:	u will first have to open sject folder in a windor orm.	

# 1.5.4 Settings Panel Based Help

When the Settings dialog is shown you can get help for each panel by clicking the [Help] button.

Settings				?
Application	~	User Settings		
User	^	Open New Drawing Upon Application Startup Use the New Drawing Wizard When Creating a New Drawing	Show Tool Panel tabs on bottom	
🏶 Basic		Open My Last Project When I Start WireCAD	Show Library Tips and Tricks	
<ul> <li>Projects List</li> <li>Drawing</li> </ul>		Show the WireCAD Startup Page When I Start WireCAD Warn Me When I Mismatch a Signal Type While Drawing Cables		
Drawing Drawing (advanced)		When I Double-click a Many-to-Many Cable Assign All of Them Keep My Equipment Library Open After I Add Equipment to the Dra	(Only Illinia on Deal Maritan)	
Command Line Shortcuts		When I Link Pointers Go Back to the Starting Drawing When Finishe		
Enterprise CMS		✓ My Spacebar is my Enter Key	MouseWheel Double-Click Zooms Extents	
鑙 Expert Mode		Library Multiple Port Add Leading Zero Count Only applies to newly created ports. This setting presets the Ad	d Port Dialog.	0 🗘
Project	~ !	I will manually refresh my Project Explorer (faster, but less info). When a Drawing Opens Don't Show the Draw Cables Tool Panel, I	Know How to Find it.	
🏟 Basic		Lazy load my drawings in the Project Explorer. Faster but does not		
Advanced		Default BOM Snapshot Name {0}	Report Show Mode Gallery	
Locations		Automatically validate my equipment when I open the Equipment U	ist grid	
Delete Handling		Automatically Index Project and Drawings - SQL only	Show Index Operation Progress	
Project Rules				
🔹 Cable Text Search Window				
Enterprise CMS				
🔹 Export Settings				
🗱 Status Behaviour				
GPS Settings				
Ť		Apply Save	Close Restore Defau	its Held

Clicking the help button will show context specific help for the current settings panel. In the case below we see the help for the **[User][Basic]** panel.

8	WireCAD	- 🗆 🗙
Hide Back Forward Home Print Options		
Contents Igdex Search Favortes	Navigation: Reference > Dialogs > Application Menu Dialogs > The Settings > User Settings: User Basic	Dialog 🔶 🛧 🔶 Contents Menu
<ul> <li>WeickD Rob Manual</li> <li>WeickD Rob Istandianal</li> <li>WeickD Rob Istandianal<td></td><td>en you click File es a new drawing arlier versions of the Equipment reCAD will check</td></li></ul>		en you click File es a new drawing arlier versions of the Equipment reCAD will check

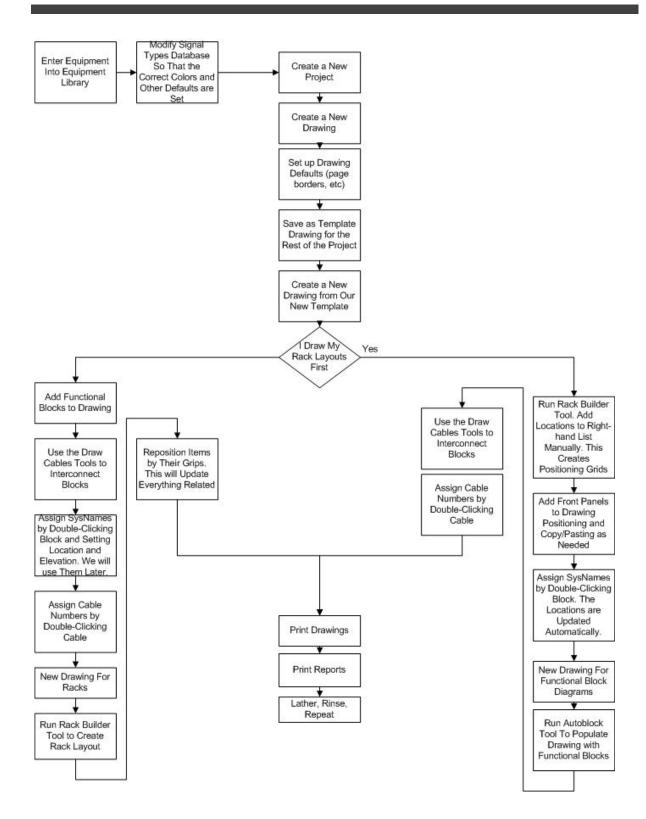


# WireCAD PRO Manual

# 2 WireCAD PRO Manual

# 2.1 Getting Started

36



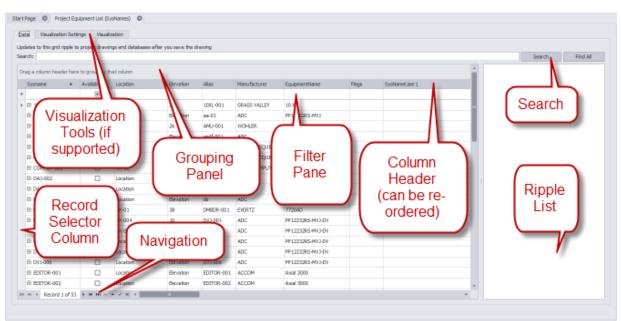
# 2.1.1 Grid Basics

#### 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.
- Expression Execution.



Grid Parts

#### 2.1.1.1 How To: Grid Functions

- Grid Searching Enter your search text in the Search box and click [Search]. WireCAD will search all fields in the table for the search term. The % character is the wild card.
- 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.
- 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

Customization	×
Ag	<b>A</b>
AppID	
CreatedOn	
DateAdded	
DateModified	
DBRef	
EntityType	Ŧ

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.

Sea	rch:							
١	4anı	ufact	turer 🔺 Ec	quipmentName	*			
	Sys	nam	e 🔺	Available	Location	Elevation	Alias	Flags
9								
	•	Ma	nufacturer: 36	0 SYSTEMS				
×.		•	EquipmentNan	ne: Image Se	rver 2K			
					Location	Elevation	SRVR-001	
			SRVR-002		RK-003	10	SRVR-002	
	►	Ma	nufacturer: AC	сом				
	►	Ma	nufacturer: AD	с				

Grid grouped by Manufacturer and EquipmentName fields

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

- 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.

Appears on Hover	
Manufacturer GRASS VALLEY	Custom) (Blanks) (Non blanks)
ADC	360 SYSTEMS ACCOM
WOHLER ADC	ADC AJA
GENERIC EQUIPM.	
GENERIC EQUIPM.	CUSTOM PANEL ENSEMBLE
APPLE COMPUTER	EVERTZ GENERIC EQUIPMENT
ADC	GRASS VALLEY ManufacturerName
ADC	PESA
EVERTZ	WOHLER
ADC	11.
ADC	PP12232RS-MV1-DV

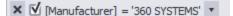
2. Click the (Custom) menu item presented in the column filter list.

Custom AutoFilter	×
Show rows where: Manufacturer	
Equals •	(Enter a value) 🔻
And Or	
(Select an operator)	(Enter a value)
	OK Cancel

- 3. If the grid supports it, a filter pane will appear as the top row of the grid. Entering filter criteria in the desired column will cause filtering.
- 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.

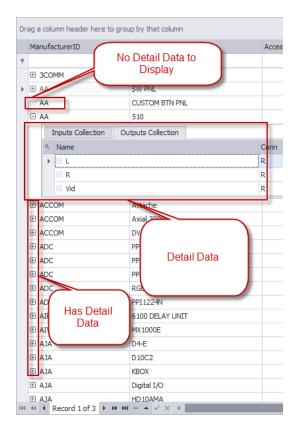
	Sysname	Available	Location
۴		۲	
	B SRVR-001		Location
	E SRVR-002		RK-003

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.
- Deleting Selected Rows To remove the rows from the grid:
- 1. Select the rows to delete by clicking 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.
- **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.

- Execute Expression Manipulate data using the expression engine:
- 1. Open the grid on which you want to manipulate or transform data.
- 2. Click [Function] button to show the Expression Builder.

Expression Test Object	
Prototypes	
Expression	
(1=1) then set propertyName = value else proper	tyName = otherValue
1	Appy to Test Object
Clear	
	Appy to rest object
Conditional Execution	Happy to reac object
Conditional Execution oglic Operators	Here a concert
Conditional Execution .ogic Operators Field list	reply or her object
Conditional Execution .ogic Dependence Jede List	rep) or ren outer
Conditional Execution .ogic Dependence Jede List	rep) or ren outer
Conditional Execution .ogic Dependence Jede List	rep) or ren outer
Conditional Execution .ogic Operators Field list	reply or rear object
Conditional Execution Logic Operators Field List	rep) or ice object
Conditional Execution Logic Operators Field List	
Conditional Execution Logic Operators Field List	
Conditional Execution Logic Operators Field List Wild Cards	

- 3. Enter an expression to evaluate. You can test it against a prototype Test Object on which you can set the data before testing.
- 4. Once happy with the expression click **[OK]** to execute the expression against the grid data.

44

#### 2.1.1.2 How To: Round Trip Export/Imprt on all Grids

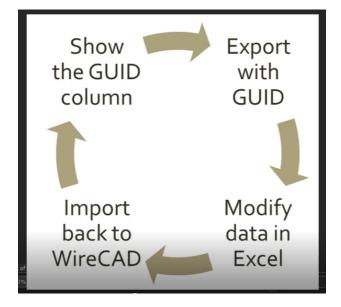
All project and global database grids support the concept that they can be exported to Excel and re-imported into WireCAD.

Users can do a blind import of data ignoring the data that is already in place, or you can do a round trip export/import process.

If the user is using the round trip process the user MUST export the table's GUID (Global Unique Identifier) so that there is a database reference.

After making changes to the project data, the user can ripple the changes across the project.

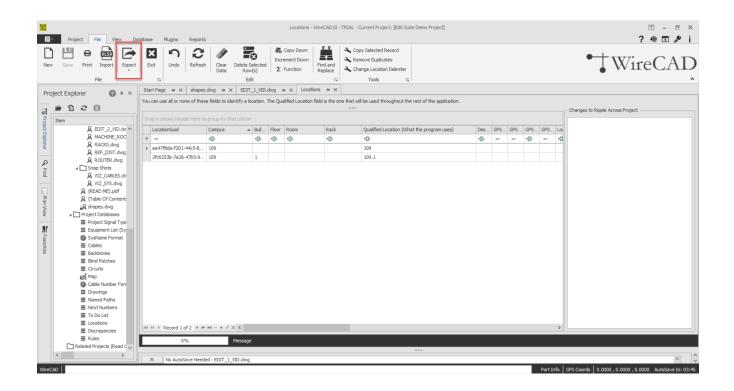
Here is the model that you should follow when using the Round Trip Export/Import function:



To perform the round trip export/import:

1. Open the grid that you would like to export.

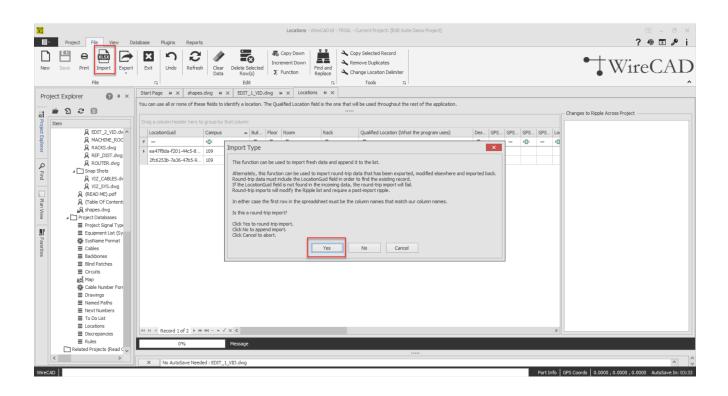
2. In the File menu, Click the [Export] drop-down, and select [To XLS]



3. Open your Excel file and make a change. Here, we will make a change in the Building field. Save your changes.

	🗐 🌒 🗸	с. I_	2	Loc	ations vi	- I(	Compatil	bility N	lodal	Microso	ft Evcol					×
	🚽 🤊 🗸	(°" -   -		LOC	ations.xi:	s įc	.ompau	biiity r	viodej	- Microso	IL EXCEI					$\sim$
Fi	ile H	lome Inse	rt	Page Lay	vout F	orm	ulas I	Data	Revie	w View	Quic	kBooks	5	a	s 🕜 🗆	e X3
	M 🕺	Calibri	-	11 -	= =	=		Gener	al	· 🖌	¦a inse	ert -	Σ-Α		â	
		BIU	-	A A	≣ ≣	∎	• <b>a</b> • •	\$ -	%,		ᢪ Del	ete 👻	🔳 – 💈	<u>,</u>	uru	
Pas	te 🍼	🖂 🖌 🔬	- 1				\$7	€.0 .	00	Styles	🗒 Fori	mat 🔹			& Find & • Select •	
Clipt	board 🖫	Fon		5	Align			Num		5	Cell			diti		
		A	-		B		C		D	E			F			
1	Location		-	Campus	_	Ŧ	Buildin			Room	-	Rack	-	Ŧ	Qualified	Loc
2		la-f201-44c					asdfsd						L		109	
3		b-7a36-47					1								109.1	
4																
5																
6																
7																
8																
9																
10																
11																
17	► N S	Sheet ⁄ 🕽	/													•
Read												100%	Θ		0	÷

4. Import your XLS file. [Import] > [Yes]



- 5. Once done, you'll get a notification regarding things that may or may not have gone wrong.
- 6. Ripple your changes across the project.

### 2.1.2 Setting Up Your Global Data

Menu: Several Default command line shortcut: **le** 

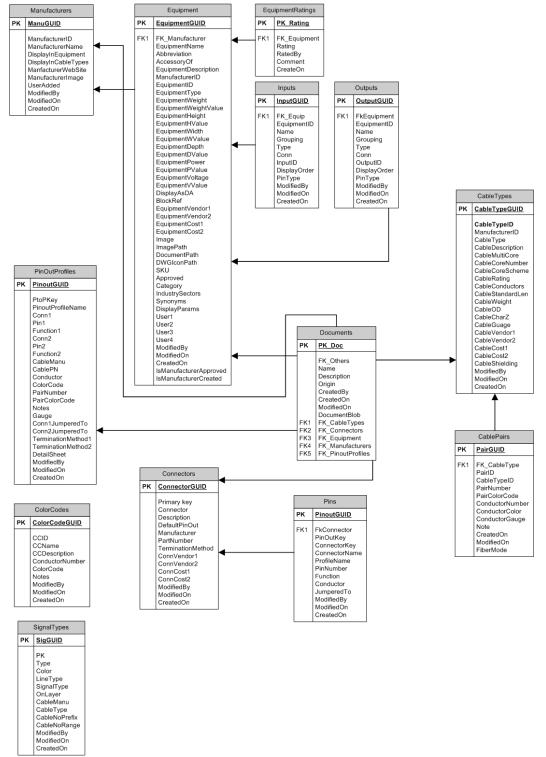
WireCAD maintains a global database with tables representing Manufacturers, Equipment, Signal Types, Connectors, Etc.

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 <u>enter your own</u> [57].

#### Structure:

- o Manufacturers The topmost table in the hierarchy
- o Equipment The Equipment description
- o Inputs inputs of a device
- o Outputs outputs of a device
- o Signal Types signal types and a bunch of defaults.
- o Connectors connector types.
- o Pinouts pin out definitions (data).
- o Color Codes color code look-up. Used by Cable Types.
- o Cable Types cable type information.
- Cable Cores cores or conductor data for a cable type.



Global Equipment Library Schema (abrv)

#### 2.1.2.1 Signal Types

Menu: Database > Default Signal Types Menu: Database > Project Signal Types Default command line shortcut: st Default command line shortcut: ShowProjectSignalTypesGrid Related Settings: None

The Signal Types grids contain many defaults:

- Pen Color
- Line Type
- Layer mapping
- Cable Type Manufacturer
- Cable Type
- Cable Number Prefix

We cannot stress the importance of this data collection. You should probably start here and define your defaults.

There are two Signal Types collections:

- 1. Default Signal Types is contained in the Global Database.
- 2. The Project Signal Types grid is generated dynamically as you go.

WireCAD first looks to the Project Signal Types collection for information. If not found the Default Signal Types collection is queried. If found the Project Signal Types collection is updated with the defaults and the Project Signal Types collection is returned to the requesting function.

#### 2.1.2.2 Cable Types

#### Menu: Database > Cable Types.

Default command line shortcut: **ShowCableTypesGrid** Related Settings:

None

This look-up grid contains the global list of Cable Types. The list is hierarchical and shows the relation of a Cable Type to its Conductors Collection.

													Cab									
* +D:		۹Ū¢	*D<				*0:	4 <b>0</b> 4		*0:	4OC		× <b>O</b> :	* <b>0</b> ¢	<b>י</b> ۵:	-	-	۲ <b>D</b> :	-	-		
			RG6		1		CAT		300			75	18					Ove.		11/		
			Aud				CMG		300				22					None		11/		
			Aud			Nu	CMG	50	300				22				0	None		11/		
			. 2P		1	Nu			300								0	Ove.		11/		
± 1	8	9104	RG5		1	Nu	CAT		300			75	20				0	Ove.		11/	11/	8EL
± 1	B	9508	MUL.	4	4	Col	MPP	16	300			75	24				0	Ove.		11/	11/	8EL
± 1	B	150	RG5		1	Nu	CMP		300			75					0	Ove.		11/	11/	BEL
± 1	B	150	Aud	4	2	Col	CM	4	300				22				0	Indi.		11/	11/	BEL
<b>H</b>	B	9534	EIA		1	Nu	CMG	4	300				24				0	Ove.		11/	11/	BEL
<b>H</b>	B	169	RG6		1	Nu	CMR	1	300			75					0	Ove.		11/	11/	BEL
<b>E</b> 1	B	9116	RG6		1	Nu	CAT		300			75	18				0	Ove.		11/	11/	BEL
⊞ (	B	9100	MA		1	Nu	CAT		300				20				0	Ove.		11/	11/	BEL
⊞ (	B	9992	Aud	V	9	Col	CM	18	300				24				0	Indi.		11/	11/	8EL
±.		255	Plen.		1	(Nu	MPP	4	300				22				0	STP		11/	11/	WE
± 1	B	8443	Aud		1	Nu	CM	3	300				22				0	None		11/	11/	0EL
÷.		8112	12		1	Nu		2	300				12				0	None		11/	11/	MA
± 1	B	911	RG6		1	Nu	CAT		300			75	18				0	Ove.		11/	11/	BEL
<b>H</b> (	B	190	SDI		1	Nu	CMP	1	300								0	Ove.		11/	11/	BEL
<b>H</b> 1	B	9990	Aud	V	3	Col	CN	6	300				25				0	Indi.		11/		
<b>H</b> 1	B	9533	ELA		1	Nu	CNG	2	300				24				0	Ove.		11/		
<b>E</b> 1	B	9991	Audio		6	Col	CM	12	300				24				0	Indi		11/		
			Aud		1		CMG		300				22				0	None		11/		
Đ (	8	150	Dig.		1	Nu	CMR		300			75					0			11/	11/	851
± 1	B	9995	Aud	V	25	Nu	CM	50	300				24				0	Ind.		11/		
			CAT		1		CMG		300				24					None		11/		
			RGS		1		CAT.		300			75	20					Ove.		11/		
			CAT		1	Nu			300									None		11/		
			Aud		1		CMG	20	300				22					None		11/		
	•		0.00		н н –		-					70										

2.1.2.2.1 How To: Create a New Cable Type

- 1. Click Database > Cable Types.
- 2. Click File > New.

New Cable Type	Ν	
File	2	
🔚   🔀 🔻		
Manufacturer ID	Select Manufacturer Cable Type or P/N	
Description		
Cable Char Z	Cable OD	:
Cable Guage	Cable Rating	
Cable Weight	Standard Length	1
Core/Conductor	Configuration	
Shielding	▼ Is Multi Core □ Core Count	1 🙏
Conductors Per Co	re 1 🗍 Conductor Count Including Shield(s)	1 ‡
	Default Core/Fiber Mode	•
Color Code Ap	plies To:	
O Conductors	O Cores O None	
Color Code		Ŧ
information:		

3. Fill in all information about this cable including **Manufacturer**, **Cable Type** or **P/N** & **Description**. If you are working in the CMS tools you will need to define multi-core core configuration.

New Cable Type		L.			×
File		NE			Ŧ
- 🛛 🔚					
Manufacturer ID	WEST PENN WIRE		Cable Type or P/N	Test	
Description	Test				
Cable Char Z			Cable OD		\$
Cable Guage			Cable Rating		•
Cable Weight		\$	Standard Length		\$
Core/Conductor	Configuration				
Shielding	▼ Is Multi C	ore	Core Count		1 🔆
Conductors Per Co	re	1	Conductor Count Ir	ncluding Shield(s)	1 ‡
			Default Core/Fiber	Mode	
Color Code Ap	plies To:				
Conductors	() Cores			None	
Color Code					Ŧ
Information:					

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

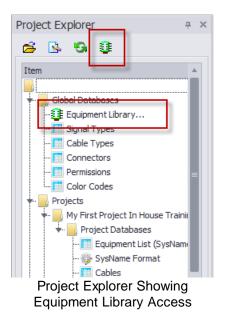
New Cable Type					>
File					,
- 🛛 -					
Manufacturer ID	WEST PENN WIRE	۳	Cable Type or P/N	Test	
Description	Test				
Cable Char Z			Cable OD		\$
Cable Guage			Cable Rating		•
Cable Weight		÷	Standard Length		\$
Core/Conductor	Configuration				
Shielding	▼ Is Multi Core	l	Core Count	1	-
Conductors Per Co	re	1	Conductor Count Ir	ncluding Shield(s) 1	\$
			Default Core/Fiber	Mode	•
Color Code Ap	plies To:				
Conductors	O Cores			None	
Color Code					Ŧ
Information:					

- 5. Select the Default Core\Fiber Mode. To label specific cores as SM or MM, see step 8.
- 6. Click File > Save.

#### 2.1.2.3 How To: Open the Equipment Library

# **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.



# Menu Commands to Access The Equipment Library

- Database>Equipment Library
- With an active drawing the Equipment Library can also be opened from: Advanced Tools>Equipment Library
- Commandline shortcut: le

# 2.1.3 Equipment Library

#### Menu: Database>Equipment Library Menu: Advanced Tools>Equipment Library Default command line shortcut: LE

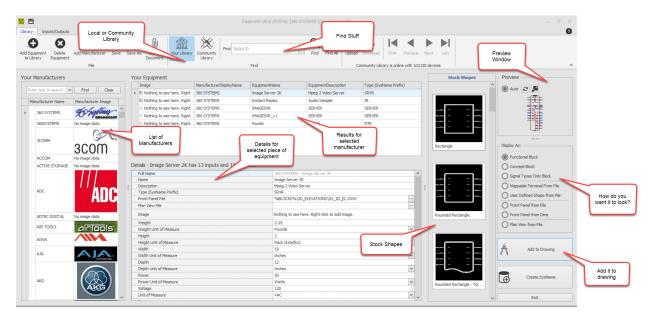
The WireCAD Equipment Library is where you will spend a fair amount of time as you get define equipment that you will use in your designs. This is also where we come to create CAD blocks in our drawings. There are many settings here that let you customize appearance. This chapter is the basics.

# Main Library Dialogue

This is where you can find all of the information about a selected device with the exception of input and output information.

Find equipment definitions in the global database or the Community Server. To use a piece of equipment from the Community Library, download it to your local database. Map your signal types from the ones the device creator used.

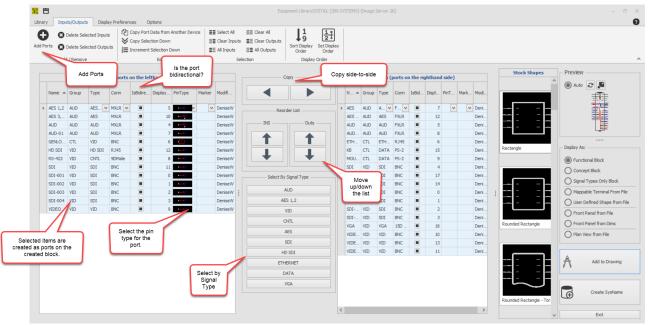
Preview the block before adding a to drawing.



#### 2.1.3.1 I/O Tab

The Inputs/Outputs tab allows for:

- The ability to change pin type
- Users to group ports
- Users to mark ports to allow you to better present or clarify a design
- Users to create bidirectional signal types. If you are not sure which ide to place a prot, you can add a bidirectional port and it will display on inputs and outputs, but you can only use it as one or the other.



#### Related Topics:

How To: Add Some Inputs and Outputs

# 2.1.4 Display Preferences Tab

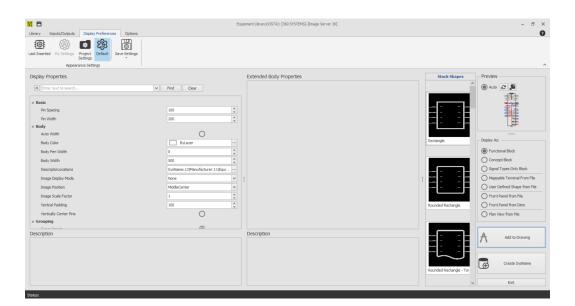
Controls the appearance of the created block.

You can indicate whether or not your port groups are displayed and how the group and port names are concatenated together.

The Display Preferences tab allow you to control the display or groups.

The Equipment Library holds a variety of block shapes to choose from. The width of your block is based on the text size.

Users are able to use the Appearance Settings ribbon menu to customize the appearance of projects, use the default settings, or use settings previously saved in WireCAD.



#### **Related Topics:**

How To: Add Equipment to Drawings

# 2.1.5 Creating a New Equipment Definition

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

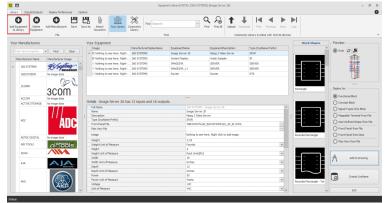
Default command line shortcut: le

Equipment definitions are at the heart of WireCAD. They describe equipment down to the I/O. Create a new equipment definition from which to create functional blocks, rack panels, etc.

58

#### 2.1.5.1 How To: Add Equipment to the Library

- 1. Click Database>Equipment Library
- 2. Click [Add Equipment to Library]



3. Select or add a Manufacturer.

$\bigcirc$	New Equipment		
	Who Makes It and What's it	Called	
	Manufacturer*	Select a Manufacturer	<b>~</b> +
	EquipmentName/Model/Part Number*		
	Description*		
	SysName Prefix*		
	* = Required		
		[	Next > Cancel

- 4. Enter model/pn/name, description, etc.
- 5. Click [Next >]

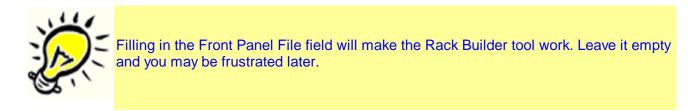


There is always some confusion about the **SysName Prefix** (Equipment Type) field. Consider the following:

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.

- 6. This page is optional, but we recommend filling in the Front Panel File field.
- 7.

📆 New Equipment		? ×
New Equipment		
Completing the wizard	ŧ	
Front Panel File		
Plan View File		
Image	No image data	
Categories		
Synonyms		
Abbreviation	Accessory Of	
	Finish	Cancel



8. Click [Next >] to add the new definition.

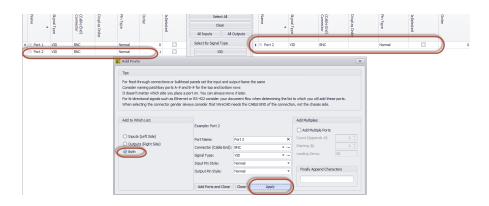
The wizard completes and you are taken to the Equipment Library to edit the newly added equipment definition.

#### 2.1.5.2 How To: Add Some Inputs and Outputs

- 1. Open the Equipment Library.
- 2. Find an equipment definition to which we will add ports.
- 3. Select the I/O tab.
- 4. Click [Add Ports] button.
- 5. Enter a port name, connector, signal type.
- 6. Select Inputs, Outputs table or Both.
- Click [Add Ports and Close] or [Apply] (if you want to leave the form open). Your port(s) will be added to the selected list(s):

Tips				
onsider naming patchbay ports A-# an : doesn't matter which side you place a /hen selecting the connector gender al	port on. You can always move it later. ways consider that WireCAD needs the CA	BLE END of the connection, not		lection of more that one port of the same name.
Add to Which List:	Port Name:	enter port name	×	Add Multiples:
	Group:			Add Multiple Ports
Inputs (Left Side)	Connector (Cable End):	select connector	× +	Count (Appends #): 1
Outputs (Right Side)	Signal Type:	select signal type	× +	Starting @: 1
Both	_ Input Ports			Leading Zeros: 0
Bidirectional	Input Pin Style:	Normal	~	
	Input Port Marker	(None)	~	
	Output Ports			
	Output Pin Style:	Normal	V	
	Output Port Marker	(None)	~	- Finally Append Characters

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



- Name
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   90
   <
- 9. Add 10 ports to each grid appending a port number to each record.

10. 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**.

🔀 Add Ports					? ×			
Tips								
Add to Which List: Inputs (Left Side) Outputs (Right Side) Both	Example: LINE-01 Port Name: Connector (Cable End Signal Type: Input Pin Style: Output Pin Style:	LINE- Select connector select signal type Normal Normal	× + + - - - - - - - - - - - - -	Add Multiples: Add Multiple Ports Count (Appends #): Starting @: Leading Zeros:				
	Add Ports and Close	Close Apply		Finally Append Char	acters			



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.

## 2.1.6 Creating a New Project

#### Menu: Application Menu > New Project

Default command line shortcut: **np** 

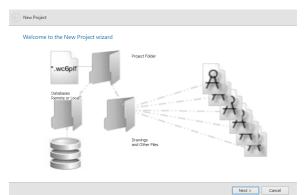
Create a new WireCAD Project structure. This involves folder structures on your operating system as well as databases and support files.

WireCAD can create projects with a number of different database formats.

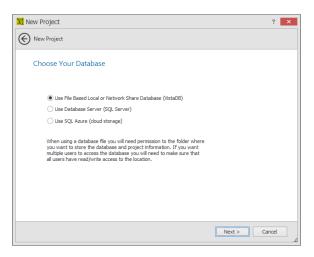
You may choose to create a new project using file based databases for their zero admin capabilities, or SQL Server for an enterprise installation.

## 2.1.6.1 How To: Create a New Project

#### 1. Click [Application Menu] > [New Project]



- 2. Click [Next >]
- 3. Select the type of database you wish to use and Click [Next >]



4. 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.



NOTE: We recommend NOT using the possessive ' i.e "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.

#### 5. Enter a Description.

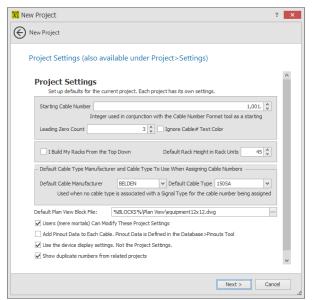
🔀 New Project		? ×
New Project		
Project Name and	Location	
Name:	1	
Description:		
Project Files Path:	C:\Users\Public\Documents	
Project Lead Person:		
Project Path:		
	Next >	Cancel

### 6. Click [Next >]

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

Oatabase Server	Information	
Database Host:	.\sqlexpress	
Database Name:	alfjalsdfjsdfj	
	✓ Use Windows User Validation	
Database User:	testUsername	
Database Password:	*****	
		Test Connection

8. Define some of your project preferences. Here you set your base Starting Cable Number for all sequences.



#### 9. Click [Next >]

10. 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 behavior 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 .....

New Project         Project Settings (also available under Project-Settings) <ul> <li>Mumber Generation</li> <li>Disable Find Next Available Systame (Use Next Number W/O Chedring)</li> <li>Disable Find Next Available Cable Number (Use Next Number W/O Chedring)</li> <li>Disable Find Next Available Cable Number (Use Next Number W/O Chedring)</li> <li>Disable Find Next Available Cable Number (Use Next Number W/O Chedring)</li> <li>The default behaviour is for WereCAD to looking the next number form the Next Numbers table, then check functionality ull use the number in the Next Numbers table without checking its availability.</li> <li>Automatically Consume Cables that are marked as Prewired.</li> <li>Mainture Location Assignment. Ensures that all assigned cores go to the same locations.</li> </ul> M Mask Mode <ul> <li>Default Subnet Mask [255,255,.0]</li> </ul> By default WireCAD attempts to maintain a series of tables that relate the main tables to each other. This algoing on to save, or otherwange, cwrind, drawings a SetChere to nomination it in the The relational data can get out to see, or otherwange, cwrind, drawings a SetChere to nomination it not. The relational data can get out to see, or otherwange, cwrind, value yaa SetChere to nomination it in the relet tables WILL NOT BE EFFECTED.         M Maintain Relational Data <ul> <li>Disable Cable Number Edit Dialog Mask.</li> <li>Disable Systame Edit Dialog Mask.</li> <li>Disable Systame Edit Dialog Mask.</li> </ul>	w Project	?
Image: Series       Series	New Project	
<ul> <li>Disable Find Next Available SysName (Use Next Number W/O Chedding)</li> <li>Disable Find Next Available Cable Number (Use Next Number W/O Chedding)</li> <li>Disable Find Next Available Cable Number (Use Next Number W/O Chedding)</li> <li>Disable Find Next Available Cable Number (Use Next Number Stable number is found. Disabling this functionality will use the number in the Next Numbers table without chedding its availability.</li> <li>Automatically Consume Cables that are marked as Previred.</li> <li>Automatically Consume Cables that are marked as Previred.</li> <li>Strict Multicore Location Assignment. Ensures that all assigned cores go to the same locations.</li> <li>I Mask Mode</li> <li>I Mask Mode</li> <li>I perfault WireCAD attempts to maintain a series of tables that relate the main tables to each other. This allows you to see, for examplement List, Cables, Drawings a SysName can be found in etc. The relational data can get out of synce 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.</li> <li>Maintain Relational Data</li> <li>Disable Cable Number Edit Dialog Mask.</li> <li>Disable SysName Edit Dialog Mask.</li> </ul>	Project Settings	(also available under Project>Settings)
□ bisable Find Next Available Cable Number (Use Next Number W/JO Chedring)         □ bisable Find Next Available Cable Number (bise Next Number from the Next Numbers table, then check to see if that number is noise - if so keep informating unit an available number is found. Disabling this discontality will use the number in the Next Numbers table without checking its availability.         ☑ Automatically Consume Cables that are marked as Prewired.         □ Multicore Location Assignment. Ensures that al assigned cores go to the same locations.         ☑ Multicore Location Assignment. Ensures that all assigned cores go to the same locations.         ☑ Multicore Location Assignment. Ensures that all assigned cores go to the same locations.         ☑ Multicore Location Assignment. Ensures that all assigned cores go to the same locations.         ☑ Mark Mode       ☑ Default Subnet Mask [255.255.255.2         Balows out ose, for example, which drawing a SynName can be found in etc. The relation all data can get out of synce or otherwise corrupt. You may elect here to not maintain it is the project and your project will speed our. You may elect here to not maintain it is the project and your project will speed our. You may elect here to not maintain it is the SynName Edit Dialog Mask.         □ bisable Cable Number Edit Dialog Mask.       □ bisable SynName Edit Dialog Mask.	Number Generat	ion
The default behaviour is for WireCAD to lookup the next number from the Next Numbers table, then check to see if that number is nue - if so keep promending until an available number is found. Deabling this functionality will use the number in the Next Numbers table without decking the availability.	Disable Find Next	Available SysName (Use Next Number W/O Checking)
to seri f hat number is in use- if so keep incrementing until an available number is found. Disabiling this functionality will use the number in the Next Numbers table without checking its availability.  ✓ Automatically Consume Cables that are marked as Prewired.  This will use those numbers applied to the PreWire Cable instead of producing a new number.  ✓ Strict Multicore Location Assignment. Ensures that all assigned cores go to the same locations.  P Mark Mode  ✓ Default Student Mark 255.255.255  Badden Mark Mode  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 Synthme can be found in etc. The relational data can get out of synther or otherwise corrupt. You may elect here to normation it in the related and ura project will speed up. Your main Equipment List, Cables, Drawings, and Circuits tables WIIL NOT BE EFFECTED.  ✓ Maintain Relational Data Disable Cable Number Edit Dialog Mask Disable Systhame Edit Dialog Mask	Disable Find Next	Available Cable Number (Use Next Number W/O Checking)
This will use those numbers applied to the PreWire Cable instead of producing a new number.	to see if that numb	er is in use - if so keep incrementing until an available number is found. Disabling this
Strict Multicore Location Assignment. Ensures that all assigned cores go to the same locations.     IP Mask Mode	Automatically Con	sume Cables that are marked as Prewired.
P Mask Mode  P Mask Mode P Mask Mode P Mask Mode  P Mask Mode  P Mask Mode P Ma	This will use those	numbers applied to the PreWire Cable instead of producing a new number.
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 SynRame can be found in etc. The relational data can get out of synce or deriverse 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.         Maintain Relational Data       Disable Cable Number Edit Dialog Mask         Disable SysName Edit Dialog Mask       Disable SysName Edit Dialog Mask	Strict Multicore Lo	cation Assignment. Ensures that all assigned cores go to the same locations.
By default Wire-CAD 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 Systhame can be found in etc. The relational data can get out of sync or otherwise electric the to normatinal it in the project and your project will speed up. Your main Equipment List, Cables, Drawings, and Circuits tables WILL NOT BE EFFECTED.  Maintain Relational Data Disable Cable Number Edit Dialog Mask Disable Systhame Edit Dialog Mask	IP Mask Mode	<ul> <li>Default Subnet Mask 255.255.255.0</li> </ul>
allows you to see, for example, which drawings a Systhame can be found in etc. The relational data can get out of synce or otherwise corrupt. You may elect here to notamianin it in the project and your project will speed up. Your main Equipment List, Cables, Drawings, and Circuits tables WILL NOT BE EFFECTED. Maintain Relational Data Disable Cable Number Edit Dialog Mask Disable SystName Edit Dialog Mask	<b>Relational Data</b>	
Disable Cable Number Edit Dialog Mask     Disable SysName Edit Dialog Mask	allows you to see get out of sync or will speed up. You	for example, which drawings a SysName can be found in etc. The relational data can otherwise corrupt. You may elect here to not maintain it in the project and your project r main Equipment List, Cables, Drawings, and Circuits tables WILL NOT BE EFFECTED.
Disable SysName Edit Dialog Mask		
Note Control	Disable SysName	Edit Dialog Mask
Nexts		
Next > Cancel		

#### 11.Click [Next >]

**12.Enabling Locations Look-up** 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 Look-up.

lew Project Project Settings (al	lso available u	under P	roject>Settings)		
Location Setting	-				
Location / Elevation Strin	ig Parsing		Elevation - Slot Delimet		_
Location delimeter is use the dot '.' to sep	arate the location f	field into it	elements of the locatio s constituent part like:	n field. Example: you mig istent across the project.	nt
Default Location	Location	~	Default Elevation	Elevation	
This allows you to pr	recenne your locau	ions and e	nforces use of only thos	se predefined locations.	
- Locations Table Fields		ions and e	nforces use of only thos	se predefined locations.	
			nforces use of only thos	Campus	
– Locations Table Fields			-		
─ Locations Table Fields ✓ Enable Campus			Campus Field Caption	Campus	
- Locations Table Fields Enable Campus Enable Building			Campus Field Caption Building Field Caption	Campus Building	
<ul> <li>Locations Table Fields</li> <li>Enable Campus</li> <li>Enable Building</li> <li>Enable Floor</li> </ul>			Campus Field Caption Building Field Caption Floor Field Caption	Campus Building Floor	

#### 13.Click [Next >]

#### 14. Review and click [Finish]

WireCAD will then create files and folders on the OS and create a new database on the SQL server if you have elected to use SQL server databases. Otherwise the blank project database will be copied to your project databases folder.

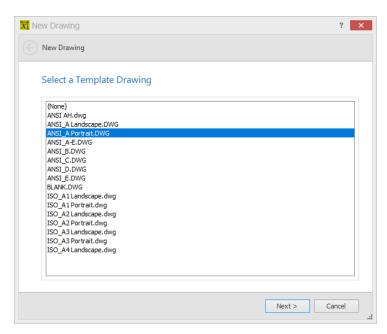
## 2.1.7 Creating a New Drawing

Menu: File>New Drawing, Project Explorer\Current Project\New Drawing Default command line shortcut: nd Related Settings: Show New Drawing Wizard = true

Create a new drawing based on a drawing template, with or without model space boundaries.

#### 2.1.7.1 How To: Create a New Drawing

#### 1. Click Project>New Drawing



2. Select a template drawing from which to start.

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.

- 3. Click [Next >]
- 4. Name your drawing(s). We have added feature allowing you to create more than one drawing at a given time. Simply type the name of your drawing into the text box minus the file extension. If you are creating multiple drawings, enter one name per line. Click [Next>]

X New Drawing	?	x
New Drawing(s)		
Name the Drawing(s)		
Names * Drawing 1 Drawing 2 Drawing 3	>	< >
Folder* [C:\Users\Public\Documents\WireCAD\WireCAD10\Demo Projects\Edit Suite Demo Project\Drawings		
Next >	Cancel	

5. Select boundary settings. 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 Drawing>Format>Model Space Boundaries ... function

X New Drawing	? 🗙
New Drawing	
Use Model Space Boundaries	
	Use Model Space Boundaries Model Space Text Height 25 + Printed Output Text Height 4 + Color ByLayer ···· Note: If you do not create boundaries here you can use the Format>Model Space Boundaries control
	Next > Cancel

6. Click [Next >] to finish and name your drawing.

WireCAD creates the drawing in the project drawings folder tree.

## 2.1.8 Adding Equipment to Drawings

## Menu: Database>Equipment Library [Add to Drawing]

Default command line shortcut: le

Create a new equipment block from the library and add it to the current drawing.

You can create equipment in one of these modes:

• Functional I/O



• Conceptual I/O (low detail) - Collapses to the I/O type



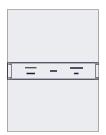
• Conceptual I/O (high detail)



• Front Panel (File Merge)



• Front Panel (From Dims)



• Plan View (File Merge)



• Plan View (From Dims) - Not Yet Implemented

## 2.1.8.1 How To: Add Equipment to Drawings

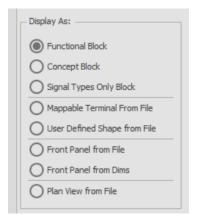
- 1. Create and open a drawing.
- 2. Find and select the equipment definition from the Equipment Library.

1								ipment Library(VISTA): [360 SYSTEMS]-[Image Server 2K]		7 ×
Library	Inputs/Output	s Display Prefe	rences	Options	s					0
Add Equip	ment Delete ry Equipment	Add Manufacturer		Save As	U Attach Document	Your Library	Community Library	Find Search Prind Search Prind Search Prind Search Prind All Prind All Prind P	rst Previous Next Last	
		File						Find Community Library is o	online with 103262 devices	

3. Select the IO you want to display in the drawing



### 4. Select the Display mode



5. Select the Display Preferences. Everything is parametric. There are settings for Body Width, Pin Spacing, Color, etc.

brary Inputs/Outputs Display Preferences Op	tions	EquipmentLibrary		- 5
sst Inserted My Settings Project Settings Appearance Settings				
Display Properties		Extended Body Properties	Stock Shapes	- Preview
Enter text to search	V Find Clear		í í í í í í í í í í í í í í í í í í í	🔘 Auto 🎜 🎜
Basic     Pin Spacing     Pin Width	100 ¢			
Body     Auto Width	0			
Body Color	ByLayer ···		Rectangle	Display As:
Body Pen Width	0			Functional Block
Body Width	500 0			Concept Block
DescriptorLocations	SysName: 13 Manufacturer: 11   Eq ···			Signal Types Only Block
Image Display Mode	None v	:	;	O Mappable Terminal From File
Image Position	MiddleCenter v			User Defined Shape from Fi
Image Scale Factor	1 0			O Front Panel from File
Vertical Padding	100		Rounded Rectangle	Front Panel from Dims
Vertically Center Pins	0			O Plan View from File
Grouping	-			
escription		Description		Add to Drawing
			Rounded Rectangle - Tor	Create SysName
				Exit

6. If the Auto Preview function is not set, you may wish to click the Refresh button (in the preview window).



- 7. Click [Add to Drawing] (requires an active drawing).
- 8. Place the newly created block in the drawing. You will be able to place any number of copies. Just keep left-clicking to place. When you are done right-click and click done or click the **[Enter]** key.

## 2.1.9 Drawing Cables

WireCAD provides a series of tools to draw cables.

Normally we draw from one WireCAD device to another.

If you need to draw spare cables, see the Spare Cables tool.

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:

- 1. Manually draw the cable by selecting Manual Draw and place every point from source to destination.
- 2. Select the cable as drawn and grab a grip on the cable and move it around. You can use Ctrl+Shft+Click to add vertexes and Ctrl+Click to remove vertexes.

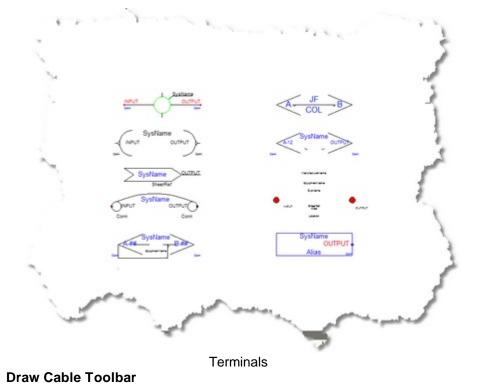


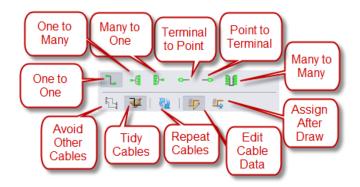
If you manually draw cables or otherwise put them where you want them and then move a device, the auto-router will be invoked and re-route all your changes.

# 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, Adapters and Splice Points collectively as terminals.

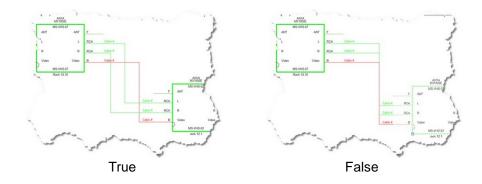




# **Common Controls**

These controls effect the behavior of all of the available options.

- Start Cable button Starts the cable drawing function based on the current setting (one-to-one, one-tomany, etc.). The Start Cable function is disabled when you are drawing Source to Terminal or Terminal as Source.
- Avoid Other Cables Determines whether cables will avoid other cables. Toggling this button will not affect any existing cable but will from that point forward determine the behavior of cable drawing and device moving.



• Tidy Cables - After moving a grip on a cable the cable is forced ortho.

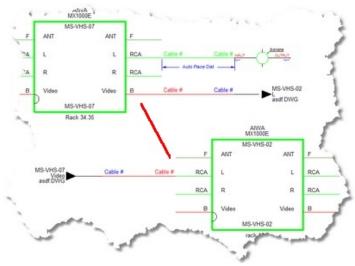


• Repeat - Repeat drawing cables until Esc is pressed.

## 2.1.9.1 One to One Cables

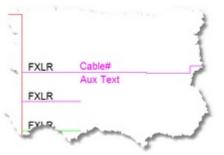


- Cable Text Height -The Cable# text entity height in 100/DU.
- **Replace Cable with Pointers** checkbox- When checked this function will place linked pointers between the source and destination ports based on the Default Pointer selection.



Automatically draw Pointers instead of cables.

- Manual Draw checkbox Draw every point in the cable.
- Aux Text Enable Enable the placement of Aux Text.



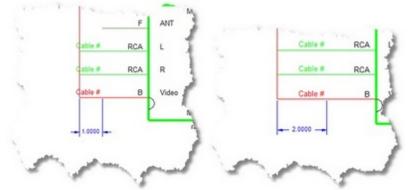
Aux Text Shown

- 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.
- 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 - Used to apply string formatting to the Variable selected. **{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.

• X Offset - Horizontal auto-router offset. When drawing cables, WireCAD uses an auto-routing algorithm. The X Offset determines how far away horizontally from other equipment and cables a new cable will rout.

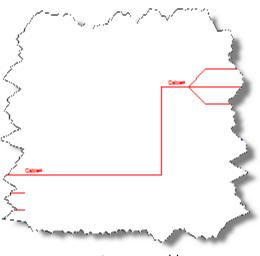


• Y Offset - Vertical auto-router offset. When drawing cables, WireCAD uses an auto-routing algorithm. The Y Offset determines how far away Vertically from other equipment and cables a new cable will route.



• Default Pointer - Select the pointer to use when replacing cable with pointers.

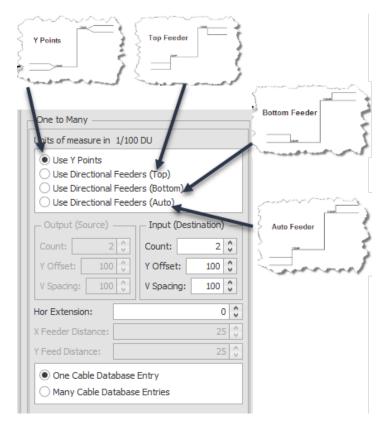
### 2.1.9.2 One to Many Cables



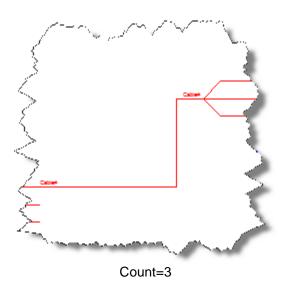
one-to-many cable

Use this set of controls to place a cable from one output to many inputs.

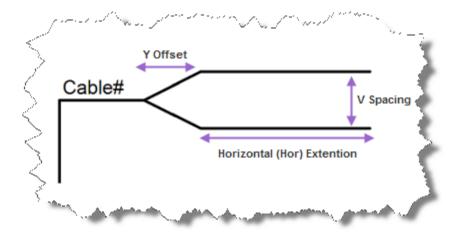
• Feeder selection - Determines the display of the Y point(s).



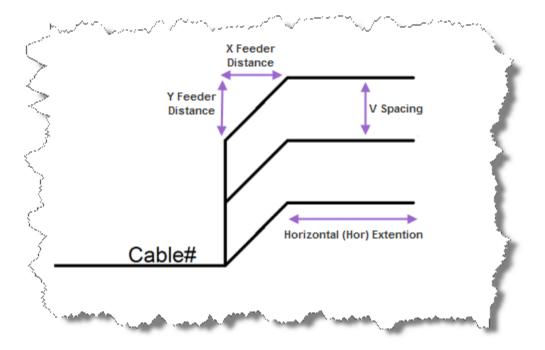
• **Count -** Destination count.



• Y offset, Y Spacing, Hor Extension in 100/DU



#### • Feeder distances in 100/DU

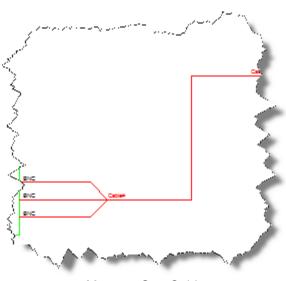


- One Cable Database Entry Adds a single entry in the cables database and one Cable# text entity at the Y point.
- Many Cable Database Entries Adds a many entries in the cables database and many Cable# text entity at the connection points.

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.

	VTR-02 MON-L	A-1004-	37D	10XL-01
Action	DM 110.2.14			R00M 110.2.35
New Next N  Edit existing  Select Exist	g number	A-1004- This cable number exists in this project	*)	Add Multi-core Cables
CableTypeManu	BELDEN	▼ CableType	1801A	* +
SignalType	AUD			*
NamedPath	Select a Named Path	* Length		0 *
Integrator				
User 1		User2		
User3		User4		
Sheet	MACHINE_ROOM.dw	2		
Pinout				
Vendor 1		<ul> <li>Vendor 2</li> </ul>		*
Calc time = 00:0	0:00.0027057		Show Me	Update Cancel

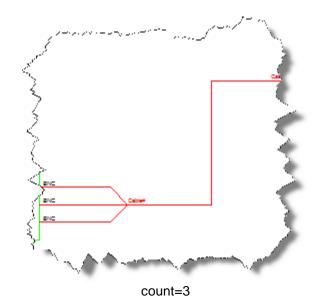
### 2.1.9.3 Many to One Cables



Many-to-One Cable

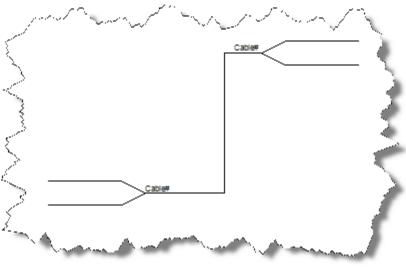
Use this set of controls to place a cable from many outputs to one input.

• Count - Source count.



The remainder of the controls have been explained above.

#### 2.1.9.4 Many to Many Cables



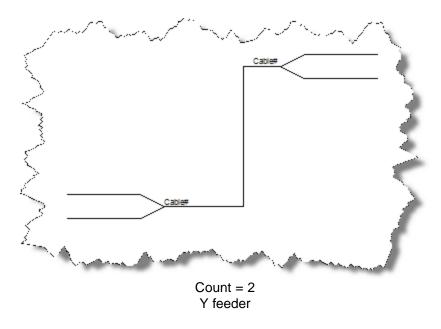
Many-to-Many Cable

Many-to-Many cables behave like a buss. They are a collection of one-to-one cables 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.

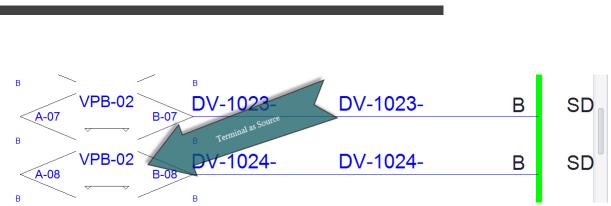
Related User Settings - When I double-click a Many-to-Many Cable Assign them All. This setting overrides the default "point-nearest" behavior.

• Count - Source and destination count.



The remainder of the controls have been explained above.

## 2.1.9.5 Terminal as Source

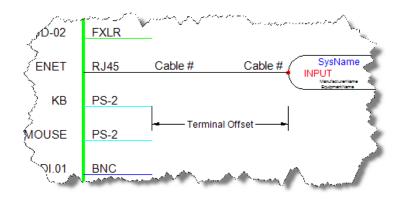


Displays the available Terminals sorted by Terminal style (Jack, Terminal, Pointer).

Note: Terminal file suffixes determine whether the file will be displayed in this window. Files stored in the % BLOCKS%\WireCAD Terminals support path having a \_SD.DWG, or \_S.DWG suffix will appear in this view.

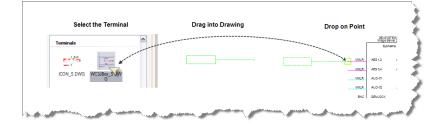


- Terminal, Pointer, Jack, Splice, Adapter Gallery Displays a gallery of items to click and place in the active drawing.
- Refresh Button Reloads the galleries.
- Wire Length in 1/100 Drawing Unit(DU). The length of the attaching cable or the terminal offset from the attached port.

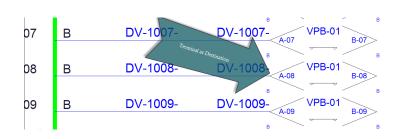


### 2.1.9.6 How To: Place a Terminal as a Source

- 1. Create and open a drawing.
- 2. Place a standard block with ports in the drawing.
- 3. Click the Terminal as Source Window icon.
- 4. Click the item in the gallery that you wish to place. This will add it to the drawing for placement including the attaching cable.



### 2.1.9.7 Terminal as a Destination



## **Terminal as Destination Window**

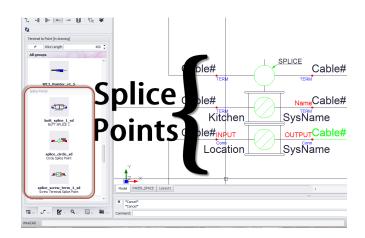
Displays the available Terminals sorted by Terminal style (Jack, Terminal, Pointer).

Note: Terminal file suffixes determine whether the file will be displayed in this window. Files stored in the % BLOCKS%\WireCAD Terminals support path a \_SD.DWG, or \_D.DWG suffix will appear in this view.



### 2.1.9.8 Splice Points

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.



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

### 2.1.9.9 Adapters

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 new connector type. Finally it populates the Adapter with the extracted information.



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.

### 2.1.9.10 Working with Pointers (on-sheet/off-sheet reference)

Pointers in WireCAD are a class of Terminal that allows linking two pointers on the same sheet or across sheets.

Unlike other terminals in WireCAD, pointers must be used in pairs.

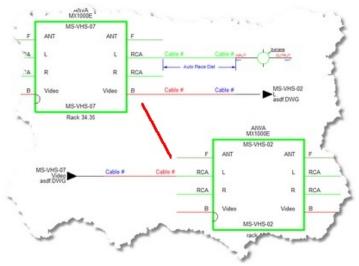
The process of relating one pointer to another is referred to as linking.

There are two pointer families:

- 1. Pointer\_S.dwg and Pointer\_D.dwg are the old style pointers. They are still supported but not editable.
- 2. WC3\_<SOMENAME>\_S.DWG and WC3\_<SOMENAME>\_D.dwg are the WC3 family. These are editable. You can change, rename, edit the geometry, etc.

## Usage

Pointer pairs that reside on the same sheet can be created and linked automatically by invoking the **[Start Cable]** function while the **Replace Cable with Pointers** checkbox checked.

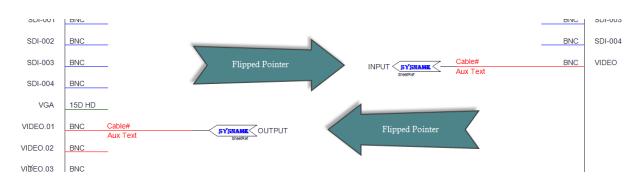


Automatically draw Pointers instead of cables.

In this case the pointer pairs are placed and linked.

Pointer pairs that must be linked across sheets must follow this process:

- 1. Place the pointer on the source sheet.
- 2. Place the pointer on the destination sheet.
- 3. Double-click the pointer on the **source** sheet. You must start on the **source** side.
- 4. You will be presented with a list of project drawings. Select the one where the destination pointer resides
- 5. You will be switched to the other drawing. If it is not open it will be first.
- 6. Find the destination pointer and click it.
- 7. The pointers will be updated with the complimentary end data.



## **Flipped Pointers**

Occasionally you may find the need to point out of an Input or into an Output.

In order to do this, WireCAD provides a set of pointers that have a reversed geometry. The naming convention used is <SomePointerName>\_FLIPPED\_S.DWG or <SomePointerName>\_FLIPPED\_D.DWG.

The same process applies as a normal pointer set. Start with the pointer that represents the source side of the cable and double-click that. Then move to the other side as usual.

2.1.9.10.1 How To: Link Many Pointers at Once

# Explanation

This process links multiple pointers across sheets or on the same sheet at once.

- 1. Place the pointers on the source sheet.
- 2. Place the pointers on the destination sheet.
- 3. Select the pointers on the **source** sheet. You must start on the **source** side.
- 4. You will presented with a list of project drawings. Select the one where the destination pointer resides.
- 5. You will be switched to the other drawing. If it is not open it will be first.
- 6. Select the same amount of pointers on the destination sheet.
- 7. The pointers will be updated with the complimentary end data.

The process will fail if:

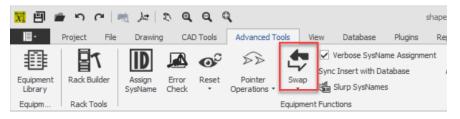
- The counts do not match.
- The pointer families are found to be different.
- The process is not started on the source side.

2.1.9.10.2 How To: Swap Pointers

This feature allows you to change all pointers of a selected type to that of another.

If you get into the project and decide that something about a pointer does not please your eye you can change it easily by following these steps:

- 1. Select the Pointer you wish to swap.
- 2. [Advanced Tools], [Swap], [Swap All Pointers]



3. The swap pointers dialogue will open and you can now select the pointer that satisfies your drawing.

Swap Pointers		×
This function will replace pointer sets in this and other dra	awings.	
Select the _S and _D pointer to replace with.		
This function works on-sheet and off-sheet. If the other pointer is on another sheet, that drawing will pointer replaced.	be opened and the	
Don't forget to save all drawings when this is finished.		
THIS CAN TAKE A WHILE. Be patient.		
Outgoing Pointer _D WC3_Pointer_D Incoming Pointer _D		v
Incoming Pointer _S		~
	OK	Cancel

4. Click [OK]

## 2.1.10 Defining Locations

Menu: Project Explorer>Project Databases>Locations

Default command line shortcut: **none** Related Settings: Enable Locations Look-up Table = true

You can enable the **Locations Look-up** 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 Look-up** = **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 Look-up** 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 Look-up: 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.

### 2.1.10.1 How To: Add a New Location

1. Click **Project Explorer>Project Databases>Locations.** This opens the Locations table.

#### 2. Click File>New.

Add Location(s)				?	х
Campus	¥	Count			1 🗘
Building	~	Count		1	1 0
Floor	~	Count			1 0
Room	~	Count			1 0
Rack		Count			1 🗘
Description					
Qualified Location					
Qualified Location		Add	Ca	ncel	
Status					

3. Enter your data and click [Add]. This will add a single location to the Locations table.

### 2.1.10.2 How To: Add Multiple Locations

1. Click Project Explorer>Project Databases>Locations. This opens the Locations table.

#### 2. Click File>New.

X Add Location(s)		?	x
Campus	✓ Count		1 🗘
	✓ Count		1 0
Floor	✓ Count		1 0
Room	✓ Count		1 🗘
Radk	Count		1 🗘
Description			
Qualified Location			
Qualified Location	Add	Cano	el
Status			

- 3. Increment the Count field for the location that you want to add multiple of.
- For example, let's say we have 10 racks in the location: LA.THE FACTORY.FL-01.RM-101
- 4. Enter LA in the Campus field.
- 5. Enter THE FACTORY in the Building field.
- 6. Enter FL-01 in the Floor field.
- 7. Enter RM-101 in the Room field.
- 8. Enter RK- in the Rack field
- 9. Enter 10 in the Rack Count field.
- 10. Click [Add]. This will add 10 locations to the Locations table:

LA.THE FACTORY.FL-01.RM-101.RK-01

LA.THE FACTORY.FL-01.RM-101.RK-02

..

LA.THE FACTORY.FL-01.RM-101.RK-10

94

## 2.1.11 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. **Related Project Settings:** <u>SysName Format</u> [118] Leading Zeros

Next Numbers Database

WireCAD allows you to provide unique names for each piece of equipment in the project. We refer to this name as a SysName. SysNames must be unique by location. WireCAD can enforce a SysName format or allow free form input.

# Edit SysNames Dialog Controls

🔀 Editing SysName	For CUSTOM PANEL-BSP				? ×			
Manufacturer	CUSTOM PANEL	~	Equipment Name	BSP	×			
Action								
O New Next Number								
Edit Existing SysName SP-01								
<ul> <li>Select Existing</li> </ul>	Select Existing SysName				V			
Alias SP-01								
Location	EDIT 1	+	Elevation	WALL	*			
User 1	User 1		User2	User2				
User3	User3		User4	User4				
IP Address			Subnet Mask					
Power Consumption			Power Consumption Unit					
Weight		_	Weight Unit					
Vendor 1			Vendor 2		v			
Flags		~	BTU		\$			
	Show Me			Update	Cancel			
Status								

- Action Clarifies the dialog mode via the use of a radio button selection to determine user intent.
- **Manufacturer** The manufacturer of the device. This field is usually disabled as the dialog has received the Manufacturer information from an upstream process.
- Equipment Name The model/pn/item number of the device being assigned. This field is usually disabled as the dialog has received the EquipmentName information from an upstream process.
- **SysName** This is our unique-by-location id. 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 A 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
- 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. You can change these captions from the Plugins>Translation Manager. Search for the key SysNameUser1 SysNameUser4 and modify the translated field to be what you want.
- IP Address / Subnet Mask For the IP information 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.

## 2.1.11.1 How To: Assign a SysName

This function performs the following steps:

- 1. Gets the next number in the sequence (based on the <u>SysName Format</u>) 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

- 1. Create and open a project.
- 2. Create and open a drawing.
- 3. Add equipment to the drawing.
- 4. Set the Verbose SysName Assignment checkbox = true. Advanced Tools>Equipment Functions.
- 5. Double-click the equipment in the drawing.
- 6. The **SysName** and **Alias** field will be populated with the next **SysName** in the sequence based in the **Number Format** and the **Next Numbers** table.
- 7. Enter any additional data and take your best guess at **Location** and **Elevation**.
- 8. Click [OK].

The drawing will be updated and a new record will be added to the **Project Equipment List**.

### 2.1.11.2 How To: Assign Multiple SysNames

- 1. Create and open a project.
- 2. Create and open a drawing.
- 3. Add equipment to the drawing.
- 4. Set the Verbose SysName Assignment checkbox = false. Advanced Tools>Equipment Functions.
- 5. Set the **Default Project Location** and **Elevation** in the **Application Menu > Settings [Project]** [Locations].
- 6. Create a selection set of devices to assign.
- 7. Click Advanced Tools > Equipment Functions > Assign SysName.
- 8. The **SysName** and **Alias** field will be populated with the next **SysName** in the sequence based in the **Number Format** and the **Next Numbers** table.
- 9. The Location and Elevation fields will be populated with the defaults in the Project Settings.

The drawing will be updated and new record(s) will be added to the **Project Equipment List**.

## 2.1.12 Assigning Terminals

### Menu: Advanced Tools>Equipment Functions>Assign Terminals

Default command line shortcut: ats

Alternately: Double-click the terminal in the drawing.

#### **Assumptions:**

At least one <u>SysName</u> has been assigned.

Terminals are one or two port devices. The dwg file defines the geometry.

WireCAD treats terminal assignment slightly differently from a normal SysName assignment.

During a Terminal Assignment we map the existing SysName ID AND I/O port info onto the selected terminal.

Cable# Cable# Cable# Cabl Cable# Cable# Cable Cable# Cable Cable# Cabl Cable#

# Assign Terminal(s) Dialog

	a SysName:		<b>4 H - - - H</b>								×
			e (all existing po		ame	2)	_				
Re	member this		next assignmen outs	it				Outputs Track	Inputs (if mate	tputs	
					_					·	
	Name	Туре	Conn	Source I	_			Name	Type	Conn	Destination.
•	■ A-01	VID	В	DV-10(	^				VID	В	DV-1001- ^
	■ A-02	VID	В	DV-10:				■ B-02	VID	В	DV-1002-
	A-03	VID	В					🖻 B-03	VID	В	DV-1003-
	🗄 A-04	VID	В					🖻 B-04	VID	В	DV-1004-
	🗄 A-05	VID	В					🖻 B-05	VID	В	DV-1005-
	∃ A-06	VID	В			1		🖻 B-06	VID	в	DV-1006-
	∃ A-07	VID	В					■ B-07	VID	в	DV-1007-
	∃ A-08	VID	В					± B-08	VID	в	DV-1008-
	🗄 A-09	VID	в	D-100				■ B-09	VID	в	DV-1009-
	🗄 A-10	VID	В					B-10	VID	в	DV-1010-
	🗄 A-11	VID	В					= B-11	VID	В	DV-1011-
<				>			<				>
						_	-	OK			Cancel

- 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.
- **Outputs** grid Active only if the selected terminal(s) have output connection points.

### 2.1.12.1 How To: Assign Terminals

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.
- 1. Create and open a project.
- 2. Create and open a drawing.
- 3. Add a terminal to the drawing.
- 4. Double-click the terminal.
- 5. Select the SysName from the SysNames dropdown.
- 6. Select the **Input** port to apply to the terminal input.
- 7. Select the **Output** port to apply to the terminal output.
- 8. Click [OK].

### 2.1.12.2 How To: Assign Multiple Terminals

This function performs the following steps:

- 1. Opens a port selection dialog based on SysName.
- Prompts the user to select the SysName and the port or ports to display(or range of ports of multiple terminals are selected). The order the terminals are added to the selection set is the order that they will be assigned numbers.
- 3. Updates the terminal(s) in the drawing.
- 1. Create and open a project.
- 2. Create and open a drawing.
- 3. Add terminals to the drawing.
- 4. Select the terminals to assign.
- 5. Click Advanced Tools > Equipment Functions > Assign Terminal(s) or enter ats in the Commandline and click [Enter].
- 6. Select the **SysName** from the **SysNames** dropdown.
- 7. Select the top **Input** port to apply to the terminal input.
- 8. Select the top **Output** port to apply to the terminal output.
- 9. Click **[OK]**.

WireCAD will assign the terminals from top to bottom in the grid and based on the selection set order.

### 2.1.12.3 How To: Swap Terminals

The Swap Terminals feature allows you to change all terminals of a selected type to that of another.

If you get into the project and decide that something about a terminal does not please your eye you can now change it easily.

- 1. Select the Terminal you wish to swap.
- 2. [Advanced Tools], [Swap], [Swap All Terminals]

🔀 🖪 📹	50	1 人 1	r Q	Q, (	Q,					shape
-	Project File	Drawing	CAI	D Tools	Advanced To	ools Vi	iew	Database	Plugins	Re
Equipment Library	Rack Builder	Assign SysName	Error Check	O Reset	Pointer Operations •	Swap	11	Verbose SysNar c Insert with Da Slurp SysName	tabase	ient ,
Equipm	Rack Tools					Equipmen	t Fur	ictions		

3. The swap terminals dialogue will open and you can now select the terminal that satisfies your drawing.

Swap Terminal			×					
This function will rep	ace TERMINALS - JACKS, JBOXES, ROUTE	RS.						
It requires two varia	It requires two variables:							
Select the outgoing	terminal. The suffix must match in order to	be swapped.						
Don't forget to save all drawings when this is finished.								
THIS CAN TAKE A W	HILE. Be patient.							
Outgoing Terminal	wc3_eu_hn_d							
Incoming Terminal			>					
		OK	Cancel					

4. [OK]

### 2.1.13 Assigning Cable Numbers

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

Default command line shortcut: ac

Alternately: Double-click the cable in the drawing.

Related Settings:

Cable Number Format 123 Project Settings 407

Provides a number for a cable in the drawing and **Cables** table of the project database.

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.

The Assign Cables function performs the following steps:

- 1. Gets the next number in the sequence (based on the <u>Cable Number Format</u> 123).
- 2. Prompts the user for input.
- 3. Updates the drawing.
- 4. Updates the project systems database.

						RTR-01	-
	B-01-	B	DV-10	B SDI	B SDI-01 MAIN ROUTER		
ROC	M 110.4.30					ROOM 110.5.16	
Action							
O New Next 1	Number						
Edit existin	g number	DV-1001-					
O Select Exist	ting Available	Select an existing cable	e		~	Add Multi-core Cable	s
		-					
CableTypeManu	BELDEN		~	CableType	1505A		¥ -
SignalType	SDI						~
NamedPath			~	Length			0
Integrator							
Jser 1				User2			
User3				User4			
Sheet	ROUTER.dwg						
Pinout							T
Vendor 1			~	Vendor 2			

# **Edit Cable Numbers Dialog Controls**

• Preview - This area displays the connection info as found in the drawing.

VPB-01		RTR-01
P. 01	В	B
B-01- VPB-01	DV-1001-	SDI-01 MAIN ROUTER
R00M 110.4.30		ROOM 110.5.16

• CableNo - CableNo is a direct entry field as well as a drop down that displays all available cables. 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 field is auto populated with the next number based on the Cable Number Format and the Next Numbers table.

- Action clarifies the dialog mode via the use of a radio button selection to determine user intent.
- CableTypeManu, CableType Select the Cable Type Manufacturer and Cable Type. These are populated by the SignalType if found. If not, then the project default Cable Manufacturer and Cable Type.

CableTypeManu BELDEN

✓ CableType 1505A

 $\sim$  +

- Signal Type The incoming signal type. Changing this value may cause a recalculation of the CableNo base on the Cable Number Format.
- Integrator A user field for assigning the responsibility of the cable.
- Users1-4 For you.
- Sheet The drawing file name where the assignment is being made from.
- Pinout If Pinouts are used select the Pinout that matches the two connector types.

#### 2.1.13.1 How To: Assign a Cable Number

- 1. Create and open a project.
- 2. Create and open a drawing.
- 3. Add equipment to the drawing.
- 4. Add cables to the drawing.
- 5. Assign **SysNames** to the equipment in the drawing.
- 6. Set the **Verbose Cable Assignment** checkbox = true. Advanced Tools>Cable Functions. This will display the edit dialog.
- 7. Double-click a cable.
- 8. The dialog above will appear with a preformatted cable number in the CableNo field.
- 9. Add any additional data.

10. Click [OK].

The drawing will be updated and a new record will be added to the **Project Cables** table.

#### Prerequisites

Two SysNamed devices and one cable.

### **Related Topics:**

Cable Connection Exists 495

### 2.1.13.2 How To: Assign Multiple Cable Numbers

- 1. Create and open a project.
- 2. Create and open a drawing.
- 3. Add equipment to the drawing.
- 4. Add cables to the drawing.
- 5. Assign **SysNames** to the equipment in the drawing.
- 6. Set the **Verbose Cable Assignment** checkbox = false. Advanced Tools>Cable Functions. This will not display the edit dialog.
- 7. Create a selection set of cables.
- 8. Click Advanced Tools > Cable Functions > Assign Cable Number.

The drawing will be updated and new record(s) will be added to the **Project Cables** table.

#### Prerequisites

All selected cables must be attached to devices with SysNames.

### Related Topics:

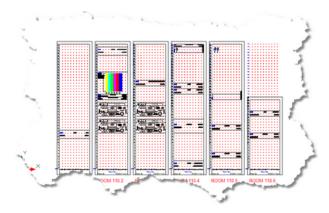
Cable Connection Exists 495

## 2.1.14 Rack Builder Tool

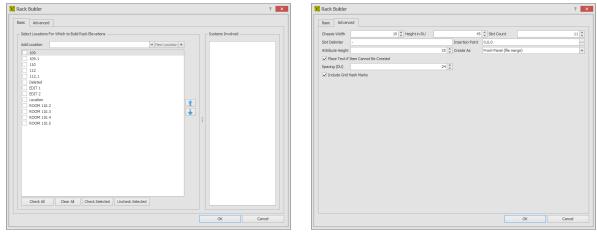
Menu: Advanced Tools>Rack Functions>Rack Builder Default command line shortcut: rb Related Settings: Default Rack Height

Top Down Racks

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.



# Rack Builder Dialog



- 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 Displays a list of all the systems that will be placed in the created drawing.
- 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 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 Front Panel (file merge), sets the attribute height of the displayed text.
- Create As -

File).

Front Panel (file merge) = use the dwg file found in the equipment definition BlockRef (Front Panel

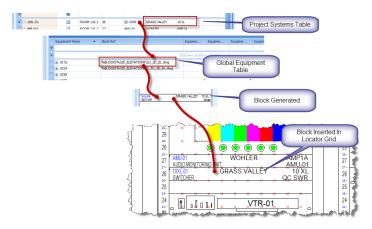
Front Panel (from dims) = use the dimension data from the equipment definition to create a 3D rack block.

From Dims if file not found = 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 Grid Hash Marks This will normally be checked unless you are rebuilding a drawing that already has the locator grids.
- Spacing DU Sets the location grid spacing in Drawing Units. Measures from left edge to left edge.

### 2.1.14.1 How It Works

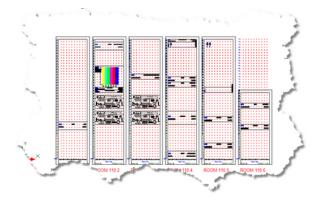
The Rack Builder tool relies on three key pieces of information. First we need the SysName of the device to add to the rack. From the SysName we retrieve the equipment manufacturer and model. Second, using the equipment manufacturer and model, we get the global equipment definition from the global equipment 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 pre flight 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.



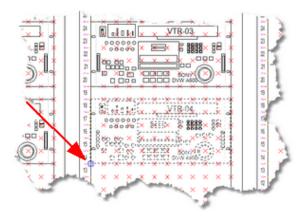
Next the Rack Builder tool, based on the Mechanical View Rule, will place either the front panel file or a block created from the dimensional data at the location point defined in the Project System entry.



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

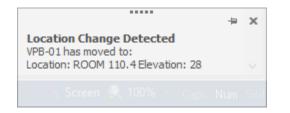
You may manually place devices created from the equipment library in **Front Panel** mode on the locator grids.

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 **File > Save**. You will then be given the opportunity to **Ripple** your changes. Though you are offered the choice you should ALWAYS select **[Yes]** when working in the Rack Builder drawings.

Ripple Type ?	
You have made changes that lkely impact other drawings and databases. WireCAD can now ripple the changes across the drawing set and affected databases.	5
O Full Ripple. Searches all drawings. This is the safest but takes more time.	
Quick Ropele is not an option if any of the items to ripple are missing drawing indexes. To be sure that the indexes are up to date you can use the Re-index function on the Equipment and Cables grids.	
• Quick Ripple. Searches only the indexed drawings for each item.	
You can tell if an item has indexes by looking at its row in the grid if the [+] is enabled there is an index.	
Yes No Cancel	

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

le										
aw		X Exit	Ск	FAIL		<b>1</b> INFO	IGNORE			
	File	rs.			Filter		G.			
	g a column h Status			p by that of Message		 ile Name		Extra Info	Figure Handle	
_					ource informat			Extra Into	ngure haride	
1	OK OK		~		ource informatiource information	roject Cal				
	OK OK				ource informatiource information	roject Cal roject Cal				_
	OK OK				ource informat					-
	OK					roject Cal				
					ource informat	roject Cal				
	OK				ource informat	roject Cab				
	OK				ource informat	roject Cal				
	OK				ource informat	roject Cal				
	OK				ource informat	roject Cal				
	OK				ource informat	roject Cal				
	OK				ource informat	roject Cal				
	OK				ource informat	roject Cal				
	OK				ource informat	roject Cal				
	OK OK				ource informat	roject Cal				
	OK OK				ource informat	roject Cal				
	OK OK				ource informat	roject Cal				
	OK OK				destination info	roject Cal				
					destination info destination info	roject Cal				
	OK OK				lestination info	roject Cal roject Cal				
	OK OK				lestination info lestination info	roject Cal roject Cal				

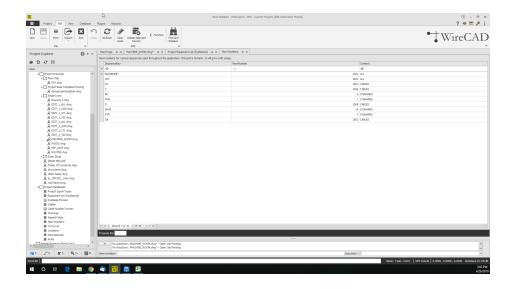
### 2.1.15 Next Numbers Grid

Menu: Database > Next Numbers Default command line shortcut: NN Related Project Settings: None Product Level: ALL

The **Next Numbers** Grid will show you the next available Cable number based on your <u>Cable Number</u> Format 123. 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.

# 2.2 Advanced Topics

The following sections cover more advanced topics in WireCAD.

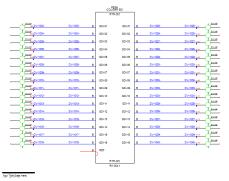
### 2.2.1 Equipment List Visualizer

Menu: Database>Project Systems>Equipment List (SysNames) Default command line shortcut: sys Related Settings:

See the Settings Tab

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.



System Snapshot of all ports and connections

# Controls

archo										Search	Find All
earch									-	search	rno Al
Drag a column header her	re to group by !	that column							*		
Sysname .	Available	Location	Elevation	Alas	Manufacturer	EquipmentName	Flags	SysNameUser 1			
*	۲										
@ MON-001		RK-003	44	MON-001	SONY	4K4 MONITOR					
B MONT-001		Location	Elevation	MONT-001	SONY	PVM20M4J					
© M.X-001		RK-003	34	MUX-001	ENSEMBLE	BrightEyes 71					
B POT-001		Location	Elevation	POT-001	ManufacturerName	EquipmentName					
@ RK-001		RK-001	01	RK-001	APVI	PIONEER - 45 RU					
⊟ Rx-003		RH-003	01	RK-003	APN	PSONEER - 45 RU					
@ RK-004		RK-004	01	RK-004	APVI	PIONEER - 45 RU					
■ RTR-001		RK-004	1	RTR-001	PESA	COUGAR SDE					
@ SPA-001		EDCT01	WALLA	EDET 1	OUSTOM PANEL	85P					
@ SPA-002		Location	Elevation	SPA-002	OUSTOM PANEL	85P					
@ SPA-003		Location	Elevation	SPA-003	OUSTOM PANEL	85P					
@ SPA-004		Location	Elevation	SPA-004	OUSTOM PANEL	85P					
B SPA-005		Location	Elevation	SPA-005	OUSTOM PANEL	85P					
© SPA-006		Location	Elevation	SPA-006	OUSTOM PANEL	85P					
@ SPA-007		Location	Elevation	SPA-007	CUSTOM PANEL	85P					
@ SPA-008		Location	Elevation	SPA-008	CUSTOM PANEL	85P					
© SPA-009		Location	Elevation	SPA-009	CUSTOM PANEL	85P					
@ SRIR-001		Location	Elevation	SRVR-001	360 SYSTEMS	Image Server 2K			*		

- Settings Tab Control the output of the Visualizer.
- 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 settings 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.

### 2.2.1.1 How To: Use the Equipment Visualizer

- 1. Create a project.
- 2. Add equipment.
- 3. Assign SysNames.
- 4. Draw cables.
- 5. Assign Cable Numbers.
- 6. Open the project Equipment List.
- 7. Select the SysName record to visualize.
- 8. Click the **Settings** tab.
- 9. Set the **Terminal**. This is the item that will be displayed as the source and destination of each cable.
- 10. Click the Visualize tab.

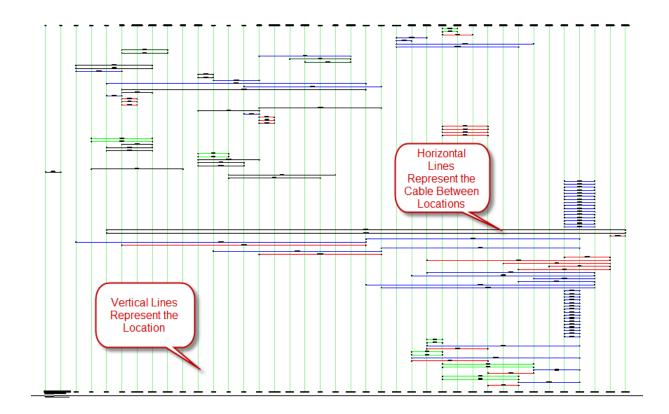
### 2.2.2 Cables Visualizer

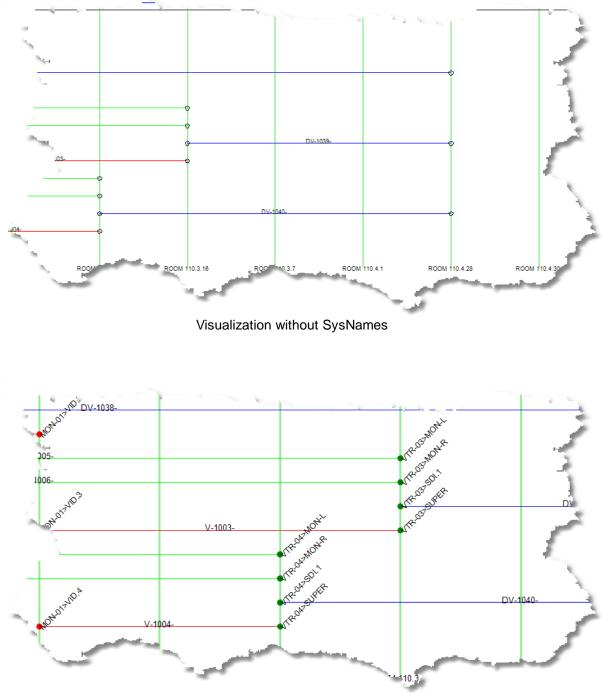
#### Menu: Database>Project Cables>Project Cables Grid

Default command line shortcut: cg Related Settings: See the Settings tab

The Cables Visualization tool creates a layered diagraph (ladder diagram) 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.





Visualization with SysNames

### 2.2.2.1 How To: Use the Cables Visualizer

- 1. Create a project.
- 2. Add equipment.
- 3. Assign SysNames.
- 4. Draw cables.
- 5. Assign Cable Numbers.
- 6. Open the project Cables grid.
- 7. Select a group of records to visualize.
- 8. Click the Settings tab.
- 9. Adjust settings to suit.
- 10. Click the Visualize tab.

### 2.2.3 AutoScheme Tools

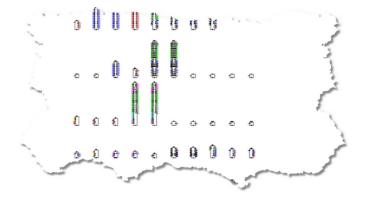
The AutoScheme tools create functional drawings or parts thereof from the data in the project systems and cables databases. This is useful to create detail or overall views.

The AutoScheme tools consist of two utilities. The Auto Block tool automatically places blocks in the drawing on a grid. The Ratsnest tool checks the project cables database against the drawing. If connections defined in the cables database can be reproduced in the drawing because the SysNames and Ports exist, a cable is placed.

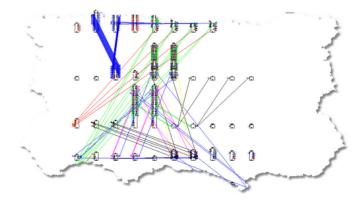
#### Prerequisites

SysNames and Cable Numbers in the project database.

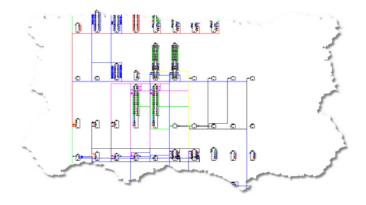
Auto Blocked drawing. Blocks have been created and placed.



After running the Ratsnest tool. This supplies the drawing with cable data and provides a positional reference to help you decide where to move block to better display the drawing.



After running the Cleanup tool from the Ratsnest utility.



### 2.2.3.1 Auto Block

### Menu: Advanced Tools>AutoScheme Tools>Auto Block

Default command line shortcut: **ab** 

### **Related Settings:**

None

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

### Controls

AutoBlock				? 📕
O defined in the Equ use in the Cables ta	uipment Library ( able. In either cas	shows all avaiilable j e you will be presen	g. You have the choic ports), or showing or ited with the SysNan splayed SysNames. Or	nly those port les from the
Get All Data From Cal	las Databasa			
Filter	les Database			
i incer				+ ×
10XL-01 @ ROOM 1	10.2			^
AMU-01 @ ROOM 11				
Cmon-01 @ 109				
Cmon-02 @ 109				
Cmon-03 @ 112				
Cmon-04 @ 112				
CPU-01 @ 109				
CPU-02 @ 112				
DMBDR-01 @ 109.1				
DMBDR-02 @ 112.1				
EDMON-01 @ ROOM	110.2			
EDMON-02 @ ROOM	110.3			~
Check All	Clear All	Check Selected	Uncheck Selected	
			OK	Cancel
			OK	Cancer

- The [Basic] tab allows you to determine which systems to add to the drawing.
- Filter Filters the list by your criteria.
- The [Advanced] tab allows you to refine the behavior of the utility.

Basic Advan	cod			
insertion Point				
Horizontal Spaci	ng (DU)	24 🗘 Ma	ximum Column Count	10 🗘
Use Project	Display Setting		Signal Types to Display	
	isplay Settings Concept O Front Pa		AUD R Out ? null	^
– Display Prefe Body Width	rences (1/100 DU) —	500 0	✓ 1394b ✓ 310 ✓ 4fSC	
Pin Spacing		100 🗘	AC-3	
Pin Width		200 🗘	AES	¥

- 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.

#### 2.2.3.2 RatsNest

Menu: Advanced Tools>AutoScheme Tools>RatsNest Default command line shortcut: rn Related Settings:

None

The RatsNest tool checks the project cables database against the drawing. If connections defined in the cables database can be reproduced in the drawing because the SysNames and Ports exist, a cable is placed.

This tool requires that the Project Cables table be populated.

# Controls

🔀 Ratsnest		? 🗙							
see if the source and destin between the ports. The resi can tell which devices need the blocks and in so doing t									
Rats Nest Ratsnest Show Cable Numbers Clear All Cables	Cleanup Cables Cleanup Avoid Other Cables	Fillet All Cables							
		Cancel							
Info									

- This tool has three sections. The RatsNest 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. Not just ratsnested cables. This will remove ALL.
- [Cleanup] Applies the auto-router to all cables in the drawing.
- Avoid Other Cables Auto-router avoids other cables on cleanup.
- [Fillet] Applies fillets to ALL cables in the drawing.
- Distance Fillet distance in 100/DU.

### 2.2.4 SysName Formatting

### Menu: Project Explorer>Project Databases>Project SysName Format

Default command line shortcut: fsys

#### **Related Settings:**

None

Allows control of the **SysName** numbering scheme. Using the **SysName Format** dialog you can select any field that is associated with the **SysName** and concatenate it into your own numbering scheme. Each of the fields selected can be formatted and the numbers can be set to sequence off of another field.

#### How it Works

The **SysName Format Tool** is used to generate regular expressions that are then used to parse **SysName** info as well as provide formatting information to masked text boxes.

A note on regular expressions: WireCAD makes extensive use of regular expressions (Regex). Regular expressions are well documented string parsing tools. Much has been written on them. It is not within the scope of this quick start guide to fully explain regular expressions; however, a Google search will tell you more than you ever wanted to know.

Two forms of regular expression are generated: a simplified form that is used as a mask in both the Systems database and in textboxes, and a complex form that aids in the generation of queries to determine the next number in a sequence. The following are both the simplified and complex Regex for the default format:

```
\w{1,6}-\d{1,5}
(?<EQUIPMENTTYPE>\w{1,6})-(?<NUMERICSEQUENCE>\d{1,5}))
```

#### Controls

• Selected Format - Selects the current SysName format. Allows addition and deletion of formats as well.

ile	e Edit Tools View				
le	ected Format: Default			~   +   -	
DU	ut String: Equip Type-000000	)			
oł	ks Like: Equip -00000				
~	Advanced Regular Expression	Info (Geek Stuff)			
~	Regex Examples				
	Field	Seq On	Format	Order	
	EQUIPMENTTYPE		[a-zA-Z0-9 _\-\&/\\]{1,6}	0	
	STRING		-	1	
	NUMERICSEQUENCE	EQUIPMENTTYPE	\d{1,5}	2	Up
ŧ					
					Dov
e	cord 1 of 3 + - <			>	

• Variable List - Displays the sequence of variables in grid view that will be concatenated into the final SysName.

SysNa	ame Format	Details				?
ile E	dit Tools	View				
put Strir oks Like V Adv	e: Equip -	Гуре-00000 -00000	0 Info (Geek Stuff)		v   +   - ]	
✓ Reg Field			Seg On	Format	Order	
	IPMENTTYPE		seq on	[a-zA-Z0-9 _\- \&/\\]{1,6}	0 Order	
STRI					1	
	IERICSEQUENCI	E	EQUIPMENTTYPE	\d{1,5}	2	
*				(-(-)-)		Up
						Down
Record 1	1 of 3 + - <				>	
				Test Syntax	Done Cancel	

- SeqOn This variable should sequence on another variable's value.
- Order The order in the list of the variable.

### • Available Variables -

Variable	Description	Can Sequence On	Default Format (Regex)
MANUFACTURER	Manufacturer Name	Х	\w{1,6}
EQUIPMENTNAME	Equipment Name/PN/Model Number	Х	\w{1,6}
DESCRIPTION	The device description as contained in the global equipment library		\w{1,6}
EQUIPMENTTYPE	The Equipment Type as contained in the global equipment library		\w{1,6}
LOCATION	The location typed in the SysName edit dialog	Х	\w{1,6}
ELEVATION	The location typed in the SysName edit dialog	Х	\w{1,6}
STRING	any string (usually used for delimiters like dashes (-))		-
NUMERICSEQUENCE	a numeric sequence that starts with the project starting number		\d{1,5}
ALPHASEQUENCE	an alpha sequence that starts at the letter 'a'		\w{4}
USER1	the global equipment library device definition user1 field		\w{1,6}
USER2	"		\w{1,6}
USER3	"		\w{1,6}
USER4	"		\w{1,6}

# More About Regex

The Format field use	es regular expressions. The following are some simple examples:
\w{1,6}	Any non number, non punctuation string from 1 to 6 characters
\w*	Any non number, non punctuation string any length
[a-zA-Z0-9]{5}	Lower / Upper case and 0 thru 9 exactly 5 characters
\d{1,5}	Digits 1 to 5 digits in length
\d*	Digits any length
//	a slash "\". The \ is the escape character so you need two
-	a dash except when in [] or {} then a range.
[a-zA-Z0-9_\-]{1,4}	Lower / Upper case, 0-9, underscore, dash, and comma.

### 2.2.5 Cable Number Formatting

#### Menu: Project Explorer>Project Databases>Project Cable Number Format Default command line shortcut: fcab Related Settings: None

Allows control of the Cable numbering scheme. Using the Cable Number Format dialog you can select any field that is associated with the Cable Number and concatenate it into your own numbering scheme. Each of the fields selected can be formatted and the numbers can be set to sequence off of another field.

### How it Works

The Cable Number format tool is used to generate regular expressions that are then used to parse Cable Number info as well as provide formatting information to masked text boxes.

A note on regular expressions: WireCAD makes extensive use of regular expressions (Regex). Regular expressions are well documented string parsing tools. Much has been written on them. It is not within the scope of this quick start guide to fully explain regular expressions; however, a Google search will tell you more than you ever wanted to know.

Two forms of regular expression are generated: a simplified form that is used as a mask in both the Cables database and in text boxes, and a complex form that aids in the generation of queries to determine the next number in a sequence. The following are both the simplified and complex Regex for the default cable number format:

```
\w{1,6}-\d{1,5}-\w*
(?<SIGNALTYPEPREFIX>\w{1,6})-(?<NUMERICSEQUENCE>\d{1,5})-(?<MULTICOREDATA>\w*)
```

# Controls

• Selected Format - Selects the current Cable Number format. Allows addition and deletion of formats as well.

	ut String: Prefix-0000				-
	ks Like: Prefix-0000 Advanced Regular Expl	10-MC ression Info (Geek Stuff) —			
	Regex Examples				
	Field	SeqOn	Format	Order	
*		Click here	to add a new row		
۲	SIGNALTYPEPREFIX		\w{1,6}	0	Up
	STRING		-	1	D
	NUMERICSEQUENCE	SIGNALTYPEPREFIX	\d{1,5}	2	Down
	STRING		-	3	
	MULTICOREDATA		\w{0,14}	4	
	MULTICOREDATA		\w{U,14}	4	

• Variable List - Displays the sequence of variables in grid view that will be concatenated into the final Cable Number.

File	e Edit	Tools \	View			
Sele	cted Forma	at: WireCAD	) Default		v + -	
inpu	ut String:	Prefix-00	0000-MC DATA			
.ool	ks Like:	Prefix-00	000-MC			
- \	Advance	d Regular E	xpression Info (Geek Stuff) —			
- \	Regex E	xamples —				
	Field		SeqOn	Format	Order	
*			Click here	to add a new row		
۲	SIGNALTY	PEPREFIX		\w{1,6}	0	Up
	STRING			-	1	Down
	NUMERIC	SEQUENCE	SIGNALTYPEPREFIX	\d{1,5}	2	Down
	STRING			-	3	
	MULTICO	REDATA		\w{0,14}	4	
_						
Re	cord 1 of 5	+ - <			>	
				Test Syntax	Done Cancel	

- SeqOn This variable should sequence on another variable's value.
- Order The order in the list of the variable.
- Test Syntax Performs a basic syntax test on the regular expressions.

### • Available Variables -

Variable	Description	Can Sequence On	Default Format (Regex)
SIGNALTYPE	The signal type associated with the cable	Х	\w{1,4}
SIGNALTYPEPREFIX	the signal type prefix associated with the signal type of the cable	Х	\w{1,4}
SOURCESYSTEM	The source SysName	Х	\w{1,6}
SOURCEPIN	The source port or pin name	Х	\w{1,6}
SOURCEALIAS	The source Alias	Х	\w{1,6}
SOURCELOCATION	The source location	Х	\w{1,6}
DESTSYSTEM	The destination SysName		\w{1,6}
DESTPIN	The destination port or pin name		\w{1,6}
DESTALIAS	The destination alias		\w{1,6}
DESTLOCATION	The destination alias		\w{1,6}
SOURCE_OR_DEST_PIN_I F_JACKFIELD	Not Yet Implemented		\w{1,6}
MULTICOREDATA	Core data as defined in the associated cable type if any		/w*
STRING	any string (usually used for delimiters like dashes (-))		-
NUMERICSEQUENCE	a numeric sequence that starts with the project starting number		\d{1,5}
ALPHASEQUENCE	an alpha sequence that starts at the letter 'a'		$w{4}$
JSER1	the global equipment library device definition user1 field		\w{1,6}
USER2	"		\w{1,6}
JSER3	"		\w{1,6}
USER4	"		\w{1,6}

# More About Regex

The Format field use	es regular expressions. The following are some simple examples:
\w{1,6}	Any non number, non punctuation string from 1 to 6 characters
\w*	Any non number, non punctuation string any length
[a-zA-Z0-9]{5}	Lower / Upper case and 0 thru 9 exactly 5 characters
\d{1,5}	Digits 1 to 5 digits in length
\d*	Digits any length
//	a slash "\". The \ is the escape character so you need two
-	a dash except when in [] or {} then a range.

[a-zA-Z0-9\_\-\,]{1,4} Lower / Upper case, 0-9, underscore, dash, and comma.

### 2.2.6 Using Your CAD Drawings With WireCAD

With WireCAD you can "WireCADify" your existing non-WireCAD CAD blocks to include WireCAD intelligence; thus making them work with WireCAD. Pretty cool huh?

The process requires at least two steps:

- 1. WireCADify the block.
- 2. Add ports to the block.

### 2.2.6.1 How To: Customize Your CAD Blocks to Work with WireCAD

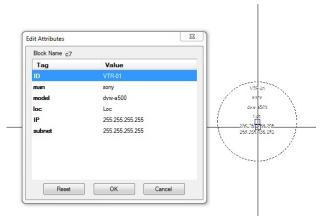
### Menu: Advanced Tools>WireCADify>WireCADify Block

Default command line shortcut: wc

Requires an active drawing with a CAD block.

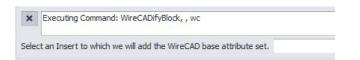
Adds the base WireCAD attribute set to the selected block, mapping your attribute data into our attributes if you choose.

- 1. Open a drawing with a non-WireCAD CAD block that you want to make work with WireCAD.
- 2. Click Advanced Tools>WireCADify>WireCADify Block.
- 3. You will be prompted to select a CAD block.

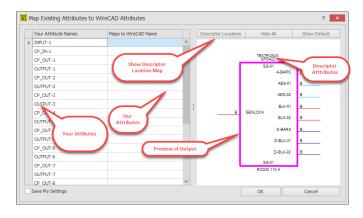


Here we have a CAD block with the displayed attributes (Yours).

4. Select your CAD block. It must be a block and not raw entities.

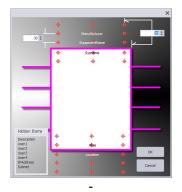


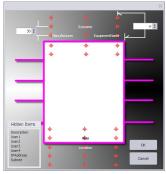
5. Map your attribute to our attributes.



	Your Attribute Names	Maps to WireCAD Name		Descriptor Locations	Hide All	Show Default
1	INPUT-1		^			
	CP_IN-1					
	CP_OUT-1				TEKTRONIX SPG422	-
	OUTPUT-1				SG-01 A-BARS	в
	CP_OUT-2					
	OUTPUT-2				AES-01	в
	CP_OUT-3				AES-02	в
	OUTPUT-3				BLK-01	в
	CP_OUT-4			B	GENLOCK BLK-02	
	OUTPUT-4				BLK-02	В
	CP_OUT-5				D-BARS	8
	OUTPUT-5				D-BLK-01	в
	CP_OUT-6				D-BLK-02	в
	OUTPUT-6					-
	CP_OUT-7				SG-01 ROOM 110.4	
	OUTPUT-7				NGOM 110.4	
	CP OUT-8		~			

6. Select the [Descriptor Locations] button.





Drag to reposition

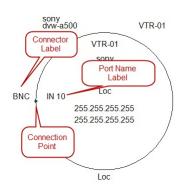
Your Attribute Names	Maps to WireCAD Name		Descriptor	Locations	Hide All	Show Default
INPUT-1		^				
CP_IN-1					TEKTRONUX	
CP_OUT-1					TEKTRONIX SPG422	_
OUTPUT-1					SG-01 A-BARS	в
CP_OUT-2						
OUTPUT-2					AES-01	В
CP_OUT-3					AES-02	в
OUTPUT-3			:		BLK-01	в
CP_OUT-4			· –	в	GENLOCK BLK-02	в
OUTPUT-4					BLK-02	<u> </u>
CP_OUT-5					D-BARS	в
OUTPUT-5					D-BLK-01	в
CP_OUT-6					D-BLK-02	в
OUTPUT-6						<u> </u>
CP_OUT-7				<b>L</b>	SG-01 ROOM 110.4	
OUTPUT-7					NOONI TIU.4	
CP OUT-8		$\sim$				

7. Click [OK] to finish.

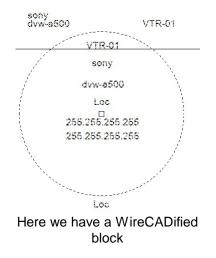
### 2.2.6.2 How To: Add a Port to an Existing CAD Block

#### Menu: Advanced Tools>WireCADify>Add Connection Point Default command line shortcut: none Related Settings: None

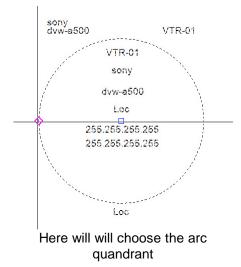
Adds a connection point to the selected block.



- 1. Open a drawing with a WireCAD block.
- 2. Click Advanced Tools>WireCADify>Add Connection Point
- 3. You will be prompted to select a WireCAD block.



4. You will be prompted for the point at which to add the Connection Point.

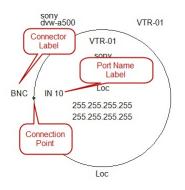


5. Enter your port info into the dialog that is presented.

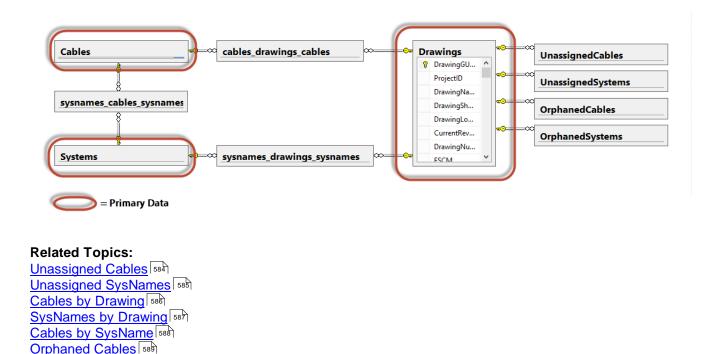
X Add Connection Po	oint to Existing Block (Insert)	?	×
Port Name	My Port Name		
Signal Type	VID		v
Connector (Cable End)	BNC		v
Port Is Input	Label Text Height (1/100 DU)	0	<b>* *</b>
Show Labels  Port Name  Include Geometry	Connector Signal Type		
Circle     Square	○ Triangle ○ X		
Geometry Size X (1/100 Dl Line Width	J) 10 🗘 Geometry Size Y (1/100 DU)	10	\$
	OK	Cance	el

Here we will say that the port is an input called IN10. We will show the labels and include a small circle to snap to.

### 6. Click [OK] to finish.



### 2.2.7 Understanding Indexes



### WireCAD keeps track of two classes of data.

1. **Primary** - examples of primary data include: SysNames, Cable Numbers, Locations, and Drawings. This data is of cardinal importance. We always want this data to accurately portray what goes on in the drawing/database.

2. Secondary - Indexes are secondary or transient data.

The indexes are link data relating the primary data bits to each other.

### Index data is transient in nature.

Orphaned SysNames 590

WireCAD consists of a drawing interface with undo/redo and a database which does not. With that as our framework let's discuss a scenario which will put the indexes out of sync quickly.

- 1. You add a cable to a drawing. A record is added to the Unassigned Cables index.
- 2. You undo. The cable is removed from the drawing but the database does not have an undo function (nor should it but that's a discussion for another day).
- 3. We now have a record in the Unassigned Cables index that is in error. It only took two steps to create an inconsistency in the index table.

So rather than trying unsuccessfully to keep every move in sync, we routinely scan the drawing and rebuild the index tables as a background process.

The indexes can be destroyed, rebuilt, and at any given time - out of sync. Deleting all indexes has no effect on primary data.

To insure the most current indexes, run the Rebuild Indexes command.

You can view the indexed data in the primary data grids as sub grids with the [+] button. You can also view the indexed data in individual grids.

## There are seven indexes:

1. **Unassigned Cables by Drawing**. We search the drawing and add any cable that does not yet have a number to this index.

2. **Unassigned SysNames** (equipment) by drawing. We search the drawing for any equipment that does not yet have a SysName and add it to this index.

3. **Equipment by Drawing**. Any equipment that has a SysName and corresponding entry in the Equipment List is added to this index by drawing.

4. **Cables by Drawing**. Any cable that has a number and corresponding entry in the Cables database is added to this index by drawing.

5. **Cables by Equipment**. Any cable that has a number and corresponding entry in the cables database and where both ends of the cable have valid entries in the Equipment list will be added to this index.

6. **Orphaned Cables**. Any cable with a number but no corresponding entry in the Cables database will be added to this index by drawing.

7. **Orphaned SysNames**. Any equipment with a SysName but no corresponding entry in the Equipment list will be added to this index by drawing.

## Settings that affect Indexing

The Auto Index setting will scan the project in the background upon project open and any drawing save. The Show Index Progress setting turns on the main progress bar in the status bar to indicate progress.

## 2.2.8 Sync Equipment with Database

# Menu: Context Menu with Equipment Insert Selected>Equipment Functions>Sync Equipment with Database

Default command line shortcut: SynclnsertWithDatabase

Occasionally you will make a decision that puts the data on an insert out of sync with the corresponding record in the **Equipment List**.

This will be manifest by an **Orphaned SysName** record. To remedy the error use the following steps:

- 1. Select the insert in the drawing that is orphaned. If you are unsure you can always start this function and if the insert matches the database you will be informed as such.
- 2. Right-click to show the context menu.
- 3. Click Equipment>Sync Insert with Database.

These are the possible outcomes:

- 1. The insert matches the database. At which point you will be informed as such.
- 2. The insert partially matches the database. The SysName and Location match but other fields do not. You will be given a choice as to which record to use as the update source.
- 3. The insert cannot be matched with a record in the database. This results in two other options:
  - a. You will be given the choice to add a new record, or:

b. The database is queried for like **Manufacturer** and **EquipmentName** records from which you can select to apply to the insert. Note: only **SysNames** of the same **Manufacturer** and **EquipmentName** will be shown for selection.

Outcome	Update Insert in Drawing	Update Database Data	Update Cable Data	Add New Record	Update Attached Pointers
ltem Matches Database	-	-	-	-	-
Item Matches SysName and Location Choice to use Insert Data		x			
Item Matches SysName and Location Choice to use Database Data	х		x		x
Item not found in Database Choice is Add				x	
Item not found in database choice is select other existing	x		x		x

Depending on your selection the following will happen:

## 2.2.9 Swap Equipment

# Menu: Context Menu with Equipment Insert Selected>Equipment Functions>Swap Equipment Default command line shortcut: none

The Swap Equipment function allows you to swap Manufacturer, Model, and port data on an existing functional block or concept block.

#### Applies To:

Functional Blocks Concept (High Detail) Blocks.

#### Used For:

Switching from one make/model to another.

## Controls

nufacturer	3COMM			Eq	uipment Name	2928-SFP			
Incoming	] Inputs	Outgoing Inputs			Outgoing (	Dutputs	Incoming Outp	uts	
		V SDI - B - SDI	^		MON-R - X	LR - AUD			
		AUD.3 - XLR - AUD			AES 1,2 - )	KLR - DGA			
		TC - XLR - TIMECODE			B - B - YRB	l .			
		COMP - B - VID			SDI.1-B-	SDI			
		Y - BNC - YUV			AES 3,4 - )	KLR - DGA			
		AUD.2 - XLR - AUD			SDI.2 - B -	SDI			
		U - BNC - YUV			AUD.2 - XL	R - AUD			
		R - B - YRB			TC - XLR -	TIMECODE			
		RS422 - 9D - CTL			AUD. 1 - XL	R - AUD			
		V - BNC - YUV			V - BNC - Y	'UV			
		AUD.4 - XLR - AUD			Y - BNC - Y	'UV			
		AES 1,2 - XLR - DGA			VID.1-B-	VID			
		AUD. 1 - XLR - AUD			AUD.4 - XL	.R AUD			
		REF - B - SYNC			R - B - YRB	3			
		AES 3,4 - XLR - DGA			AUD.3 - XL	.R AUD			
		B - B - YRB			MON-L - XL	R - AUD			

- Manufacturer Select the Manufacturer to replace the outgoing device with.
- Equipment Name Select the Equipment Name / Model / PN to replace the outgoing device with.
- Inputs grid, Outputs grid Select the ports to replace.
- Find Matches Matches incoming ports to outgoing ports.
- OK Do it!

## 2.2.9.1 How To: Swap Equipment

- 1. Open a drawing.
- 2. Select one of the block types in the Applies To section.
- 3. Right-click to show the context menu.
- 4. Click Equipment Functions > Swap Equipment.
- 5. Fill in the **Equipment Switcher** form data.
- 6. Click **OK**.

## 2.2.10 Edit Block in Place

Menu: Context Menu with Equipment Insert Selected>Equipment Functions>Edit Block in Place Menu: Context Menu with Equipment Insert Selected>Equipment Functions>Edit Block in Place Ignore Attached Cables

Default command line shortcut: ebip, EditBlockinPlaceIgnoreAttachedCables

Related Settings:

None

Edit Block in Place allows you to modify an existing insert that was created from the Equipment Library. There are two variants of the function. One that attempts to keep all cables attached to the ports from which they started. The other does not.

Because blocks in the CAD file are immutable the function actually creates a replacement block and inserts it into the drawing in place of the other.

## Prerequisites

A WireCAD created functional block

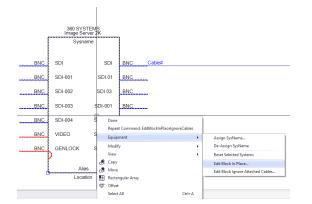
## Overview

- 1. The port information is read from the block.
- 2. The display information is read from the block.
- 3. Cable information is read from the block.
- 4. The **Equipment Library** is queried for the incoming device and the Library is placed in Edit Mode.
- 5. The drawing information is used to create a matching block in the Equipment Library.
- 6. Edit to suit.
- 7. Update the insert in the drawing.
- 8. Re-route all cables to find their starting ports or not depending on the variant.
- 9. Cables that cannot find their starting ports are modified to show a dashed LineType.
- 10. Show a dialog indicating cables that cannot find home.

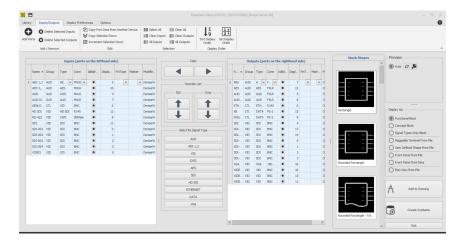
NOTE: While the port information is being read into the Equipment Library if a port exists on the drawing that does not exist in the Equipment Library it will be added.

## 2.2.10.1 How To: Edit a Block In Place

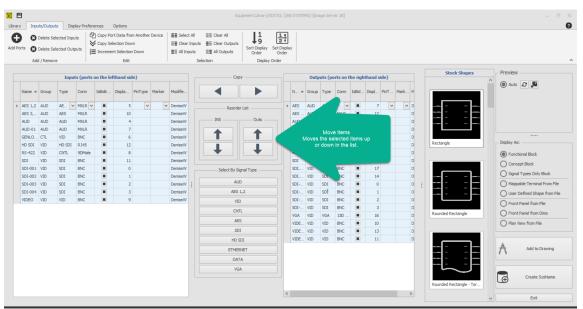
- 1. Open a drawing with a WireCAD created functional block.
- 2. Select the block. It must be the only thing in the selection.
- 3. Right-click and select Equipment>Edit Block in Place.



4. The block is loaded into the **Equipment Library** for edit.



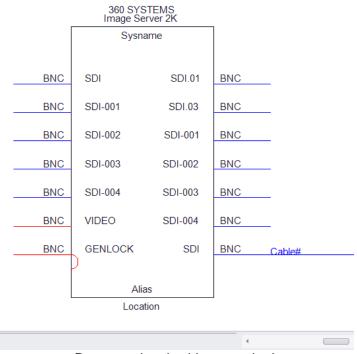
Edit Initiated



### 5. Make changes. Here will move the top SDI port to the bottom.

List Reordered

## 6. Click [Update Insert in Drawing].



Port moved and cable reattached

7. Done.

## 2.2.11 Rereference Pointers

## Explanation

Occasionally you will save pointers to another sheet. This can be because you have done a SaveAs or Copy/Paste.

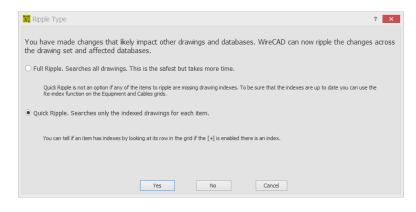
At that point you will want to change the sheet reference on the pointers. Those pointers that point to the new sheet from other drawings as well as the pointers on this sheet that point to the old drawing will need to be renamed to the new sheet.

## Usage

- 1. Click Advanced Tools > Rereference Drawing Pointers (Change SheetRef Names).
- 2. Fill in the dialog Set the rename From/To names and where you want to search.

## 2.2.12 Save and Ripple

Occasionally throughout normal program execution you will be presented with the Ripple Choice [534] dialog.



Something has changed that potentially effects data in other drawings and databases. This is your chance to update those other entities in other places throughout the project.

Applies To: <u>Equipment List</u> [574] <u>Cables</u> [577] database <u>Locations</u> [588] database <u>Rack Builder</u> [475] drawings

Related Topics: Understanding Indexes 132

## 2.2.13 Spare Cables

Menu: Advanced Tools > Add Spare Cable(s) Default command line shortcut: AddSpareCables Related Settings:

None

Place geometry in the drawing and cable(s) in the **Cables** database that represent spare cables.

The following images represent the above settings in both drawing and the **Cables** database.

This function adds **Count** number of cable records to the **Cables** database. The number is automatically formatted in accordance with the <u>Cable Number Format</u> 123 tool and the <u>Next Numbers</u> 593 table.

### Used For:

Adding geometry and cable entries in the project Cables database.

## Controls

就 Add Spare	e(s)		? ×
Cable Type:	BELDEN-1189A	V + Signal Type: 1394b	<b>v</b> +
Left Side —		Right Side	
Location:	109.1	✓ + Location: 109.1	¥ +
Connector:	1/4"		V +
Count: Geometry			1 🗘
Show Lo		Show Connector	
Color by	able Type / Signal Type	Show Cable Number(s)	
		Draw Polyline	Cancel

- Cable Type Select the CableType.
- Left Side, Right Side set the location and the connector.
- Count how many cable records to enter.
- Geometry What to include in the drawing.

### 2.2.13.1 How To: Add a Spare Cable

- 1. Open a project.
- 2. Open a drawing.
- 3. Click Advanced Tools > Add Spare Cable(s).
- 4. Fill in the dialog.

🔀 Add Spare	e(s)		? ×
Cable Type: E	ELDEN-1189A	V + Signal Type: 1394b	v +
Left Side —		Right Side	
Location:	109.1	✓ + Location: 109.1	× +
Connector:	1/4"	✓ + Connector: 1/4"	× +
Count: Geometry			1
Show Lo	cation	Show Connector	
Show Ca	ble Type	Show Cable Number(s)	
Color by	Signal Type		
		Draw Polyline	Cancel

- 5. Click [Draw Polyline].
- 6. The dialog will be dismissed. You are prompted to draw a polyline.
- 7. Click the points to enter in the polyline.
- 8. Right-click to finish.

## 2.2.14 Split Cables

The Split Cables function allows you to replace existing cables, whether assigned or not, with linked pointer sets.

## 2.2.14.1 How To: Split Cables

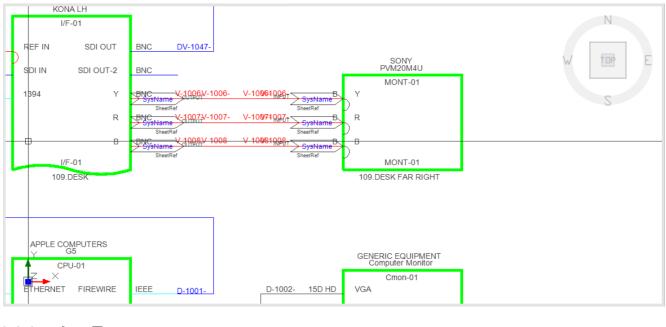
1. Select the cable or group of cables in your drawing that you would like to split.

2. Select the Default Pointer that you would like to use. If you select a pointer set that has a full complement of pointers, '\_S', '\_D' and the flipped '\_S' and '\_D' versions of your Default Pointer, you will get optimum results out of this function.

Dr	aw Cables 🕜 🛚 🗙	Start Page # X MACHINE_ROOM.dwg # X RACKS.dwg # X shapes.dwg # X	
*	1. • • • • • • • • •	KONA LH	N ^
Project Explore	Start Cable	REF IN SDI OUT BNC DV-1047-	
plorer	Cable Text Height (1/100 DU) 25 🗘	SDI IN SDI OUT-2 BNC PV/M20M4U W	E
_ Draw	O Manually Draw Cable Draw Text Default	1394 Y BNC 1006 B Y	S
sw Cable	Aux Text	R BNC <u>(1997)</u> B R	
s E Dr	Cable Apply Aux Text to Existing Cable Height (1/100 DU)	В <u>ВNC разбене</u> В В и/F-01 МОNT-01	
<b>Drawing Properties</b>	Variable CircuitNumber V Format {0}	109 DESK 109 DESK FAR RIGHT	
	∧ Settings       Router X Offset (1/100 DU)		
Q, Find	Router Y Offset (1/100 DU) 100 0	APPLE COMPUTERS	∨ 
	POINTER_D.dwg VBH_Pointer_D.DWG WC3_FeatherOut_v0_D.dwg	CPU-01 GENERIC EQUIPMENT CPU-01	200 geny
Plan View	WC3_Pointer_D.DWG WC3_Pointer_v1_D.dwg WC3_Pointer_v2_D.DWG	ETHERNET FIREWIRE IEEE D-1001- D-1002- 15D HD VGA	
ar S		Model Layout2 PAPER SPACE ANSI A 11X17 <	>
Favorites	Preview:		
55		X Command: "Cancel" Command: 39.2665,43.0542,0.0000	\$
	Start Cable	Command: Calculator: <	~

## 3. Select [Split Cable]

4. Your end result will look like this:



## 2.2.15 Aux Text

The Aux Text Fuction is for those users that use Aux Text, but forgot to check the box. This function allows you to add the Auxiliary Text without having to redraw a cable.

## 2.2.15.1 How To: Apply Aux Text to an Existing Cable

- 1. Select the Cables that you would like to Apply Aux Text to.
- 2. Select [Apply Aux Text to Existing Cable] in the Draw Cables menu.

Dra	v Cables 🕜 🛚 🛪 🗙	Start Page # X MACHINE_ROOM.dwg # X RACKS.dwg # X shapes.dwg* # X	
		KONA LH	^
*	1 -4 🕨 ~ -~ 💥 🔁 🏹 🔃	I/F-01	N
Project Ex	Start Cable Point to Point Cable	REF IN SDI OUT BNC DV-1047-	
plorer	Cable Text Height (1/100 DU) 25 🔹	SDI N SDI OUT-2 BNC PW/R20M4U MONT-01	W IP E
_ Draw	O Manually Draw Cable Draw Text Default	1394 Y BNC 1008 100 100 100 100 100 100 100 100 10	S
Cable	Aux Text -	R BNC V1007-1007 Gent Systame	
°	C Enable Apply Aux Text to Existing Cable Height (1/10000)	Bealtrer B Crystame 2,1008 Crystame 2,1008 Crystame 2,1008 Crystame 2,1008 Crystame 2,1008 Crystame 2,100 Crystame 2,100 Crys	
rawing Prop	Location         Under         v           Variable         Circuit%umber         v           Format         {0}	07-01 MONT-01 109.DESK 109.DESK FAR RIGHT	
erties	A Settings		
	Router X Offset (1/100 DU) 150 🗘		
م ۳	Router Y Offset (1/100 DU) 100 🗘		~
Î	Default Pointer WC3_Pointer_D.DWG	APPLE COMPUTERS	Ð
		GENERIC EQUIPMENT Computer Monitor	2
Plan		Z X Cmon-01	<u>&lt;</u>
🔄 Plan View		ETHERNET FIREWIRE IEEE D-1001- D-1002- 15D HD VGA	
31 27		Model Layout2 PAPER SPACE ANSI A 11X17 <	>
9	+ Draviour		

# 2.2.16 Title Block Manager

# Menu: [Project] > [Title Block Manager] Default command line shortcut: tbm

Titleblock Manager						
Add Remove	Edit Company Edit Client Info	All Manua				
Page Border	s	A	Attributes			
WC11x17	-		Tag String	Attribute Value	String Constant	Update Mode
			Title 1	None		Manual
			Title 2	None		Manual
			Title 3	None		Manual
			Title 4	None		Manual
			REV	None		Manual
			Drawing #	None		Manual
			Sheet	None		Manual
			Drawn By:	None		Manual
			Checked By:	None		Manual
			1	None		Manual
			ISSUED 1	None		Manual
			DATE 1	None		Manual
			2	None		Manual
			ISSUED 2	None		Manual
			DATE 2	None		Manual
			3	None		Manual
			ISSUED 3	None		Manual
			DATE 3	None		Manual
			4	None		Manual
			ISSUED 4	None		Manual
			DATE 4	None		Manual
			5	None		Manual
			ISSUED 5	None		Manual
			DATE 5	None		Manual
			Scale	None		Manual

The Title Block Manager allows you to edit Attributes in your drawings to reflect across your project.

## 2.2.16.1 How To: Adjust Attributes in the Title Block Manager

The Title Block Manager will allow you to add a Title Block by adding variables to your available attributes.

1. Open the Title Block Manager. [Project] > [Title Block Manager] If you have not already selected the attributes that you would like to show, simply select [Add]

Titleblock Manager			F	Project Title I	Block Manag	jer		- 🗆	×
Add Remove	Edit Company Info		പ്പു ഉള് Client fo	All Manual	Open	Draw	te Active ing Now		
-			-		ae	Up Up	late		
Page Border	S	 At	tribu						
WC11x17			Tag Str	ring	Attribute	/alue	String Constant	Update Mode	
		×	Title 1		None			Manual	^
			Title 2		None			Manual	
			Title 3		None			Manual	
			Title 4		None			Manual	
			REV		None			Manual	
			Drawin	g #	None			Manual	
			Sheet		None			Manual	
			Drawn	By:	None			Manual	
			Checke	d By:	None			Manual	
			1		None			Manual	
			ISSUED	01	None			Manual	
			DATE 1	L	None			Manual	
			2		None			Manual	
			ISSUED	2	None			Manual	
			DATE 2	2	None			Manual	
			3		None			Manual	
			ISSUED	3	None			Manual	

WireCAD will prompt you that it is going to hide the Title Block Manager Dialogue so that you can select a page border insert to work with. Click **[OK]** 

X.			Project Title I	Block Manag	jer		- 0	×
Titleblock Manager								
Add Remove	Edit Company	요උ요 Set Edit Client	All Manual	All On	Updat	» Active		
	Info	Info		Open		ng Now		
Page Borders	Data	а	Mo	de	Up	date		
Page Border	'S	Attrib	utes					
WC11x17		Tag S	tring	Attribute	/alue	String Constant	Update Mode	
		Title 1		None			Manual	^
		Title 2		None			Manual	
	Select	Page Bord	ler			×	Manual	
	Jeicee	rage bore					Manual	
	We w	ill now hide t	nis form so yo	u can selec	t a page	border insert	Manual	
		<b></b>	ОК	Cano	a		Manual	
		L		Carro	ci		Manual	
		: Drawn	тву:	None			Manual	
		Check	ed By:	None			Manual	
		1		None			Manual	
		ISSUE	D 1	None			Manual	
		DATE	1	None			Manual	
		2		None			Manual	
		ISSUE	D 2	None			Manual	
		DATE	2	None			Manual	
		3		None			Manual	
		ISSUE	D 3	None			Manual	~
					_			*

2. Select the Title Block that you would like to manage. The Title Block Manager will re-appear and you will now be able to edit your Attribute Values.

3. Edit your Attribute Values to fit your project needs.

x						Pi	roject Tit	le Block Mani	ager					-	×
Titleblock Manager															
Add Remove	Edit Company Info	Edit	දිදු SI Client nfo	Al	Manual	All On Open	Updat	** te Active ing Now							
Page Borders	Data	э			Mod	e	Up	date							
Page Border	5			At	ttribu	tes									
WC11x17					Tag Str	ing	_	Attribute \	/alue		String	Constant	Update Mode		
ANSI_AVC				A.	Title 1		_	None		~			Manual		
NIGI_NC					Title 2			DrawingN			^		Manual		Т
					Title 3			DrawingSl DrawingU					Manual		1
					Title 4		_	DrawingU					Manual		1
					REV			DrawingU:					Manual		1
					Drawing	g #		<ul> <li>DrawingU: None</li> </ul>	ser 4		~		Manual		
					Sheet			None		_			Manual		
					Drawn	By:		None					Manual		
					Checke	d By:		None					Manual		
					1			None					Manual		
					ISSUED	1		None					Manual		٦,

4. Once you have edited your Attribute Values, you can can save your changes in one of two ways. The first way you can save your changes is by selecting **[Update Active Drawing Now]**.

Titleblock Manager											
Add Remove	Edit Company Info	요습요 Edit Clien Info	t		Manual All On Open		Active ng Now				
Page Borders	Dat	а			Mode	Upt	late				
Page Bordei	S			At	ttributes						
WC11x17					Tag String		Attribute Value		String Constant	Update Mode	
ANSI_AVC				A.	Title 1		None	~		Manual	1
					Title 2		None			Manual	
					Title 3		None			Manual	
					Title 4		None			Manual	
			1		REV		None			Manual	
					Drawing #		None			Manual	
					Sheet		None			Manual	
					Drawn By:		None			Manual	
					Checked By:		None			Manual	
					1		None			Manual	
					ISSUED 1		None			Manual	

You can also set the update settings for each attribute.

X					Pr	oject Title	e Block Manager		- 🗆	×
Titleblock Manager										
Add Remove	Edit Company Info	온음요 Edit Clien Info			Manual All On Open	Update Drawin	Active Ig Now			
Page Borders	Dat	а			Mode	Upd	late			
Page Borde	rs			At	ttributes					
WC11x17					Tag String		Attribute Value	String Constant	Update Mode	
ANSI_AVC				a.	Title 1		None		Manual	vr
					Title 2		None		Manual	
					Title 3		None		OnDrawingOpen Manual	-1
					Title 4		None		Manual	_
			1		REV		None		Manual	
					Drawing #		None		Manual	
					Sheet		None		Manual	
					Drawn By:		None		Manual	
					Checked By:		None		Manual	
					1		None		Manual	
					ISSUED 1		None		Manual	
										4

5. You are finished.

## 2.2.17 Understanding Terminals

Terminals in WireCAD represent a one or two port device and are used to draw compact inline signal flows.

The terminal is a standard CAD block with specific WireCAD attributes. The geometry of the terminal is defined in the CAD drawing file.

In order to be a WireCAD Terminal the following criteria must be met:

• WireCAD Attribute set which includes:

SysName EquipmentName ManufacturerName Location Alias SheetRef Created With: EquipmentID WC\_TYPE EquipmentDescription

In addition a Terminal must have at least one invisible Connection Point attribute with the Tag: **CP\_IN** or **CP\_OUT**.

The **CP\_IN** should be placed on geometry that represents the input connection point. Or the point to which we will connect our cable destination.

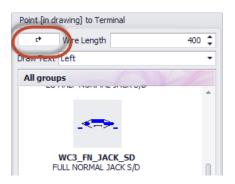
The **CP\_OUT** should be placed on geometry that represents the output connection point. Or the point to which we will connect our cable source.

If a **CP\_IN** is defined, the following display attributes may also be used: **INPUT\_CONN** - optional input connector display name. **INPUT\_NAME** - optional input display name. **INPUT\_TYPE** - optional input signal type display name.

If a **CP\_OUT** is defined. The follow display attributes may also be used: **OUTPUT\_CONN** - optional output connector display name. **OUTPUT\_NAME** - optional output display name. **OUTPUT\_TYPE** - optional output signal type display name.

## 2.2.17.1 How To: Customize a Terminal

- 1. Open the base CAD file. The terminals are in the %BLOCKS%\WireCAD Terminals path.
- 2. Modify the geometry and or attributes to suit.
- 3. Click File > Save As. Remember to keep the \_S.DWG and the \_D.DWG naming convention intact.
- 4. Open a drawing that you want to use your shiny new terminal in.
- 5. Refresh the Terminals tool panel. This will display your new terminal in the place terminals galleries.



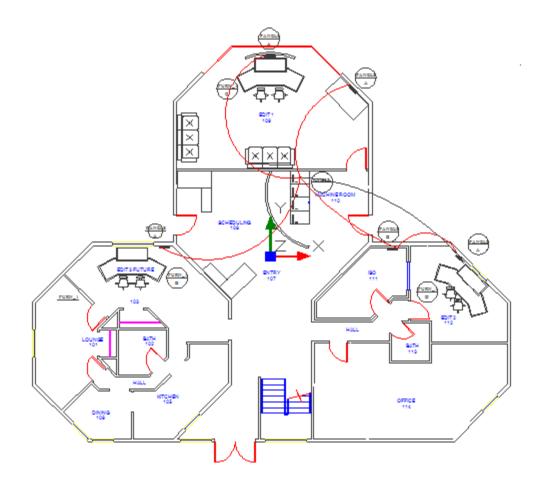
6. Click to use as any other terminal.

If the terminal needs changes you will have to do the following:

- 1. Delete all instances of the offending terminal insert from the drawing.
- 2. Click File > Purge.
- 3. Verify that your file name is in the purge blocks list.
- 4. Purge the drawing of unused entities.
- 5. Open the base CAD file again and edit and save.
- 6. Repeat steps 4 6 above.

# 2.3 Plan View and Layout Tools Dialogs

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



## 2.3.1 Take Offs

## Menu: Drawing > Plan View and Layout Tools > Take Offs

Default Commandline shortcut: showtakeoffs

Related Settings:

## None

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**

Ŧ			Tak	e Offs for C:\Users\Public\Docu	ments\just a test\Drawings	\plan vie	ew.dwg	_ <b>D</b> X
File								
Print	क्ती Text क्ती XML क्ती क्ती HTML	XLS	0	•	Inserts Closed Polylines Lines Points Ge Circles Dimensions	enerate	Count	
File 🦼	Export			Layer 🛃	Entity Types 🔒	Function	ns "	
Ite	mHandle			Block Name or Entity Type	IgnoreInCount		equipment1 4-Way Swit	
▶ 170	)7C		ø	equipment12x12				er 3D View=4
170	08A		¢	equipment12x12				Systems Sound=4 Systems Phone Public=1
170	98		¢	equipment12x12			3-Way Swit	
170	DA6		¢	equipment12x12			Annunciator Blank Ceiling	
170	569		¢	4-Way Switch			Didi ik Celili iş	ouder-2
170	5BE		ø	B-Size Plotter 3D View				
170	280		ø	Commercial Systems Sound				
170	C8E		ø	Commercial Systems Sound				
170	C9C		ø	Commercial Systems Sound				
170	CAA		¢	Commercial Systems Sound				
170	CCC		¢	Commercial Systems Phone Public				
183	298		ø	3-Way Switch				
183	2A6		ø	3-Way Switch				
183	284		<i>u</i>	3-Way Switch				
144 44	✓ Record 1 of	24 🕨	 - ₩ 4					
Informa	tion:	]						

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

Item Handle ShowMe - Zooms to show the item in the drawing.

Block Name or Entity Type - obvious.

IgnoreInCount - Ignore me when counting.

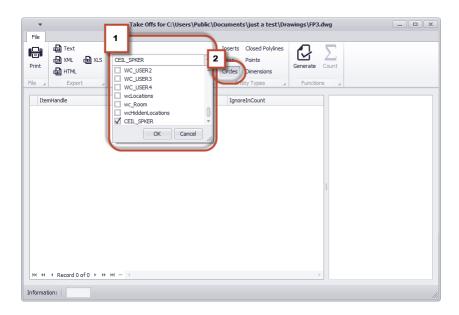
## 2.3.1.1 How To: Pull a Take-Off from a Drawing

- 1. Open a plan view drawing.
- 2. Click Plan View Tools > Take-Offs.
- 3. Select the Insert check-button.
- 4. Then click [Generate]. This generates a list of all Inserts in the drawing.
- 5. Click [Count]. This counts the different inserts in the drawing. The results appear in the list on the right.

File	ा सित्री Text सित्री XML सित्री XLS	Tak 0	ce Offs for C:\Users\Public\Docu	nents (just a test)Drawings (plan Inserts Closed Polyines Sec. Fonts Crides Dimensions Entity Types Funct	3 Count
	ItemHandle		Block Name or Entity Type	IgnoreInCount	equipment12x12=4
•	1707C	ø	equipment12x12		4-Way Switch=1 B-Size Plotter 3D View=4
	1708A	ø	equipment12x12		Commercial Systems Sound=4
	17098	ø	equipment12x12		Commercial Systems Phone Public=1 3-Way Switch=4
	170A6	ø	equipment12x12		Annunciator=4 Blank Ceiling Outlet=2
	17669	ø	4-Way Switch		Blank Ceiling Outlet=2
	176BE	ø	B-Size Plotter 3D View		
	17C80	ø	Commercial Systems Sound		
	17C8E	ø	Commercial Systems Sound		
	17C9C	ø	Commercial Systems Sound		
	17CAA	ø	Commercial Systems Sound		
	17CCC	ø	Commercial Systems Phone Public		
	18298	ø	3-Way Switch		
	182A6	ø	3-Way Switch		
	182B4	ø	3-Way Switch		
44	44 4 Record 1 of 24 +	+ ₩-			
for	mation:				

Now let's say we want to count all circles on the CEIL\_SPKR layer.

- 1. Open a plan view drawing.
- 2. Click Plan View Tools > Take-Offs.
- 3. Select the Circles check-button, and select the Layer on which to search.



- 4. Click [Generate]. This produces a list of all the circle entities found on the selected layer.
- 5. Click [Count]. This counts them and outputs the result in the right-hand list.

= rin	t Export	IL_SPKER	Inserts Closed Polylines Lines Points Circles Dimensions Entity Types	rate Count
	ItemHandle	Block Name or Entity Type	IgnoreInCount	vdCircle=20
•	A8E1	(i) vdCircle		<u>^</u>
	A8E2	🤨 vdCircle		
	A8E3	🤨 vdCircle		
	A8E4	😐 vdCircle		
	A8E5	🥮 vdCircle		
	A8E6	🕮 vdCircle		
	A8E7	💷 vdCircle		
	A8E8	😐 vdCircle		
	A8E9	🤨 vdCircle		
	A8EA	🤨 vdCircle		0
	A8EB	🤨 vdCircle		
	A8EC	🤨 vdCircle		
	A8ED	🤨 vdCircle		
	A8EE	🤨 vdCircle		
44	++ + Record 1 of 20 → ++ +			

As you can see we have 20 circles that appear on the CEIL\_SPKR

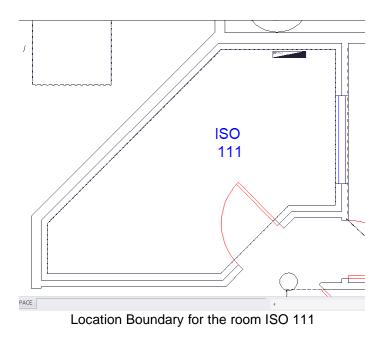
## 2.3.2 Location Boundary

Menu: **Plan View and Layout Tools > Add Boundaries from Text** Default Commandline shortcut: **DrawLocationBoundaryRectangle** Related Settings:

## None

Used to 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).

Boundaries can be nested in other boundaries. It is common practice to create the Campus boundary and then nest the Building boundary then the Floor boundary then the Room and Racks boundaries.



#### Prerequisites

A plan view drawing.

# **Dialog Options**

lame:				
ocation Kind	Ad	lvanced		
		Misc		
None		Automatically Nest Locations	True	
		Boundary Entity	Rectangle	
Campus		Show Name In LineType	True	
Campus				
Building				
) Floor				
	1			
Room				
🔾 Rack				
Elevation				
🔾 Slot				

- Name The location name.
- Location Kind You will need to tell us the kind.
- Automatically Nest Locations Default is true.
- Boundary Entity Rectangle, Closed Polyline, Circle.
- Show Name in LineType Renders the entity with the location name as the linetype.

## 2.3.2.1 How To: Place a Location Boundary

## Method 1

Use the selected text entity to populate the dialog.

- 1. Open a plan view drawing.
- 2. Select a text entity that represents the location name of the location for which we will create the boundary. This text will populate the dialog **Name** field.
- 3. Click Plan View and Layout Tools > Location Boundaries from Text.
- 4. Set the Location Kind.
- 5. Set the **Boundary Entity**.
- 6. Click **[OK]**. The dialog is dismissed and you are prompted to draw the boundary entity.
- 7. Draw the boundary.

## Method 2

Manually populate the Name field.

- 1. Open a plan view drawing.
- 2. Click Plan View and Layout Tools > Location Boundaries from Text.
- 3. Enter the Name.
- 4. Set the Location Kind.
- 5. Set the **Boundary Entity**.
- 6. Click **[OK]**. The dialog is dismissed and you are prompted to draw the boundary entity.
- 7. Draw the boundary.

## 2.3.3 Draw Cable

### Menu: Drawing > PlanView and Layout Tools > Draw Cable

Default Commandline shortcut: pwdc Related Settings: None Product Level: ALL

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

#### **Related Topics:**

Draw Cables 73

## **Dialog Options**

就 New Cable					? 🗙
Cable Type Manu		Ý	Cable Type		~
- Source Inform	ation		- Destination Info	ormation	
SRC Sys	Sysname	× +	Dest Sys	Sysname	¥ +
SRC Pin		*	Dest Pin		~
SRC Loc	Location		Dest Loc	Location	
SRC Conn			Dest Conn		
SRC Alias			DST Alias		
Integrator			Sheet		
Signal Type		~	Length		
User 1			User2		
User3			User4		
Cable No					
				OK	Cancel

- Cable Type Select the Cable Type.
- Source Information The source SysName is pulled from the drawing. You will need to select the Src Pin and such.
- **Destination Information** The destination **SysName** is pulled from the drawing. You will need to select the **Dest Pin** and such.
- Other Stuff Enter user information.
- Cable No Click the [...] button to generate a cable number.

#### 2.3.3.1 How To: Draw a Cable in Planview

This tool allows you to draw geometry in the Plan View space that represents the path of the cable. **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.
- 1. Open a plan view drawing.
- 2. Click Plan View and Layout Tools>Draw Cable
- 3. Select the source SysNamed equipment.
- 4. Select the destination SysNamed equipment.
- 5. Place the points in the polyline to finalize the appearance.

## 2.3.4 Populate Cables

#### Menu: Drawing > PlanView and Layout Tools > Populate Cables

Default Commandline shortcut: popc

### Related Settings:

## None

Product Level: ALL

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**.

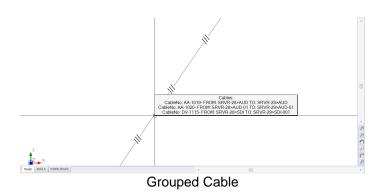
#### **Related Topics:**

Draw Cables 73

## **Dialog Options**

🔛 Populate Cables	5	? ×
Must connect to e	/to same location into a single lin xisting equipment in the drawing t come and go to the same locati s not found	i i
Polyline Bulge Factor		0.2
	ОК	Cancel

• Group Cables - Place a single polyline with hash marks to indicate count. All cables that come and go from a single Location or SysName will be grouped. Otherwise a single polyline for each cable will be added.



- Must connect to equipment in the drawing The population will fail if the connected equipment SysName is not found. Otherwise the cable will be populated to the drawing based on Location Boundary.
- Ignore cables that come and go to the same location Keeps the drawing cleaner.
- Flag if other is not found If both Locations or SysNames are not found in the drawing a flag will be placed pointing to the other end.
- Polyline Bulge Factor The bulge factor to create an arc instead of a straight line.

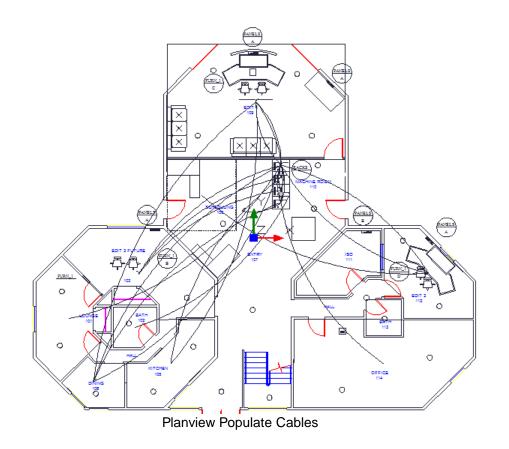
## 2.3.4.1 How To: Populate Cables in Planveiw

#### 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. Open a plan view drawing.
- 2. Place Location Boundaries.
- 3. Place plan view equipment and **SysName** Optional.
- 4. Click Plan View and Layout Tools > Populate Cables.
- 5. Click **[OK]**.



## 2.3.5 Draw Prewire

#### Menu: PlanView and Layout Tools > Draw Prewire Cable

Default Commandline shortcut: pw Related Project Settings: Automatically Consume Prewire Cables

Product Level: ALL

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 <u>Automatically</u> <u>Consume Prewire</u> setting is checked.

#### Prerequisites

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

## **Related Topics:**

Draw Cables 73

## **Dialog Options**

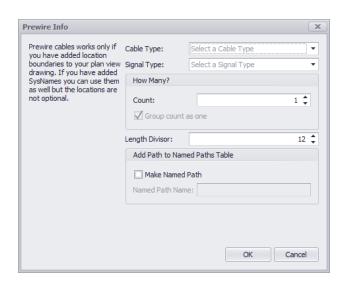
rewire Info			X
Prewire cables works only if you have added location boundaries to your plan view	Cable Type: Signal Type:	Select a Cable Type Select a Signal Type	•
drawing. If you have added SysNames you can use them as well but the locations are not optional.	How Many?	beleet a bightin Type	
	Count:		1 🗘
	Group coun	t as one	
	Length Divisor:		12 🗘
	Add Path to Na	med Paths Table	
	Make Name	d Path	
	Named Path Na	me:	
		ОК	Cancel

- Cable Type, 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.

### 2.3.5.1 How To: Draw a Prewire Cable in Planview

#### Operation

- 1. Open a plan view drawing.
- 2. Click PlanView and Layout Tools > Draw Prewire Cable.



- 3. Fill in the form.
- 4. Click [OK]. This will dismiss the dialog and prompt you to draw a polyline.
- 5. Draw the cable path.
- 6. <u>*n*</u> Cables will be added to the project Cables table with a formatted number based on the project Cable Number Format and the Next Numbers table.
- 7. The polyline length will be divided by the Length Divisor field and added to the cable record Length field.

## 2.3.6 Populate Equipment

#### Menu: PlanView and Layout Tools > Populate Equipment

Default Commandline shortcut: pope

Related Project Settings:

None

Product Level: ALL

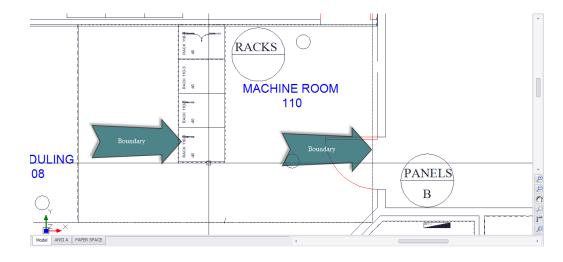
There is no UI for this tool.

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.

EquipmentName	Image Server 2K	
Abbreviation		
Font Panel File	%BLOCKS%\2D_ELEVATIONS\2U_ZD_ELE.DWG	
Plan View File	%BLOCKS%\plan view\av lv\pushbutton station.dwg	
Accessory Of	FeditValue is null	
Equipment Description	Mpeg 2 Video Server	
Manufacturer ID	360 SYST	
Equipment Type (SysName Prefix)	SRVR	
Equipment Weight	2.25	
Equipment Weight Unit of Measure (UOM)	Pounds	
Equipment Height	2	
Equipment Height UOM	Rack Units(RU)	
Equipment Width	19	
Equipment Width UOM	Inches	
Equipment Depth	12	



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:

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

Default Plan View Block File:	%BLOCKS%\Plan View\equipment12x12.dwg	

### 2.3.6.1 How To: Populate Equipment in Planview

#### 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. Open a plan view drawing.
- 2. Place Location Boundaries.
- 3. Click PlanView and Layout Tools > Populate Equipment.
- 4. A message box will explain the operation of the function. Click **[OK]**. The tool will run.
- 5. At completion the tool will report the number of placed items.

## 2.4 Reporting

Menu: double-click the report in the **Project Explorer** or Click the report in the **Reports > Reports gallery** Default command line shortcut: **none** 

### Related User Settings:

Report Show Mode - Determines where the reports will be shown:

Project Explorer Ribbon Menu Gallery Both

Opens a report for preview, printing or export. Reports are designed to connect to the WireCAD DataAccess object that provides access to the entire data model both Global and Project data.

There are four tabs presented when a report is loaded:

- 1. **Preview** Shows the print preview that will be output to the selected system printer.
- 2. HTML Shows the report rendered to HTML for use in web pages.
- 3. **Design** Shows the report designer.
- 4. **Cable Data Selector** Shows a selector grid for use with the ProjectCables collection. This grid is not implemented for any other data collection.



# 2.4.1 How To: Print Reports

- 1. Double-click the report in the Project Explorer or Click the report in the **Reports > Reports** gallery.
- 2. The report will load in **Preview** Mode.

Print Quick Parameters Print Print Page	Orientiation Size	Find Bookmarks Fir No	t Previous N je Page Pi vigation	ext Last of Page	Many Pages Zoon Ou Zoon		r Watermark Export To * lackground Expo	As =				•	WireC.
Explorer 👩 🛛 🗙 MAD	HNE_ROOM.dwg* + X	Run Sheet 11x17/repx	9 X										
2.0	1												
Poor Pan A													
A PP3.dvg	Cable	Run Shee	+										
Project Base Template Drawing & demoprojectemplate.dwg	Cable	Run Shee	ι										
Single Lines													
A Drawing 1.dwg		Sour					Destination						
A EDIT_1_ALL.dwg A EDIT_1_AUD.dwg	Number	Source	Alias	Conn	Location	Destination	Alias	Coan	Location	Length	Sheet	Sig Type	Cable Type
A EDIT_1_CTL.dwg													
A EDIT_1_VID.dwg	A-1001-	VTR-01 > MON-L	VTR-01	x	ROOM 110.2	10XL-01>L1	QC SWR	37D	ROOM 110.2	۰	MACHINE_ROOM	AUD	BELDEN-1801A
A EDIT_2_ALL/dwg A EDIT_2_ALD.dwg											.dwg		
A EDIT_2_CTL.dwg	A-1002-	VTR-01 > MON-R	VTR-01	х	ROOM 110.2	10XL-01>R.1	QC SWR	37D	ROOM 110.2	۰	MACHINE_ROOM	AUD	BELDEN-1801A
A EDIT_2_VID.dwg	A-1003-	VTR-02 > MON-L	VTR-02	х	ROOM 110.2	10XL-01>L2	OC SWR	37D	ROOM 110.2		MACHINE ROOM	AUD	BELDEN-1801A
A RACKINE_ROOM.dwg	A-1003-	111002 - 340.002	1 10002		1000011101	10142-01-124	QC DWA	510	1000011102		dwg	100	DEEDENHOUN
A REP_DIST.dwg	A-1004-	VTR-02 > MON-R	VTR-02	x	ROOM 110.2	10XL-01>R2	QC SWR	37D	ROOM 110.2	0	MACHINE_ROOM	AUD	BELDEN-1801A
A ROUTER.dwg											.dwg		
Shap Shots & (READ HE).pdf	A-1005-	VTR-03 > MON-L	VTR-03	х	ROOM 110.3	10XL-01>L3	QC SWR	37D	ROOM 110.2	۰	MACHINE_ROOM	AUD	BELDEN-1801A
A (Table Of Contents).dwg	A-1006-	VTR-03 > MON-R	VTR-03	x	ROOM 110.3	10XL-01>R3	OC SWR	37D	ROOM 110.2		MACHINE ROOM	AUD	BELDEN-1801A
A al systems.dwg A demo today.dwg	A-1000-										dwg		
A demo today.dwg A EL_OFFICE_116A.dwg	A-1007-	VTR-04 > MON-L	VTR-04	X	ROOM 110.3	10XL-01>L4	QC SWR	37D	ROOM 110.2	•	MACHINE_ROOM	AUD	BELDEN-1801A
🛱 rack.demo.dwg											.dvg		
Project Databases Project Signal Types	A-1008-	VTR-04 > MON-R	VTR-04	х	ROOM 110.3	10XL-01>R4	QC SWR	37D	ROOM 110.2	۰	MACHINE_ROOM	AUD	BELDEN-1801A
Froject Signal Types     Equipment List (SysNames)	A-1009-	02R-01 > CR L	O2R-01	1/4	109	PA-01>L	PA-01	x	109.1		EDIT_1_AUD.dwg	AUD	BELDEN-1801A
SysName Format													
Cables Cable Number Format	A-1010-	O2R-01 > CR R	O2R-01	1/4	109	PA-01>R	PA-01	х	109.1	۰	EDIT_1_AUD.dwg	AUD	BELDEN-1801A
Drawings	A-1011-	PA-01 > R	PA-01	x	109.1	SPK-02>IN	SPK-02	Ban	109	•	EDIT_1_AUD.dwg	BAN	BELDEN-1801A
Named Paths	A-1012-	PA-01 > L	PA-01	x	109.1	SPK-01>IN	SPK-01	Ban	109	0	EDIT 1 AUD.dwg	BAN	BELDEN-1801A
Next Numbers     To Do List													
E Locations	A-1013-	O2R-02 > CR L	O2R-02	1/4	110	PA-02>L	PA-02	х	112.1	0	EDIT_2_AUD.dwg	AUD	BELDEN-1801A
Decrepandes  Page  Page	10f6												100%

3. Click **File > Print** and select a printer.

## 2.4.2 How To: Print Reports with Parameters

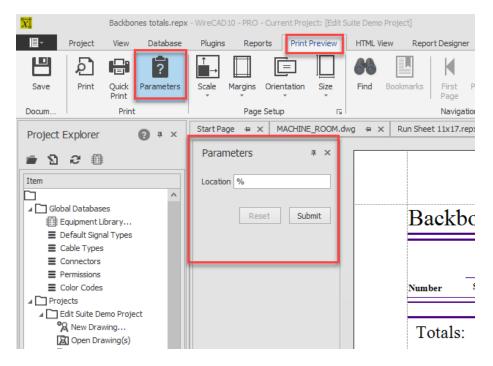
Parameters allow the report designer a way to collect input from the user before the report is rendered. Parameters may be used in the report for several purposes:

- Replace title and descriptive text.
- Provide data to filters.
- Provide data to scripts.

The report designer may force the user to submit parameter data or allow the report to render with default data.

If the report has no parameters defined the **Parameters** menu item will be disabled.

- 1. Open a report Double-click the report in the **Project Explorer** or Click the report in the **Reports** > **Reports** gallery.
- 2. The report will load in **Preview** Mode.
- 3. If the report has parameters the Parameters menu item will be enabled. If the report designer determined the report must gather parameters first, the report will not render until you click the **[Submit]** button on the Parameters tool panel.



- 4. Enter parameter data.
- 5. Click [Submit]. The report will render with the submitted data.
- 6. Click File > Print and select a printer.

## 2.4.3 How To: Filter Reports

By default a report will query the database for all records in the selected collection. For example if the report displays the project CablesCollection, all records will be displayed. This may or may not be desirable. If you wish to filter the record set to show a specific set of records you have two choices:

- 1. If the collection being displayed is the CablesCollection you may use the **Cable Data Selector** tab and make a manual selection there.
- 2. Otherwise you must create a filter.

#### How To:

- 1. Open a report.
- 2. Switch to the Report Designer tab.
- 3. Locate the Property window. Make sure that the Property window is displayed. If not click: **Report Designer>Windows>Property Grid**
- 4. From the Property grid object selector, select XRReport1

	xtraReport1	Report		~	
--	-------------	--------	--	---	--

5. From the Property grid select the data tab and then the Filter String [...] ellipsis button.

Property Grid		μх	:
xtraReport1 Rep	oort	~	
/ * 📃	۹ 🖈		
Calculated Fields	(Collection)		
Data Adapter	(None)	¥ 0	
Data Member	CablesCollection	•	
Data Source	bindingSource1	¥ =	
Filter String		🗆	
Parameters	(Collection)	0	
Tag			
XML Data Path		🗆	
Filter String			
	ised to filter data in a re	bort.	

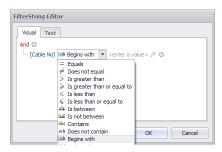
6. This opens the filter dialog from which you may select a number of different filters.



7. Select a field to filter on.

FilterString Editor	
Visual Text	
And O	
Available 🔻 Equals <enter a="" value=""> 🖉 🕄</enter>	
Available 🔺	.
Available Cores	
Cable Conductors Collection By Cable ID	
Cable GUID	
Cable ID	
Cable Mask	
Cable No	
Cable No Prefix	
Cable No Suffix	
Cable Type	Cancel
Cable Type Manu	

8. Select a filter operator.



9. Enter a value.

FilterString Editor	
Visual Text	
And 🖸	
[Cable No] Begins with V-	10
	OK Cancel

10. Click **[OK]** to commit the filter. This filter with show only cables where the CableNo field begins with V-. 11. Select the **Print Preview** tab to render the report with the filter.

## 2.4.4 How To: Filter a Report Using Parameters

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.

Property Grid		<b>д</b> Х
xtraReport1 Re	port	~
* * 🌻	۹ ★	
Calculated Fields	(Collection)	
Data Adapter	(None)	<b>v</b>
Data Member	CablesCollection	<b>v</b> .
Data Source	bindingSource 1	v =
Filter String		
Parameters	(Collection)	··· c
Tag		
XML Data Path		🗆

2. Click the **[Add]** button to add a parameter to the collection.

parameter 1		• ==	₽↓	
			Behavior	
			Visible	Yes
			Data	
			Allow Null	No
			Description	
			Look-Up Settings	No Look-Up
	:		Multi-Value	No
	:		Tag	
			Туре	String
		$\square$	Value	
		12	Design	
			(Name)	parameter1
Add Remove 1	+			

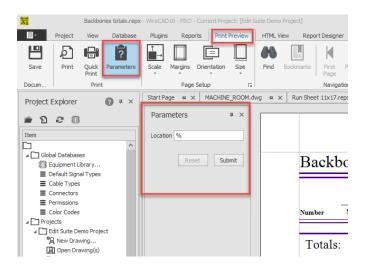
- 3. Enter description and default value information.
- 4. Open the filter editor (see above)
- 5. Add a Field and Operator, then click on the icon to the right of the field to select parameters.

FilterString Editor	Double click here to select parameters.	
And C [Available] Equals <enter a="" value=""> &gt; &gt;</enter>		
[Available] = ?		^
	OK Cance	el

- 6. Select your parameter from the parameters list. Above we are selecting parameter1.
- 7. Click [OK] to submit the filter.
- 8. Now let's make sure that the parameters are submitted before the report renders. Set the **Request Parameters** property = Yes.

	Report1 Repo		
	2↓		
	Page Width	1700	*
	Paper Kind	Standard 11x17	
	Paper Name		
	Printer Name		
	Roll Paper	No	
Þ	Using Settings a	(Using Printer Setti	
Pa	arameters	^	
-	Parametera	(Collection)	-
	Request Parame	Yes 🔻	
PI	inting	~	-
Þ	Report Print Op	(Report Print Optio	
	Right to Left	No	
	Right to Left La	No	ln
	Show Print Marg	Yes	
	Show Print State	Yes	
St	ructure	^	1
	Bands	(Collection)	+
Spec	uest Parameters ifies whether the tion should start a meters are submi	after all the report	

- 9. Click the **[Print Preview]** tab to preview the report. You will see a **Parameters** pane on the left hand side with a submit button.
- 10. Enter a value and click [Submit].
- 11. Select the print preview tab to render the report with the filter.



12. Your report will be rendered with parameter1 applied to the filter.

### 2.4.5 Report Design

Menu: Report>New Report with Wizard Default command line shortcut: rw Related User Settings: Report Show Mode - Determines where the reports will be shown: Project Explorer Ribbon Menu Gallery Both

#### 2.4.5.1 How To: Create a Standard Report

- 1. Click Reports>New Report with Wizard.
- 2. Select the Standard Report option.



- 3. Click [Next >].
- 4. 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**.

WireCAD organizes da are heirarchical. If you		collections. Collectio ables collection etc.	
AccountInfoCollection			^
BomDetailCollection			
CableConductorsCollectio	n		
CableNoFormatDetailColle	ection		
CableNoFormatMasterCol	lection		
CablesCollection			
ChasesCollection			
CircuitsCollection			
DefaultDisplaySettingsCo	lection		
DiscrepancyReportCollect			
DrawingRevisionsCollectio	n		
DrawingsCollection			
GlobalCableTypesCollection			
GlobalColorCodesCollectio			~
ClabelConnectorsCollastic			-

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

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

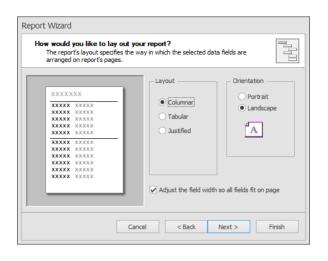
Report Wizard			
Choose columns to disp Your report can display		t s available in the dataset.	
Which columns do you want to	display in your repo	ort?	
Available fields:		Fields to display in a re	port:
DisplayInEquipment DisplayInEquipment ManfacturerWebSite ManfacturerMage ModifiedBy ModifiedDy ModifiedOn CreatedOn ModifiedByUser CreatedBy		× × < <	
	Cancel	< Back Next >	Finish

6. Apply any grouping. Each set of records with the same value will become a "group" with its own header.

DisplayInCableTypes	> DisplayInCable	Types
	Up Priority	

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

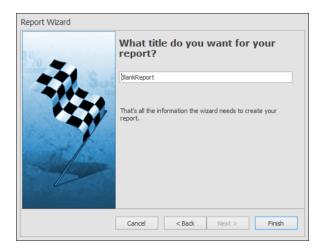




8. Select a **Report Style**. There are several predefine report styles. You can always modify the look and feel later.

Report: Wizard What style would you like? The report's style specifies the appearan	ice of your report.
Title Caption data	Bold Casual Compart Corporate Formal
Cancel	<back next=""> Finish</back>

9. Title your report.



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

▼ 🖹 ReportHeader [one band per report]
BlankReport
V 🛙 Detail
Display In Cable Types [DisplayIn Cable Types]
Monday, September 30, 2019 Page 1 of 1

11.Click File>Save and save your work to your reports support path. It can be saved anywhere in the % REPORTS% support path folder tree.

2.4.5.2 How To: Create a Label Report

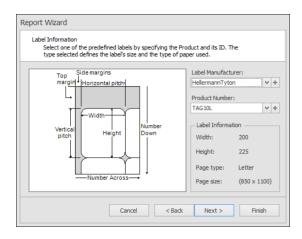
- 1. Click Reports>New Report with Wizard.
- 2. Select the Label Report option.



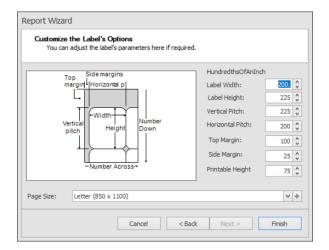
- 3. Click [Next >].
- 4. Select a data collection. Data collections access both the global and project databases. Note: In the case of labels we probably want to use the **CablesCollection**.

Select Data Collection F WireCAD organizes data are heirarchical. If you a	into either glob		
AccountInfoCollection			^
BomDetailCollection			
CableConductorsCollection			
CableNoFormatDetailCollect			
CableNoFormatMasterCollec	tion		
CablesCollection		 	
ChasesCollection			
CircuitsCollection			
DefaultDisplaySettingsCollec			
DiscrepancyReportCollection	1		
DrawingRevisionsCollection			
DrawingsCollection			
GlobalCableTypesCollection			
GlobalColorCodesCollection			~
ClabelCanastersCallastica.			

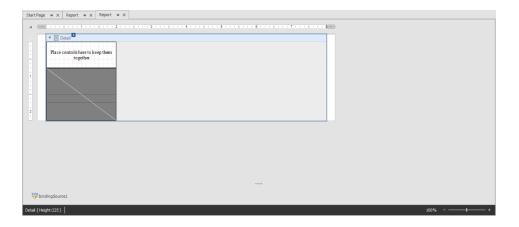
5. Select a label format. WireCAD comes stock with over 1000 label formats from 15 manufacturers including Panduit, Hellerman Tyton and Brady.



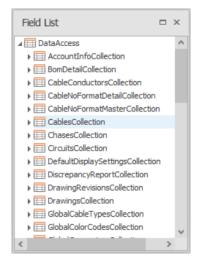
6. Modify height and width of each label and its printable area and margins.



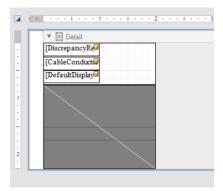
7. Click [Finish] to create your shiny new report.



8. Select the **Field List** and drag any fields that you wish to display on to the report design surface. Avoid placing field on the light and dark gray areas. The light gray area will not print and the dark gray is indicative of the clear laminating portion of a cable label.



9. Here we have three fields that we have dragged and positioned on the design surface.



10. Final output looks like this:

DA-1006- 02R- 011109 auditutf	A-1010- PA-01 109.1	A-1009- PA-01 109.1	DA-1005- 022- 011109 awd6df	
DA-1007- Embeddar- 011091	DA-1003- 028- 011109 avdfdf	DA-1004- I/F- 011109 andfedf	DA-1008- Embedder- 011091	

11.Click File>Save and save your work to your reports support path. It can be saved anywhere in the % REPORTS% support path folder tree.

### 2.4.5.3 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**.

			▲ 🗊 BlankReport □ TopMargin ▲ 🛱 ReportHeader A label3 ▶ □ Detal
	PrepartHeader (one band poer BlankReport PrepartHeader (one band poer preparts once per record.     Detail	Click here to load general document properties into the property grid.	BottomMargin     Styles     A      Components     A      bindingSource
	Display In Cable Types [DisplayInCableTypes]		🎝 Re 🚰 Pro
	Monday, September 30, 2019	Page 1 of 1	Field List
j <sup>7</sup> bindingSourc	e1		CableNoForm     CableNoForm     CablesCollect     ChasesCollect     CrouitsCollect     DefaultDispla     DiscrepancyR
Group and Sort		Field List displays all available data collections hierarchically.	DrawingRe

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

Propert	ies □ # ×
BlankR	eport Report V
¢ و	
Data	(None) v
Data	<b>v</b> .
Data	bindingSo 🗸 🗖
	und Color or Proper
Field Lis	t □ # ×
🔺 🛄 Data	
	countInfoCollection
	omDetailCollection
	ableConductorsColle ableNoFormatDetail
	ableNoFormatMaste
	ablesCollection
🔹 🕨 🖬 Cł	hasesCollection
	nasesCollection
> 🔲 Ci	

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.

# 2.5 Frequently Asked Questions

### 2.5.1 How To: Place Custom Titleblocks (Page Borders)

#### Menu: Basic CAD Tools>Blocks>Insert Block Into Drawing

Default command line shortcut: insert

## **Related Settings:**

None

This tutorials assumes you have a custom titleblock in dwg format and that it occupies the Model Space of the dwg file. Further that you know the path to the file containing the titleblock file.

- 1. Open the drawing where you want to place a custom titleblock.
- 2. Switch to the Layout in which you intend to place your custom page border.

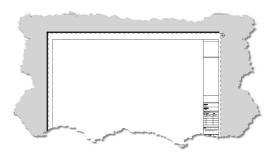
		Model	Layout2	PAPER SPACE	ANSI A	11X17
--	--	-------	---------	-------------	--------	-------

3. Click CAD Tools>Blocks and Inserts>Insert Block into Drawing.

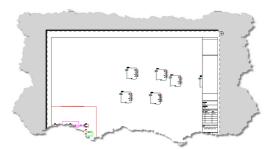
cks 360 SYST-Image St Redefine Existing?		V Brows			
Insertion Point		- Scale		- Rotation	
<ul> <li>Specify Later</li> </ul>		Specify Later		Specify Later	
(pos		x	1 0	Angle	
í pos		У	1 🗘		
2 Pos	0 🗘	Z	1 🗘		

- 4. Select [Browse].
- 5. Browse to the dwg that contains your custom title block in the Model Space.

- 6. Check Insertion Point Specify Later. This will let us manually place the inserted block in the layout space.
- 7. Uncheck Scale Specify Later and set the X,Y,Z scale to 1.
- 8. Uncheck Rotation Specify Later and set the Angle to 0.
- 9. Click [Insert It].



- 10. The dialog will be dismissed so you can drop the insert in the drawing space.
- 11. Now you will need to place a **Viewport** so you can see the model space.
- 12. Click **View>New Viewport** and select the logical boundaries of the viewport within the titleblock you placed earlier.



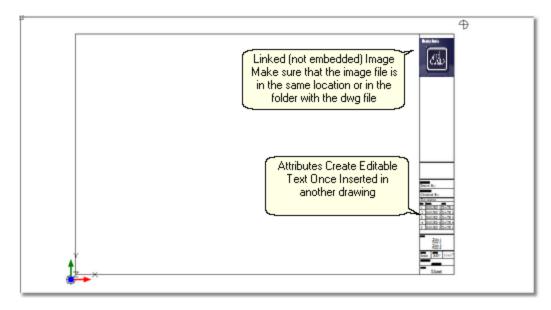
13. Double-click the viewport to activate it for zooming and panning and use the mouse wheel or zoom commands to position the viewport over the model space.

## 2.5.2 How To: Create Custom Titleblocks

#### Menu: CAD Tools>Blocks>Insert Block Into Drawing Default command line shortcut: insert Related Settings:

None

- 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 for placing your title block drawing in any other drawing.

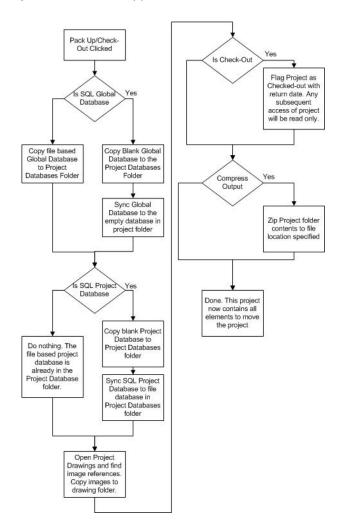


# 2.5.3 Moving Projects (Pack Up/Check-Out)

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: packup Default command line shortcut: checkinproject

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. This flags the project as read only until such time as the project is **Checked In**.

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. Then use the **Unpack** function.

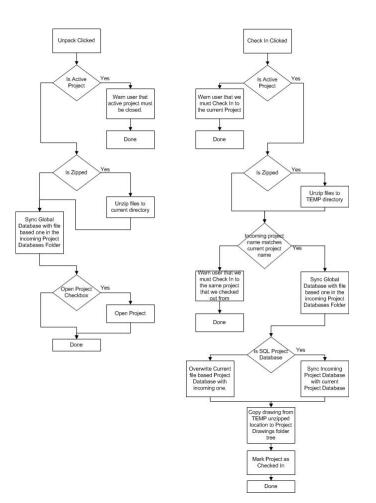


## To Unpack or Check In - That is the Question

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.



### 2.5.3.1 How To: Packup/Check-out

Decide whether you are going to Check Out the project before starting.

- 1. Open the project to Pack Up/Check Out.
- 2. Click Application Menu > Check In/Out > Pack Up/Check Out.
- 3. Click **[Next]** after reading the explanatory text.
- 4. If you opt to Check Out the project you will be prompted to enter an Expected Return Date. This will let anyone opening the project subsequent to its Check Out who checked it out and approximately when it will be back. In the mean time it will be opened READ ONLY.
- 5. If you opt to **Compress Output** the final operation will be to create a zipped file of the project folder and place it in the **FileName and Path** location.
- 6. Click **[Next]**. You will be presented with the progress page.
- 7. Click [Finish].

### 2.5.3.2 How To: Check In a Project

To **Check In** a project you must first have the project that we are checking into open. The incoming project should be in a file location that is not the current project path.

- 1. Open the project into which we will check in the incoming project.
- 2. Click Application Menu > Check In/Out > Check In Project.
- 3. Click [Next] after reading the explanatory text.
- 4. Browse to the incoming project's .wpi file by clicking the [...] ellipsis button.
- 5. Click **[Next]**. This presents the progress page.
- 6. Click [Finish]. Wait for the process to finish.

### 2.5.3.3 How To: Unpack a Project

To **Unpack** a project you must not have an open project.

The incoming project should be in a file location WILL BECOME the current project path.

- 1. Close the current project if any.
- 2. Click Application Menu > Check In/Out > Unpack Project ...
- 3. Click **[Next]** after reading the explanatory text.
- 4. Browse to the incoming project's .wpi file by clicking the [...] ellipsis button.
- 5. Click [Next]. This presents the progress page.
- 6. Click [Finish]. Wait for the process to finish.

## 2.5.4 Synchronizing with Another Equipment Database

Menu: Database>Synchronize Global Database ... Default command line shortcut: sync Related Settings: None

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.

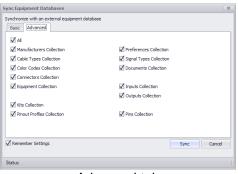
# **Demystifying Synchronization**

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 time stamp. 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 time stamp, yet the data is different, those records are flagged as conflict records from which you must pick the most correct.

# Controls

	Database Location ase is server based	
Host: File Name	C:\Users\Public\Documents\WireCAD\V ····	Authentication
	Test Connection	User Name: Password:
Impor	t O Export	Bidirectional

Basic tab



Advanced tab

- 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 Sync direction. Our current global database is the reference. An Import will import records into our current global database.
- **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.
- Advanced Tab Select the collections to be synchronized.

### 2.5.4.1 How To: Sync Equipment Databases

Remember that the Sync Direction is with respect to the current Global Database.

- 1. Click Database > Synchronize Global Database ...
- 2. Browse to the remote WireCADGlobalEquipment.vdb3 file or enter the SQL host and login for the other SQL server.
- 3. Set the Sync Direction.
- 4. Click [Sync].
- 5. Wait for the process to finish.
- 6. When done you will be presented with a status report. Examine it to make sure that all collections synchronized properly.

ł	<b>X</b> =	Status Report	-		×
2	I∃ - File				
•	Save Exit				
	File 15				^
	Sync Direction = Imp Records Added Here Records Added Then Records Deleted Her Records Delete Then Records Updated Th Records Orphaned T Records Orphaned T Records Conflicting F Records Conflicting F Inal Record Count = BapsedTime = 00:00	= 0 = 0 = 0 e = 0 e = 0 e = 0 bite = = 0 bite =			
	Sync Direction = Imp Records Added Here Records Added Then Records Deleted Her Records Delete Then Records Updated He Records Updated Th	0 e = 0 e = 0 e = 0 re = 0	:cep1	ion'.	~
	Information:				

## 2.5.5 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 a Windows user (operating under group policy or not) and the WireCAD user. The Windows users will be referred to as OS users. 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 WireCAD9 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 ... \WireCAD9\WireCADGlobalEquipment.vdb3 to \\ \YeurPlatuerkShare)FalderFarl/VireCADGlobalEquipment.vdb3

\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.

8. Click **Application Menu > Security>View Permissions.** If you are an administrator or rather if your WireCAD identity is that of an Administrator, you will have edit abilities 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.

## 2.5.6 Upgrading from V9

If you are upgrading from v9 you will need to take the following steps:

- 1. Install WireCAD v10
- 2. Setup your global databases (file based or SQL Server)
- 3. Click Database > Sync Equipment Libraries
- Click the ellipsis (...) and enter the path to the v10 WireCADGlobalEquipment.vdb3 file or set the SQL Server Host info.
- 5. Click the Import radio button.
- 6. Click [Sync] to sync the two databases.
- 7. Next convert any projects that you want to work with in v10
- Click Application Menu > Open Project and browse to your v10 <YOURPROJECTNAME>.wc6plf file. WireCAD will open and convert the project. When WireCAD converts projects no drawings are touched. The database schema is modified.

Note: this may take some time

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 v10 once converted.

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

# 2.6 Choosing a Database Format

WireCAD v10 PRO and CMS 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			Х
Portable			Х
ACID Compliant (atomicity, consistency, isolation, durability)		X	Х
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			Х
Cloud Based	Х		

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.
- 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 is converted to a file based version and will remain file based from that point forward.

To set up SQL Server see here 200

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

### 2.6.1 How To: Setup a SQL Server

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.

The WireCAD distribution includes SQL Server database files for the Global Equipment database. You will need to attach these to 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.

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.

**SQL Server** does not provide a graphical user interface so you will want to download the **SQL Server Management Studio Express** as well. Both are free.

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 can download from the following links: <u>https://www.microsoft.com/en-us/download/details.aspx?id=21844</u>

Be sure to download SQL Server Management Studio Express as well. Both are free. <u>http://www.microsoft.com/downloads/details.aspx?FamilyID=c243a5ae-4bd1-4e3d-94b8-</u>5a0f62bf7796&DisplayLang=en

- 2. 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 manage different users and groups from within SQL Server.
- 3. Install SQL Server Management Studio(SQLSMS).
- 4. Launch **SQLSMS** and log in to the server. If the server is on your local machine you can use the shorthand [.\INSTANCENAME] (eliminate the square braces) for the Localhost.
- 5. Setup a proper login for WireCAD. You may elect to use Windows logins or not. It is beyond the scope of this manual to describe the pros and cons of each authentication method.
- 6. Attach the WireCADGlobalDatabase.mdf file to the server.
- 7. You will now need to configure each WireCAD client to look at the SQL Server
- 8. Launch WireCAD.
- 9. Click **Application Menu > Application Setup** and follow the steps for SQL Server.

See Also <u>www.wirecad.com/wiki</u> search SQL Server msdn.microsoft.com search SQL Server

# 2.7 Included Plugins

WireCAD includes a number of Plugins that provide additional functionality.

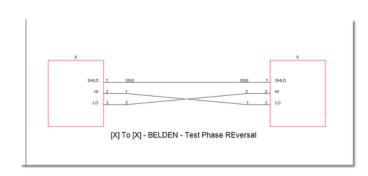
Each plugin will load and register its own command line commands if the plugin provides command functionality.

For information on customizing WireCAD with your own Plugins see the <u>SDK</u> documentation and the SDK samples.

### 2.7.1 Pinouts

Menu: Database>Pinouts Default command line shortcut: po Related Settings: None

The Pinout utility serves two functions. The first is to generate pinout detail drawings.



The second is to generate data that can be used in the conductors table under any cable that we wish to attach the data to.

ect Exi	disting Pinou	ut Profile	[B] To [B] - BB	LDEN - 1503A - Black						v ×
Show	/ More Deta	ii			V Pr	eserve Pir	n Order When Creating Preview	Ortho	o Conductors	
Left	hand Conne	ector		Cable Type	Righthand Cor	nector		n	more	
LHO	Connector	LH 🔺	LH Function	Conductor Number	RH Connector	RH Pin	RH Function			
÷ B	3	1	+	1	В	1	+			
в	8	2	SHLD	2	в	2	SHLD			

## 2.7.2 Find and Replace

#### Menu: View>Tool Panels - Find Default command line shortcut: none Related Settings: None

The Find and Replace tool window allows you to search all of the data collections and drawing. You may then replace found text with that of your choosing.

The Find and Replace tool shows you the context in which the text was found. You can select from the results list which items to replace.

						+ >
ind:	SDI					× Find
Se	arch When	e				
	Active Draw	ing				
•	All Project D	rawings				
1	Project Data	abases				
Ŧ	Search Op	tions				
1	Show File					
1	Show Item T	ype				
	Replace SI	ot with:				
	ace With					
	ts. Double-					_
					ext: SDI RTR I	
					ext: SDI RTR	
					text: SDI IN	
Cabl	es Database	DGV-100:	1- Column: S	SRCPin Con	text: SDI 01	
Cabl	es Database	DGV-1003	2- Column: S	SRCPin Con	text: SDI 02	
Cabl	es Database	DGV-1003	3- Column: I	DestPin Con	text: SDI RTR	
Cabl	er Databare	DGV-1001	B. Column: 9	RCPin Con	text: SDI W/A	urtin
					ext: SDI Input	
	es Database					
					xt: SDI RTR (	
Cabl	es Database	DV-1002-	Column: De	estPin Conti	ext: SDI	
Cabl	es Database	DV-1002-	Column: Sie	onalType C	intext: SDI	
Cabl	es Database	DV-1002-	Column: SF	CPin Conte	xt: SDI OUT	
Cabl	es Database	DV-1003-	Column: De	estPin Cont	ext: SDI-01	
	es Database					
	es Database es Database					
	es Database					
	es Database					
	es Database	DV-1005-	Column: Sig	gnalType Ci	intext: SDI	
		DV-1006-	Column: De	estPin Cont	ext: SDI-04	
Cabl					intext: SDI	
Cabl Cabl	es Database es Database	DV-1006-	Column: Sir			
Cabl Cabl Cabl	es Database				whi CDT OF	
Cabl Cabl Cabl					ext: SDI-05	Ŧ
Cabl Cabl Cabl Cabl	es Database	DV-1007-		stPin Conb	ext: SDI-05	¥
Cabl Cabl Cabl Cabl	es Database es Database	DV-1007- Clear S	Column: De	stPin Conb		v Find
Cabl Cabl Cabl Cabl Se	es Database es Database elect All	Clear S	Column: De	stPin Conb	ount = 1003	v Find

- Find The text to search for.
- [X] Clear the Find text.
- Search Active Drawing Only look in the active drawing.
- Search All Project Drawings Search every project drawing.
- Show File Show file name if any of the context in which the item is found.
- Show Item Type Is it a text entity in a drawing or a field in a database.
- [Select All] Selects all items in the results window.
- [Clear Selection] De-selects all items in the results window.
- Replace With The text to replace the found text with.
- [Replace Selected] Initiate the replacement.
- [Cancel] Cancels the current search.
- [Find] Initiate the search.

#### 2.7.2.1 How To: Find and Replace a Port Name

In this section we will discuss the finer points of finding and replacing text in WireCAD blocks.

# **Before You Start**

When you see a WireCAD block in a drawing it is referred to as an Insert. WireCAD blocks employ Attributes to display the text values you see. These Attributes are editable. For every port you see in a WireCAD block there is at least one invisible attribute at the connection point. This attribute contains a pipe | delimited string formatted as:

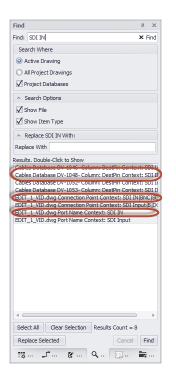
PORTNAME|SIGNALTYPE|CONNECTOR

In addition to the connection point attribute there may be a Port Name display attribute.

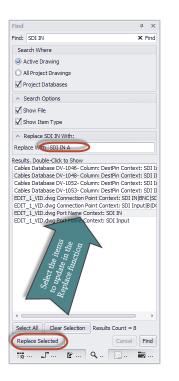


If you change the display attribute WITHOUT changing the connection point attribute you WILL have grief later. So ALWAYS changed both the display attribute and the connection point attribute concurrently.

- 1. Let's say we want to replace SDI IN on our device with SDI IN A. Further that we have assigned cable numbers to the port in question. We will only look in the active drawing so click the appropriate radio button.
- 2. Enter SDI IN in the Find field and click [Find]. Wait for it....



3. Notice that we have two attributes and a cable all associated with the port SDI IN. If we don't change all of these we will have data integrity issues later.



- 4. Click [Replace Selected].
- 5. Done.

#### 2.7.3 Translation Manager

Menu: Plugins>Translation Manager
Default command line shortcut:
Related Settings:
None

All strings in the application are stored in a dictionary with a key and current culture translation. The translation utility provides a means by which all strings, captions, and messages may be translated to a different language.

You can right-click a column header and select the KeyString column to see the base English string that the program searches from.

Support Group Checked Loaded I PRO Copyrigh Serial Nu Enfo Lubing u Lubing u AutoSav	tings.xml tPaths d	df: WreCAD UserSettings.vml SupportPatis Graup Chreated Undexted Laded Flugnes: PRO	«D:	*D:       WreCAD. Translation. wcd.ayoutl.scalizer       WreCAD. Translation. wcd.diot.scalizer       WreCAD. Translation. wcd.diot.scalizer       WreCAD. Translation. wcd.diot.scalizer       WreCAD. Translation. wcd.diot.scalizer
UserSett Support Group Checked Uncheck Loaded I PRO Copyrigh Serial Nu Enfo Lubing u Lubing u Lubing u Lubing u (AutoSav (Unassig (All Item	ttings.xml VPaths d keel Plugins: pht 2000-2009 Holbrook Enterprises, Inc.	UserSettings.xml SupportPathis Group Checked Unchecked Loaded Plugins: PRO		WireCAD.Translation.wcEditorLocalizer WireCAD.Translation.wcEditorLocalizer
Support Group Checked Uncheck Loaded I PRO Copyrigh Serial Nu Enfo Lubing u Lubing u Lubing u Lubing u (Unassig (All Item	ePaths d Ked  Plugns: pht 2000-2009 Hobrook Enterprises, Inc.	SupportPaths Group Checked Unchecked Loaded Plugnos: PRO		WireCAD.Translation.wcEditorLocalizer WireCAD.Translation.wcEditorLocalizer
Group Checked Uncheck Loaded I PRO Copyrigh Serial Nu Enfo Lubing u Lubing u Lubing u Lubing u (Unassig (All Item	d Ked Plugins: ht 2000-2009 Holbrook Enterprises, Inc.	Group Checked Unchecked Loaded Plugns: PRO		WireCAD.Translation.wcEditorLocalizer WireCAD.Translation.wcEditorLocalizer
Checked Uncheck Loaded F PRO Copyrigh Serial Nu Enfo Lubing u Lubing u Lubing u Lubing u Lubing u Lubing u Lubing u Lubing u Lubing u	ked IPlugins: jht 2000-2009 Halbrook Enterprises, Inc.	Checked Unchecked Loaded Plugins: PRO		WireCAD.Translation.wcEditorLocalizer WireCAD.Translation.wcEditorLocalizer
Uncheck Loaded I PRO Copyrigh Serial Nu Enfo Lubing u Lubing u Lubing u AutoSav (Unassig (All Item	ked IPlugins: jht 2000-2009 Halbrook Enterprises, Inc.	Unchecked Loaded Plugins: PRO		WireCAD. Translation. wcEditorLocalizer
Loaded I PRO Copyrigh Serial Nu Info Lubing u Lubing u Lubing u Lubing u Lubing u Lubing u Lubing u Lubing u Lubing u Lubing u	Plugins: jht 2000-2009 Holbrook Enterprises, Inc.	Loaded Plugins: PRO		
PRO Copyrigh Serial Nu Enfo Lubing u Lubing u Lubing u AutoSav (Unassig (All Item	ht 2000-2009 Holbrook Enterprises, Inc.	PRO		WireCAD, frmSplash, JahelControl 1, Text
Copyrigh Serial Nu Info Lubing u Lubing u Lubing u AutoSav (Unassig (All Item				
Serial Nu Info Lubing u Lubing u AutoSav (Unassig (All Item				WireCAD.frmSplash.lbiMode.Text
Info Lubing u Lubing u AutoSav (Unassig (All Item	lumber: - Trial	Copyright 2000-2015 Holbrook Enterprises, Inc.		WireCAD.frmSplash.lblCopyright.Text
Lubing u Lubing u AutoSav (Unassig (All Item		Serial Number: - Trial		WireCAD.frmSplash.lblSN.Text
Lubing u AutoSav (Unassig (All Item		Info		WireCAD.frmSplash.lblInfo.Text
AutoSav (Unassig (All Item	bing up the engine room Lubing up the engine room			WireCAD.frmSplash
(Unassig (All Item	up the engine room	Lubing up the engine room		WireCAD.Workspace
(All Item	we In: {0}	AutoSave In: {0}		WireCAD.frmMain
•	igned Items)	(Unassigned Items)		WireCAD.Translation.wcBarLocalizer
Custom ·	ns)	(All Items)		WireCAD.Translation.wcBarLocalizer
	1 {0}	Custom {0}		WireCAD.Translation.wcBarLocalizer
ayoutCo	Control 1	layoutControl 1		WireCAD.ucDrawCables.loJunctions.Text
Junction	ns	Junctions		WireCAD.ucDrawCables.layoutControlGroup 16.Text
Start Ca	able	Start Cable		WireCAD.ucDrawCables.simpleButton5.Text
Cable Dr	Drawing Properties	Cable Drawing Properties		WireCAD.ucDrawCables.gcPrefs.Text
Preview:	v:	Preview:		WireCAD.ucDrawCables.layoutControlGroup 17.Text
True		True		WireCAD.ucDrawCables.rgManyToManyDb.Text
ayoutCo	Control3	layoutControl3		WireCAD.ucDrawCables.layoutControl3.Text
X Feeder	er Distance:	X Feeder Distance:		WireCAD.ucDrawCables.layoutControlItem31.Text
Y Feed D	Distance:	Y Feed Distance:		WireCAD.ucDrawCables.layoutControlItem22.Text
Hor Exte		Hor Extension:		WireCAD.ucDrawCables.layoutControlItem24.Text

Controls

Here we see the Translation Manager with the English version on the left and the French version on the right. The pane on the right-hand side shows statistics.

- 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.

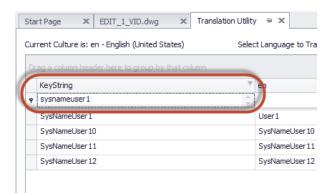
#### 2.7.3.1 How To: Translate a Form Caption

Here we will use the Translation Manager to change the User1 field on the SysName Assignment dialog to display Serial Number.

We are starting with:

Manufacturer	EVERTZ		Equipment Name	7720AD	
Sysname	DMBDR-01				▼ New
Alias	SDI-AES DE-EMBEDDER				
Location	109.1	- +	Elevation	1-1	-
User 1			User2		
User3			User4		
IP Address			Subnet Mask		
Power Consumption			Power Consumption Unit		
Weight			Weight Unit		
Flags		*	BTU		\$
	Sho	w Me		Update	Cancel

- 1. Click Plugins > Translation Manager.
- 2. Enter sysnameuser1 in the KeyString filter field.



3. Change User1 to Serial Number in the en field.

Sta	ert Page × EDIT_1_VID.dwg × Trans	lation Utility 😐 🗶	
Cu	rrent Culture is: en - English (United States)	Select Language to Translate: en - English - English	-
	KeyString	Y en	CalledBy
۴	sysnameuser1		
	SysNameUser 1	Serial Number	Wire CAD. frmProje
Ø.	SysNameUser 10	SysNameUser 10	WireCAD.frmProje
	SysNameUser11	SysNameUser11	WireCAD.frmProje
	SysNameUser 12	SysNameUser 12	WireCAD.frmProje

- 4. Click File > Save.
- 5. Now let's check the result by showing the form.
- 6. Open a drawing with a functional block.
- 7. Double-click a block.

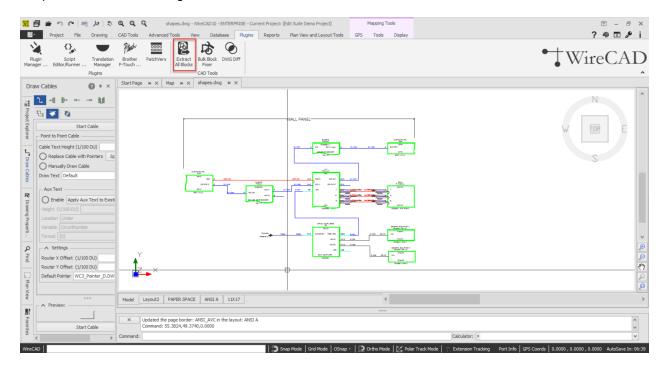
diting SysName For EV	ERTZ-7720AD				
Manufacturer	EVERTZ		Equipment Name	7720AD	
Sysname	DMBDR-01				✓ Ne
Alias	SDI-AES DE-EMBEDDER				
Location	109.1	- +	Elevation	1-1	
Serial Number			User2		
User3			User4		
IP Address			Subnet Mask		
Power Consumption			Power Consumption Unit		
Weight			Weight Unit		
Flags		*	BTU		
	Show Me			Update	Cancel
Status	Show Me			Update	Cancel

# 2.7.4 Block Extractor

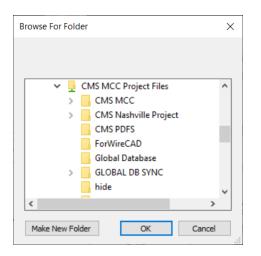
#### Menu: Plugins>Extract All Blocks Default command line shortcut: exall Related Settings:

None

Requires an active drawing.



• Extracts all blocks in the current drawing to the folder of your choosing.



• Files are written out of the drawing as individual dwg files with the name of the block.

Name	*	Date modified	Туре	Size	ľ
Boundary Mono.dwg		12/13/2010 10:32	WireCAD6 DWG D	61 KB	
Boundary Stereo.dwg		12/13/2010 10:32	WireCAD6 DWG D	62 KB	
Dip Mic.dwg		12/13/2010 10:32	WireCAD6 DWG D	63 KB	
Contact.dwg		12/13/2010 10:32	WireCAD6 DWG D	60 KB	
Dual Mic.dwg		12/13/2010 10:32	WireCAD6 DWG D	63 KB	
Field Mixer.dwg		12/13/2010 10:32	WireCAD6 DWG D	81 KB	
FISHPOLE.dwg		12/13/2010 10:32	WireCAD6 DWG D	70 KB	
Hand Mic.dwg		12/13/2010 10:32	WireCAD6 DWG D	65 KB	
1 James.dwg		12/13/2010 10:32	WireCAD6 DWG D	83 KB	
Te Large Mic.dwg		12/13/2010 10:32	WireCAD6 DWG D	67 KB	
1 Long Mono Shotgun.dwg		12/13/2010 10:32	WireCAD6 DWG D	65 KB	I,
1 Long Stereo Shotgun.dwg		12/13/2010 10:32	WireCAD6 DWG D	66 KB	ľ
MICROPHONE NUMBER BIG.dwg		12/13/2010 10:32	WireCAD6 DWG D	60 KB	
MICROPHONE NUMBER.dwg		12/13/2010 10:32	WireCAD6 DWG D	60 KB	
1 Mini Lapel Directional.dwg		12/13/2010 10:32	WireCAD6 DWG D	63 KB	
🔠 Mini Lapel Omni.dwg		12/13/2010 10:32	WireCAD6 DWG D	62 KB	
😰 Mini Shotgun.dwg		12/13/2010 10:32	WireCAD6 DWG D	64 KB	
T Radio Mic.dwg		12/13/2010 10:32	WireCAD6 DWG D	61 KB	
🔠 Radio Super Shotgun.dwg		12/13/2010 10:32	WireCAD6 DWG D	83 KB	
B RF Mic.dwg		12/13/2010 10:32	WireCAD6 DWG D	61 KB	
B RF Receiver.dwg		12/13/2010 10:32	WireCAD6 DWG D	90 KB	
b Short Mono Shotgun.dwg		12/13/2010 10:32	WireCAD6 DWG D	62 KB	
b Short Stereo Shotgun.dwg		12/13/2010 10:32	WireCAD6 DWG D	62 KB	L
B Super Shotgun.dwg		12/13/2010 10:32	WireCAD6 DWG D	74 KB	
Tt VDDIM DFFAULT.dwn		12/13/2010 10:32	WireCAD6 DWG D	60 KB	ß

• The basepoint of the drawing (origin) is the insertion point of the block.

# 2.7.5 Bulk Block Fixer

#### Menu: Plugins>Bulk Block Fixer

Default command line shortcut: **blkf** 

The **Bulk Block Fixer** utility provides a means by which dwg files may be easily converted for use with WireCAD. The fixer will convert a single drawing or all drawings in a folder.

# **Bulk Block Fixer Dialog**

🔀 Bulk Block Fixer Converter			? 🗙
Modifies block files so that they have the correct origin on manufacturers front panel dwg files and on custom			he Equipment Library. Use this tool
Bulk Convert All Files in Folder			
Bulk Convert Path			
Single File Path			
Basepoint Position		Scaling	
Don't Move		Don't Scale	<ul> <li>Scale mm to cm</li> </ul>
O Move All Entities to Lower Left Basepoint (For Rack Front Pa	anels)	<ul> <li>Scale Inches to mm</li> </ul>	O Scale mm to Inches
O Move All Entities to Center Basepoint (For Shape Files)		<ul> <li>Scale Inches to cm</li> </ul>	Scale cm to Inches
Intelligence/Appearance			
Add WireCAD Attributes (makes block double-clickable) Don	't Do This For Shape Files Only	Rack Panels	
Create Bounding Box (good for shape files)	Bounding Box Color		×
Copy Fixed Blocks to WireCAD Directories			
Don't Copy			
○ Copy to 2D_Elevations Folder in the %BLOCKS% Support P	ath Sub Folder \		Prepend to filename
○ Copy to Shape Files folder in the %BLOCKS% Support Path			
	OK		Cancel

- Bulk Convert All Files In Folder Checked performs selected options on all files in selected folder.
- Basepoint Position -
  - Don't Move Do nothing.

Move All Entities To Lower Left Basepoint.



#### Move All Entities To Center Basepoint.



• Scaling - Scales all drawing objects based on the selection.

#### • Intelligence/Appearance

Add WireCAD Attributes. - Use this function to add the standard WireCAD attribute set to the dwg file. This makes inserted items double-click-able. This is not required, and should not be used, if you are using the dwg file as a DWGIcon or Custom Shape file.

**Create Bounding Box** - Creates a rectangle around the entities in the dwg file of the color selected. This is useful for DWGIcons or Custom Shape files

• **Copy** - Copies fixed block files to the selected directories. \Subfolder and Prepend allow you to modify the location and filename upon copy.

#### 2.7.5.1 How To: Use a Manufacturer Front Panel

- 1. Obtain the manufacturer's front panel dwg file.
- 2. Open the file in WireCAD and delete anything that is not related to the front panel view.
- 3. Close the drawing.
- 4. Click Plugins > Bulk Block Fixer ...
- 5. Uncheck **Bulk Convert All Files** in Folder.
- 6. Click the Single File Path [...] and browse to the manufacturer's front panel file.

🔀 Bulk Block Fixer Converter		? 🗙
Modifies block files so that they have the correct origin point for working on manufacturers front panel dwg files and on custom shape files for the		e Equipment Library. Use this tool
✓ Bulk Convert All Files in Folder		
Bulk Convert Path		
Single File Path		
Basepoint Position	Scaling	
🔿 Don't Move	<ul> <li>Don't Scale</li> </ul>	<ul> <li>Scale mm to cm</li> </ul>
Move All Entities to Lower Left Basepoint (For Rack Front Panels)	Scale Inches to mm	O Scale mm to Inches
O Move All Entities to Center Basepoint (For Shape Files)	<ul> <li>Scale Inches to cm</li> </ul>	<ul> <li>Scale cm to Inches</li> </ul>
_ Intelligence/Appearance		
Add WireCAD Attributes (makes block double-clickable) Don't Do This For Shape Fi	les Only Rack Panels	
Create Bounding Box (good for shape files) Bounding Box C	olor	V
Copy Fixed Blocks to WireCAD Directories		
🔿 Don't Copy		
Copy to 2D_Elevations Folder in the %BLOCKS% Support Path Sub Folder \		Prepend to filename
Copy to Shape Files folder in the %BLOCKS% Support Path		
	OK	Cancel

- 7. Select Move All Entities to Lower Left Basepoint.
- 8. Select Add WireCAD Attributes.
- 9. Click [OK].
- 10. Open the Equipment Library.
- 11. Find the equipment that we want to use our shiny new front panel
- 12. Set the Front Panel File to point to our file.
- 13. Click File > Save.
- 14. Now you can use it.

# 2.7.6 Batch Plot

Menu: Plugins>Batch Plotter Default command line shortcut: bp Related Settings:

None

The **Batch Plot** plugin allows you to select any number of layouts to print from project drawings.

The first step is to click the **[Rescan]** button. This populates the list with all drawings and layouts.

The Plot This checkbox determines which layouts to send to the printer.

The **[Plot/Print]** button is the same as the **File>Plot/Print** menu command and sends all selected layouts to their respective printers.

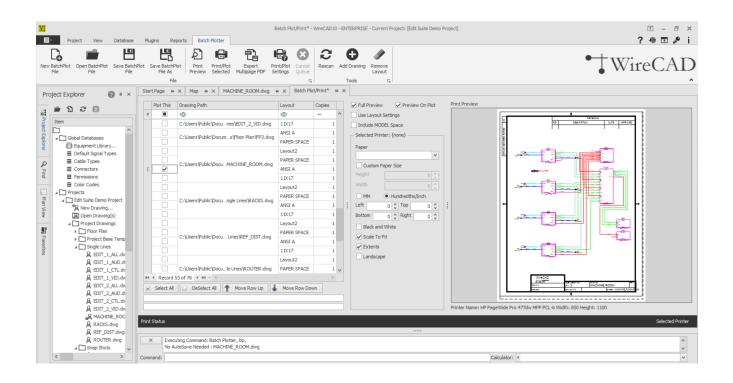
The **[UP]** and **[Down]** buttons move the selected layout up or down in the list thereby reordering their output order.

If you want to delete a layout. Select the layout in the list and click the minus [-] button in the navigation window in the lower left hand corner of the grid

Clicking the **[Preview]** button will preview the selected layout in the **Preview Pane** regardless of whether it is selected to in the **Plot This** column

# What it Does

- Batch Plot lets you select the drawings and layouts that you want to send to the printer and print them as a batch.
- You may print any layout in any drawing in the current WireCAD project.
- You may also specify how many copies and in what order to print.
- Batch Plot allows you to save Batch Plot files for reuse at a future time.



# What it Doesn't Do

- Batch Plot does not print project reports.
- Batch Plot does not collate layouts with multiple copies set.

# Controls

- Full Preview Render actual output. Otherwise show margin box.
- Preview On Plot Render the full preview (full or not) on output to the printer/plotter.
- Use Layout Settings Ignore the Batch Plotter settings and use those stored with the drawing layout. Selecting this disables printer, paper, and margin settings in favor of those in the layout.
- Paper Printer paper size. If this dropdown is empty, select a printer first.
- Margins Set your margin unit of measure first, then the left, right, top and bottom.
- Black and White Output in black and white.
- Scale to Fit Force all entities in the selected layout onto the page.
- Extents Print the extents of the layout.
- Landscape Landscape output.
- Select Printer Choose the printer that all selected layouts will be sent to.
- New Batch Plot File Creates a new file scanning the project drawing set and adding all drawing and all layouts.
- Open Batch Plot File Opens a saved Batch Plot file.
- Save Saves your settings to a Batch Plot File. This is helpful if you change the default order of the list or the number of copies, etc.
- Save As Save your setting as a new file name.
- **Print/Plot Selected** Prints the selected (Plot This) layouts to the printer settings determined in the layout. So be sure to Print Preview (from the drawing layout) your layouts first and set up all of your output settings.
- Export Multipage PDF Output the selected (Plot This) layouts with the selected printer settings to a multipage PDF document.
- Cancel Queue Stops the function. Does not purge any print jobs already in the windows print queue.
- Exit Done.
- **Rescan** Clears the list and re-scans the project drawings for all layouts. This function is like the File>New function but differs in that it does not create a new file name.
- Add Drawing It may be desirable to keep all of your settings and add an additional drawing to the list.
- Remove Layout Removes the selected layout.

# 2.7.7 Archive Project

Menu: Project>Archive Project Default command line shortcut: ap Related Settings: None

The Archive tool copies all of the project data except the drawings in the Project\Archive folder to a new folder. The tool can also create a new CurrentProjectRevision at the same time.

The archived version of the project:

- Copies the drawings and databases.
- SQL databases are archived as VISTADB databases.
- Global and Project databases are included.
- The Project\Archive\ drawings folder is ignored.
- Gives you the choice to increment the CurrentProjectRevision 555.

The associated settings panel controls:

- The Archive path.
- The Archive name.
- Automatic naming or user involvement.
- CurrentProjectRevision inclusion.

The output of the archive tool creates a Packed-Up Project that can be unpacked or checked-in.

Restoring an archived project can be done using the UnPack function or the Check-In function.

#### **Related Topics:**

Project Archive Tool Settings 417 Unpack Project 376 Check-In Project 377

# 2.8 **Project Rules**

WireCAD 10 allows you to define project specific rules.

There are four contexts in which rules will be evaluated. Rules are contained in the **Project Rules** grid. Rules can be enabled/disabled by use of the **Project>Settings[Project Rules] Enable Project Rules** setting.

A Rule consists of:

- 1. The **Expression** to evaluate.
- 2. The **Context** in which to evaluate the expression.
- 3. The **ExecutionOrder**. If multiple rules are defined to evaluate within the same **Context** they will be evaluated in the **ExecutionOrder** order.
- 4. A **Description** of the rule.

## Rule Contexts:

- 1. **AssignCableNoAssignBeforeEdit** executed during a new Cable Number Assignment or existing Cable Number Edit before the dialog is shown.
- 2. AssignCableNoAssignAfterEdit as above but after the user has clicked Save on the dialog or if Verbose Cable No Assignment = false then during the Cable save process.
- 3. AssignSysNameAssignBeforeEdit executed during a new SysName Assignment or existing SysName Edit before the dialog is shown.
- AssignSysNameAssidnAfterEdit as above but after the user has clicked Save on the dialog or if Verbose SysName Assignment = false then during the SysName save process.

# Example

Let's assume that you have the following requirements:

- 1. SDI SignalType where the Length > 100 should use a different CableType than the default defined in the Project Signal Types Default Cable Type grid.
- 2. We want to modify the connector type from BNC to KINGS 2065-10-9 if the CableType is 1694

For requirement number 1 we will create a new rule as follows:

- Context AssignCableNoAssignAfterEdit. We use this so that we can get the Length from the user.
- Expression (SignalType = 'SDI' && Length >=100) then set CableType = '1694'
- **Description** My First Rule. Change cable type for SDI if over 100. This is descriptive text for you and your team. It can be whatever.
- ExecutionOrder 0. Rules execute in the order specified. Any Rule with the ExecutionOrder < 0 will not execute.

For requirement number 2 we will create two rules as follows:

- Context AssignCableNoAssignBeforeEdit. We use this so we can see our changes in the edit dialog.
- Expression (SRCConn = 'BNC' && CableType = '1694') then set SRCConn = 'KINGS 2065-10-9'
- **Description** BNC to Kings
- ExecutionOrder 0. Rules execute in the order specified. Any Rule with the ExecutionOrder < 0 will not execute.

- Context AssignCableNoAssignBeforeEdit. We use this so we can see our changes in the edit dialog.
- Expression (DestConn = 'BNC' && CableType = '1694') then set DestConn = 'KINGS 2065-10-9'
- Description BNC to Kings
- ExecutionOrder 1. Rules execute in the order specified. Any Rule with the ExecutionOrder < 0 will not execute.

# 2.8.1 Expression Syntax

(true part [ boolean other true part ]) then set SomeProperty = 'SomeStringValue' [else set SomeProperty = 'SomeOtherStringValue'] syntax in [] is optional

	Syntax	Example
boolean that sets a property if true	e = 'string value'	Assume the property we want to test is the SignalType field and if true then change the CableType to equal 1505 (SignalType = 'SDI') then set CableType = '1505'
property if true		Assume the property we want to test is the SignalType field AND the Length field and if true then change the CableType to equal 1505 (SignalType = 'SDI' && Length > 100) then set CableType = '1505A'
Strings	'some string'	
Numbers	1001	
Boolean AND	& &	this and that then (1=1 && 2=2) then
Boolean OR		this or that then (1=1    2=2) then
Equality	=	
Test Null	is null	(SomeProperty is null) then
Set a Property (Assignment)	set PropertyNam e =	(1=1) then set NumericPropertyName = 1000 <b>Of</b> (1=1) then set StringPropertyName = 'string value'
Wildcard (any from here)	00	Used in conjunction with the LIKE operator (CableType LIKE '1505%') then will evaluate to true for any value that starts with 1505
Wildcard (any one)	?	Used in conjunction with the LIKE operator (CableType LIKE '1505?') then will evaluate to true for any value that starts with 1505 and has one and only one additional character.

# Limitations

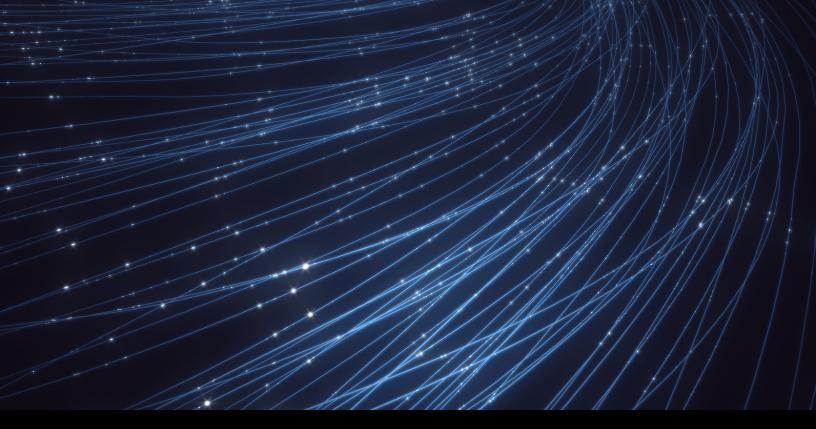
This syntax has no block structure. If you need to execute multiple set property operations you will need to create multiple rules.

Illustration

The following is NOT supported:
(true) then
something;

something else; some other thing; else another thing or another thing

Consider creating a plugin in the SDK if you need to create very complex rules. There is a Project Rules Events project template to use as a prototype to get you started.



# WireCAD CMS Tools Manual

The WireCAD CMS tools are built upon and extend the WireCAD PRO tool set for the documentation of large scale management of the fiber systems.

# 3 WireCAD CMS Tools Manual

This section pertains to the CMS product level.

# 3.1 CMS Tools Concept

WireCAD v10 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.

WireCAD v10 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.

The CMS tools work on a declare then visualize approach. You tell the database that the thing exists and WireCAD provides different ways to visualize the data in the database.

If the database item of interest is a fiber patch panel you can visualize all connections to and from that panel.

If the database item of interest is a fiber backbone you can visualize as one of the following:

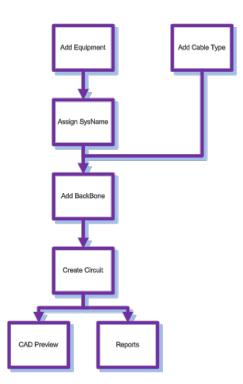
- Riser Diagram
- Ladder Diagram
- Map
- GPS Calibrated (Geo-Referenced) DWG drawing

If the database item of interest is a circuit you can visualize as:

- Circuit Functional Block Diagram
- Map

WireCAD CMS also provides the capability to view your fiber infrastructure in Map view. Using GPS coordinates you can view your plant fiber layout, where fiber patches and panels reside as well as path data for run way-points such as manholes and pull-boxes. You can use the built in Map tool or use your dwg plant drawings (you must <u>calibrate</u> 1995) the drawing to the GPS coordinate system first).

You can use WireCAD CMS to manage your fiber and copper infrastructures. WireCAD tracks every strand of fiber and every CATx cable and jumper/cross-connect.



# 3.2 CMS Basics

The following subjects assume that you understand basic WireCAD procedures:

- Adding Equipment to the Equipment Library
- Adding Signal Types.
- Adding Cable Types.
- Assigning SysNames.
- Adding Locations.

## 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**

#### 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.

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

New Backbone	Backbone ID =	в	1	035 CU	e Existing Available Select Exis	ting Backbone	Startin	g Number Sele	ct an available cable		
om				Cable	Type MyTest12CoreCable	- +	То				
cation Filter				· Cable	Type Manufacturer = COMSCOPE Number = MyTest12CoreCable		Locz	tion Filter			
atch Panel ID PP-	02			Testi	ng .			h Panel ID PP	04		
vailable Ports	-03			Cores	er of Cores = 12 s to be used: 12			lable Ports			
Name	Type	Conn	From/To	Cores	s Marked Available: 0			Name	Type	Conn	From/To
0.05	FIB	SC	B1034.005 - PP-04					05	FIB	SC	B1034.005 - PP-03
05	FIB	SC	B1034.005 - PP-04					0.05	FIB	SC	B1034.005 - PP-03
07	FIB	SC	B1034.007 - PP-04					07	FIB	sc	B1034.007 - PP-03
08	FIB	SC	B1034.008 - PP-04					08	FIB	SC	B1034.008 - PP-03
09	FIB	SC	B1034.009 - PP-04					09	FIB	SC	B1034.009 - PP-03
10	FIB	SC	B1034.010 - PP-04					10	FIB	SC	B1034.010 - PP-03
= 11	FIB	SC	B1034.011 - PP-04					. 11	FIB	SC	B1034.011 - PP-03
12	FIB							12	FIB	SC	B1034.012 - PP-03
· 13	FIB	SC	sc						FIB	sc	
· 14	FIB	SC				L		14	FIB	SC	
· 15	FIB	SC				L		· 15	FIB	SC	
3 16	FIB	SC				L		16	FIB	SC	
· 17	FIB	SC						· 17	FIB	SC	
· 18	FIB	SC				_		18	FIB	SC	
· 19	FIB	SC			X 12	_		· 19	FIB	SC	
20	FIB	SC		-		-		30	FIB	SC	
3 21	FIB	SC				-		① 21	FIB	SC	
· 22	FIB	SC		-		-		· 22	FIB	SC	
· 23	FIB	SC		-		-		23	FIB	SC	
24	FIB	SC						24	FIB	SC	

#### Operation

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:

- 3. Draw the polyline that represents the backbone.
- 4. 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.
- 5. Next you will be presented with the **New Backbone** tool where you will select the source and destination panels/ports and the cable type.
- 6. Clicking **[OK]** will build a record in the **Cables** table for each core in the multi-core cable type.

7. The polyline length populate the cable record Length field.

# **Dialog Options**

- New Backbone Select whether we are creating a new number or assigning an existing, unused core.
- Backbone ID The number.
- Use Existing Available Select an already assigned Backbone with available strands to populate the remaining available strands of fiber.
- 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.

#### 3.2.1.1 The Backbone Grid

Menu: Database > Backbones Default command line shortcut: bbg Related Project Settings: Backbone Status Items Product Level: CMS

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.

Equipment Signal		Equ	upment		ackbone	s Circuits	Cables	Index Grids *	Project Locatio Named	ns	Types	ų i			iata Wiza able	rd	Pac	k Globa ichroniz	t Datab Databa e Global	se	se					• <b>†</b> W	VireCA
m Global Database Grids	Char	t Page		Rad	kbones	<i>a</i> <b>v</b>	Pro	ject Databa	ase Grids									L	Itilities								
ect Explorer 🕜 # ×		-																									
🛎 🗅 C 🛈		debones			on Settir	-																					
Item			sName	Select	a SysNa	me																					
\	Bad	kbones ChetNo	Ctat	Cab	Cab	CableNo			A 5	rc I	Dec	SRC	Dec	so c	SRCEI	Dec	Dec	so c	Des	Mo de	Ava	Ow	IsRi	IsB	Fibe		
Global Databases		FDC	FOC	+Dc	R C C C C C C C C C C C C C C C C C C C	REC					PCS	# <b></b> C	80c	RDC		+Dc	a@c	ROC	FDC		=	R C			#@c		
Equipment Library		-	_	_	B0000	-				u	· · ·	-		-	-14-	-14-	-	-	-14-	-		-	_	_	-8-		
Default Signal Types	ľ	10				800001.01			_	D-1 0		001	067	AM		AM		SCA							PIM		
Cable Types Connectors			UEAL	_		B00001.02				D-1 (			068	AM		AM		SCA	SCB						MM		
Permissions					. 6S	B00001.02				D-1 0		002	069	AM.		AM		SCA	SCB					~	MM		
Color Codes					. 6S	B00001.03				D-1 (		003	070	AM		AM		SCA	SCB				-	~	MM		
Projects						B00001.05				D-1 (		005	071	AM.		AM		SCA	SCB				-	~	MM		
▲ DIG DEMO PROJECT VIST						B00001.06				D-1 (			072	AM.		AM		SCA	SCB					~			
A New Drawing			hlalla		B0000							000	072					<b>D</b> Gran	000								
Project Drawing(s)		· · · ·	aDIENO			B00002.01				D-1	~	007	067	AM		AM		SCA	SCA					~	SM		
A Droject Databases		···· 0				B00002.01 B00002.02				D-1 (		007	067	AM		AM		SCA	SCA				-				
Project Signal Type		E 0			6 S	800002.02				D-1 0		009	069	AM.		AM		SCA	SCA					~			
Equipment List (Sy					65	B00002.04				D-1		010	070	AM.		AM		SCA	SCA					~			
SysName Format Cables						B00002.04				D-1 (			071	AM		AM			SCA				-	~	SM		
Backbones						800002.06				D-1 0			072	AM.		AM		SCA	SCA					<ul> <li>Image: A transmission</li> <li>Ima</li></ul>			
Blind Patches		4.0	ableNo		B0000																						
Circuits					48	B00003.01				D-3 0	- CC	001	001	AM.		AM		FC	SCA					~	MM		
載 Map					. 48	B00003.02				D-3 (				AM.		AM		FC	SCA				-		MM		
Cable Number Forr Drawings	144	44 4	Recor	d 1 of 1		F H H <																					
Named Paths			_	_		_	_								_										_		_
Next Numbers	Infor	mation:	:																								
To Do List																•••••											
Locations	)					en Project - C:\U MO PROJECT VIS		c\Document	ts\WireCAD	WireC	AD10V	Demo P	rojects	BIG EN	ERPRISE	DEMO	BIG DE	MO PRO	DJECT V	ISTADB	wc6plf						
Discrepancies			-pened	roject	. 516 00	NO PROJECT VIS	HUD															ator: <					

Controls

- 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 databases.
- Refresh Query the database and reload the data into the grid.
- 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 Connector(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.

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 a status that is blocking 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 <Blocking Status Name> that is part of an existing Circuit. Please remove the Cable from the Circuit, then change its status. "

 ₽	×
Cannot mark a cable as DEAD that is part of an existing Cir Please remove the cable from the Circuit then change its s	
ОК	

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.

>	ĸ
You cannot delete a Backbone that is associated to any Circuit. Please delete any circuits that use the Backbone before attempting to delete the Backbone.	
OK	

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.

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 <u>Next Numbers</u> [275] Grid.

#### 3.2.1.1.1 How To: Draw a Backbone

- 1. Open a plan view drawing where you want to draw a plan view polyline.
- 2. Place source and destination Plan View Equipment or source and destination Plan View Location Boundaries.
- 3. Click Plan View and Layout Tools > Draw Backbone.
- 4. As prompted select the source equipment or location boundary.
- 5. Draw the points in the polyline.
- 6. The New Backbone tool is shown.

	erconnect ode											
•	New Backb	one Backb	one ID	1001 🗘 BO	1001	O Use Existing	Available Se	lect B	Existing Backt	one Starting	Number Se	elect a N
Fr	om					Cable Type	× +	_ T	ō			
oci	ation Filter				~	Cable Type Info		Lo	cation Filter			
Pati	ch Panel ID	VTR-02 @	ROOM 11	0.2   +				Pa	tch Panel ID	VTR-02 @ F	OOM 110.2	V + 0
	ilable Ports								ailable Ports			
	Name	Туре	Conn	From/To					Name	Туре	Conn	From/To
Þ	AES	DGA	XLR		^			)	• 🗄 AES	DGA	XLR	
		DGA	XLR						· AES	DGA	XLR	
	. AUD.1	AUD	XLR						. AUD.1	AUD	XLR	
	B AUD.2	AUD	XLR						AUD.2	AUD	XLR	
	🗄 AUD.3	AUD	XLR						AUD.3	AUD	XLR	
	🗄 AUD.4		XLR			1			AUD.4	AUD	XLR	
	🗄 B	YRB	В						🗄 B	YRB	В	
	MON-L		XLR	A-1003					COMP	VID	В	A-1003
	MON-R		XLR	A-1004					≞ R	YRB	В	A-1004
	🗄 R	YRB	В						REF	SYNC	В	
	* SDI.1	SDI	В	DV-1042					RS422	CTL	9D	DV-1042
	B SDI.2	SDI	в						SDI	SDI	В	DV-1038
	B SDI.3	SDI	B						TC TC	TIMECO	XLR	
	<ul> <li>SDI.4</li> <li>SUPER</li> </ul>	SDI	B	¥ 1002					± U ± V	YUV	BNC	V-1002
	TC SUPER	TIMECO	-	V-1002					÷ v ÷ v	YUV YUV	BNC BNC	v-1002
		TIMECO	ALK		$\checkmark$	OK	Cancel			TUV	DIVC	

- 7. Select the source, destination, cable type and ports.
- 8. Click **[OK]** to finish.

#### 3.2.1.2 How To: Create a New Backbone

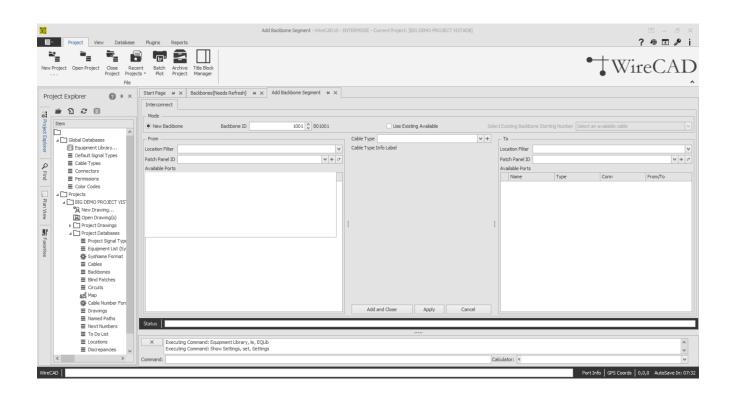
The following procedure details the creation of backbones in the CMS module. Backbones are multi-core cables in the cables database that interconnect two (or more) patch panels.

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, Customize your I/O and create your Cable Types.
- 2. Open the Equipment Library 456.
- 3. Find the equipment you would like to use.
- 4. Click **[Add to Project Database Only]**. 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.

Manufacturer	CFE		Equipment Name	FOT FC		
Sysname	FOT-0001					* Nev
Alias	FOT-0001					
Location	Location	* +	Elevation	Elevation		
User 1			User2			
User3			User4			
IP Address			Subnet Mask			
Power Consumption			Power Consumption Unit			
Weight			Weight Unit			
Flags		•				
			1	Add Many	Add	Cancel

- 5. 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.
- 6. Enter in your location for this equipment.
- 7. Click [Add] or [Add Many].
- 8. Once you have added your equipment into the Project Database, close your Equipment Library 4561.
- 9. Enter ABS into the command line and press enter or click on the [Add Backbone] button on the homepage.
- 10. The Add Backbone Segment window should now be open.



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

New Brockbone

O Use Existing Available

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

Interconnect													
_ Mode													
New Backb	one	В	ackbone ID		1001 🗘 B01001		Use Existing Available	Sele	ect E	Existing Backbone St	tarting Number Sele	ect an available cable	V
							Cable Type	¥ +		То			
Location Filter						<b>U</b>	Cable Type Info Label			ocation Filter			¥
Fatch Panel ID					<b>V 1</b>					atch Panel ID			V + 0
Available Ports		Location	Elevation	Alias Manufactu	rer Equipment Name	~				vailable Ports			V T C
Available Fores	ACM1-1			GENERIC	24 PORT PANEL				1	Name	Туре	Conn	From/To
	ACM1-10 ACM1-2			GENERIC GENERIC	144 PORT PANEL 144 PORT PANEL				r				
	ACM1-2 ACM1-3			GENERIC	48 PORT PANEL								
	ACM1 ACM1-5			GENERIC GENERIC	144 PORT PANEL 144 PORT PANEL								
	ACM1-6			GENERIC	96 PORT PANEL	~							
	x							1					
						-							
							Add and Close Apply	Cancel					

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

New Backbone	Backbone ID = B			1005 🗘	Use Existing Available	Select Existing Backbone Startin	umber Select a fait	e cable	V		
rom					Cable Type	* +	То		-	-	
ocation Filter					Cable Type Info Label		ecation Filter				
atch Panel ID AD-0002				* +			Panel ID				
vailable Ports							Available Ports Sysnam	Location	Elevation	Alias Manufacter	Equipment Name
Name	Type	Conn	From/To				Name AD-000		Elevation	AD-0001 GENERIC	AD
FBR01	FIBER	?	Tromyro				AD-000		Elevation	AD-0002 GENERIC	AD
FBR02	FIBER	?		- 1			AD-000 AD-000		Elevation Elevation	AD-0003 GENERIC AD-0004 GENERIC	AD AD
FBR02	FIBER	2		- 1			AD-000		Elevation	AD-0005 GENERIC	AD
FBR03	FIBER	?		- 1			CC-54-4	Location	Elevation	CC-54-4 GENERIC	CC
		2		- 8			CC-59-4	Location	Elevation	CC-59-4 GENERIC	CC
FBR05	FIBER						*				
FBR06	FIBER	?		- 1							
E FBR07	FIBER										
FBR08	FIBER	?									
E FBR09	FIBER	?									
FBR09 FBR10	FIBER	?					4			•	
<ul> <li>FBR09</li> <li>FBR10</li> <li>FBR11</li> </ul>	FIBER FIBER FIBER	?					4				•
<ul> <li>FBR09</li> <li>FBR10</li> <li>FBR11</li> <li>FBR12</li> </ul>	FIBER FIDER FIDER FIDER	? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?					Ч	ѧ		•	Λ.
<ul> <li>FBR09</li> <li>FBR10</li> <li>FBR11</li> <li>FBR12</li> <li>FBR13</li> </ul>	FIBER FIBER FIBER FIBER FIBER	? ? ? ?		1			٣	入		$\sim$	$\sim$
<ul> <li>FBR09</li> <li>FBR10</li> <li>FBR11</li> <li>FBR12</li> </ul>	FIBER FIDER FIDER FIDER	? ? ? ? ?		1			٦	人		$\sim$	$\sim$
<ul> <li>FBR09</li> <li>FBR10</li> <li>FBR11</li> <li>FBR12</li> <li>FBR13</li> </ul>	FIBER FIBER FIBER FIBER FIBER	? ? ? ?					٦	へ		$\sim$	$\sim$
<ul> <li>FBR09</li> <li>FBR10</li> <li>FBR11</li> <li>FBR12</li> <li>FBR13</li> <li>FBR14</li> </ul>	FIBER FIBER FIBER FIBER FIBER	? ? ? ? ?					٦	へ		$\sim$	$\sim$
<ul> <li>FBR09</li> <li>FBR10</li> <li>FBR11</li> <li>FBR12</li> <li>FBR13</li> <li>FBR14</li> <li>FBR15</li> </ul>	FIBER FIBER FIBER FIBER FIBER FIBER	? ? ? ? ? ? ? ?					٦	⋏		$\sim$	$\sim$
<ul> <li>FBR09</li> <li>FBR10</li> <li>FBR11</li> <li>FBR12</li> <li>FBR13</li> <li>FBR14</li> <li>FBR15</li> <li>FBR16</li> </ul>	FIBER FIBER FIBER FIBER FIBER FIBER FIBER	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					٦	<b>人</b>		$\sim$	$\sim$
FBR09           FBR10           FBR11           FBR12           FBR13           FBR14           FBR15           FBR16           FBR17	FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER	? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?					٦	<b>人</b>		$\sim$	$\sim$
FBR09           FBR10           FBR11           FBR12           FBR13           FBR14           FBR15           FBR16           FBR17           FBR18	FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER	? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?					٦	~		$\sim$	$\sim$
<ul> <li>FBR09</li> <li>FBR10</li> <li>FBR11</li> <li>FBR12</li> <li>FBR13</li> <li>FBR14</li> <li>FBR15</li> <li>FBR16</li> <li>FBR17</li> <li>FBR18</li> <li>FBR19</li> </ul>	FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					٦	~		$\sim$	$\sim$
<ul> <li>FBR.09</li> <li>FBR.10</li> <li>FBR.11</li> <li>FBR.12</li> <li>FBR.13</li> <li>FBR.14</li> <li>FBR.15</li> <li>FBR.16</li> <li>FBR.17</li> <li>FBR.18</li> <li>FBR.18</li> <li>FBR.19</li> <li>FBR.19</li> </ul>	FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					٦	~		$\sim$	$\sim$
<ul> <li>FBR.09</li> <li>FBR.10</li> <li>FBR.11</li> <li>FBR.14</li> <li>FBR.14</li> <li>FBR.15</li> <li>FBR.16</li> <li>FBR.17</li> <li>FBR.19</li> <li>FBR.19</li> <li>FBR.19</li> <li>FBR.19</li> </ul>	FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER	?       ?					٦	~		$\sim$	$\sim$
<ul> <li>FBR.09</li> <li>FBR.10</li> <li>FBR.11</li> <li>FBR.13</li> <li>FBR.14</li> <li>FBR.16</li> <li>FBR.16</li> <li>FBR.18</li> <li>FBR.19</li> <li>FBR.21</li> <li>FBR.21</li> </ul>	FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER FIBER	<ul> <li>?</li> <li>?&lt;</li></ul>					٦	•		L	$\sim$
<ul> <li>FBR.09</li> <li>FBR.10</li> <li>FBR.11</li> <li>FBR.13</li> <li>FBR.14</li> <li>FBR.15</li> <li>FBR.16</li> <li>FBR.17</li> <li>FBR.18</li> <li>FBR.19</li> <li>FBR.19</li> <li>FBR.20</li> <li>FBR.21</li> <li>FBR.21</li> <li>FBR.23</li> </ul>	1988 1986 1986 1986 1988 1988 1988 1988	<ul> <li>?</li> <li>?&lt;</li></ul>					٦	•		$\sim$	$\sim$
<ul> <li>PBK09</li> <li>PBK10</li> <li>PBR11</li> <li>PBR12</li> <li>PBR13</li> <li>PBR15</li> <li>PBR16</li> <li>PBR16</li> <li>PBR19</li> <li>PBR19</li> <li>PBR19</li> <li>PBR20</li> <li>PBR21</li> <li>PBR23</li> <li>PBR23</li> <li>PBR24</li> </ul>	FIBER	?       ?					٦	•		L	~
<ul> <li>PBR.09</li> <li>PBR.10</li> <li>PBR.12</li> <li>PBR.12</li> <li>PBR.13</li> <li>PBR.14</li> <li>PBR.15</li> <li>PBR.16</li> <li>PBR.16</li> <li>PBR.17</li> <li>PBR.18</li> <li>PBR.20</li> <li>PBR.21</li> <li>PBR.21</li> <li>PBR.21</li> <li>PBR.21</li> <li>PBR.22</li> <li>PBR.23</li> <li>PBR.23</li> <li>PBR.24</li> <li>PBR.24</li> </ul>	F188R           F188R </td <td>?       ?</td> <td></td> <td></td> <td></td> <td></td> <td>٦</td> <td>•</td> <td></td> <td><math>\boldsymbol{\mathcal{L}}</math></td> <td><math>\sim</math></td>	?       ?					٦	•		$\boldsymbol{\mathcal{L}}$	$\sim$
<ul> <li>PBR.09</li> <li>PBR.10</li> <li>PBR.11</li> <li>PBR.12</li> <li>PBR.13</li> <li>PBR.14</li> <li>PBR.16</li> <li>PBR.18</li> <li>PBR.18</li> <li>PBR.21</li> <li>PBR.25</li> <li>PBR.26</li> </ul>	FIBER	<ul> <li>?</li> <li>?&lt;</li></ul>					٦	•		$\boldsymbol{\mathcal{L}}$	~

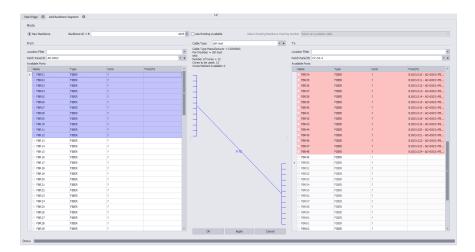
14. On both sides, ports that are available will be shown in white while ports that are currently being used will show as pink.

xde		De-										
New Backbone	Saddone 3D = 5			1005	Use Existing Available	Select Existing Backbone Starting	g Numb	er Select an avala	ble cable			
am					Cable Type	* #	To					
ation Filter					Cable Type Info Label			ation Filter				
				• •				ation Pilter				
tch Panel ID AD-0002				* *					8			۷
alable Ports								lable Ports				
Name	Type	Conn	From/To					Name	Type	Conn	From/To	
BR01	FIBER	2						E FBR34	FIBER	,	B1003.010 - AD-0003>F	
E FBR02	FIBER	2						<ul> <li>FBR35</li> </ul>	FIBER	,	B1003.011 - AD-0003>F	
E FBR03	FIBER	2						E FBR36	FIBER	'	B1003.012 - AD-0003>F	
E FBR04	FIBER	2		- 8				E FBR37	FIBER	1	B1003.013 - AD-0003>F	
E FBROS	FIER	2						E FBR38	FIBER	1	B1003.014 - AD-0003>F	
E PEROS	FIER	2						E FBR.39	FIBER	2	81003.015 - AD-0003>F	
E PERO7	FIDER	7						E MBR-90	FIDER	,	81003.016 - AD-0003>M	
· PEROS	FIDER	7						PER41	PIDER	'	B1003.017 - AD-0003>F	
· POR09	FIDER	?						PBR42	FIDER	?	81003.018 - AD-0003>F	
· FOR 10	FIDER	?						POR43	FIDER	?	B1003.019 - AD-0003>F	
· FOR11	FIDER	?						FIR44	FIDER	?	B1003.020 - AD-0003>F	
· FBR12	FIBER	?						FBR-45	FIDER	?	B1003.021 - AD-0003>F	
· FBR 13	FIBER	?						FBR-46	FIBER	?	B1003.022 - AD-0003>F	
B FBR 14	FIBER	?						<ul> <li>FBR-47</li> </ul>	FIBER	?	B1003.023 - AD-0003>F	
B FBR 15	FIBER	?						E FBR-48	FIBER	?	B1003.024 - AD-0003>F	·B
E FBR 16	FIBER	?						E FBR-19	FIBER	2		
E FBR 17	FIBER	2						III FBR:50	FIBER	2		
E FBR 18	FIBER	2						FBR51	FIBER	2		
E FBR 19	FIBER	2						FBR52	FIBER	2		
E FBR20	FIBER	2						III FBR53	FIBER	2		
E FBR21	FIBER	2						E FBR54	FIBER	2		
FBR22	FIBER	2						E FBR55	FIBER	2		
FBR23	FIERR.	2						E FBR56	FIDER	2		
· PBR24	PIEER.	2						B FBR57	FIDER	7		
· POR25	FIDER	7						E FERSE	FIDER	7		
· POR26	FIDER	7						E FOR59	FIDER	7		
International Port of the P	FIDER	?						E FORGO	FIDER	7		
· FOR28	FIDER	?						FOR61	FIDER	?		
· FBR29	FIDER	2		Ψ.	X	Apply Cancel		FBR62	FIDER	?		

15. From the **Cable Type** field, select the **Cable Type** you would like to use as your backbone. 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 **52**.

New Backbone	Backbone ID = B			1005 \$	an valiable Security Backs og Number Select an available cable	
om					pe To	
ration Filter				×	pa Mar Manuf Cab Cable D Cable Cable Co. of	
						-
tch Panel ID AD-0002				* +	of Core of the table to the table tab	1
allable Ports					wted &BELDEN 9992 Audo, True 9	
Name	Type	Corn	From/To	Â.	BELDEN 9993 Audio, True 12 International Page Com	From/To
FER01	FIBER.	>			COBNING the set Tour 12 Y PROV PADE 7	B1003.010 - AD-0003>FB.
E FER02	FIBER.	2			K FER35 FIBER ?	B1003.011 - AD-0003>FB.
· FERD3	FIDER	2			PER36 PIER ?	81003.012 - AD-0003>PB
· FERD4	FIDER	?			108.37 130R ?	81003.013 - AD-0003>PB
FER.05	FIBER	2			FER.38 FIDER ?	B1003.014 - AD-0003>FB
B FER.06	FIBER	2			FBR39 FIBER ?	B1003.015 - AD-0003>FB
B FBR07	FIBER	2			FBR40 FIBER ?	B1003.016 - AD-0003>FB
FERCE	FIBER	2			FBR41 FIBER ?	B1003.017 - AD-0003>FB
FER.09	FIBER.	2			FBR42 FIBER ?	B1003.018 - AD-0003>FB
E FER 10	FIDER	2			FBR43 FBBR 7	81003.019 - AD-0003>PB
3 PER.11	FIDER	2			FER-44 FIDER ?	81003.020 - AD-0003>PB
IFER 12	FIDER	?			FIR45 FIDER ?	81003-021 - AD-0003>F8
FBR.13	FIBER	2			FBR-46 F3BER ?	B1003.022 - AD-0003>FB
B FER 14	FIBER	2			FBR47 FIBER ?	B1003.023 - AD-0003>FB
B FER 15	FIBER	2			FER46 FIBER ?	B1003.024 - AD-0003>FB
· FBR 16	FIBER	2			FBR-40 F3BER 7	
ER17	FIBER	2			FBR50 F28ER 7	
· PER18	PIDER.	2			@ PERS1 PIDER 7	
Intering	FIDER	2			0 FERS2 FIDER 7	
FER.20	FIBER	2			PERS3 FIBER ?	
B FER21	FIBER	?			© FERS4 FIBER ?	
B FBR22	FIBER	?			© FBRSS FIBER ?	
E FER.23	FIBER	2			EFBRS6 FIBER ?	
B FER24	FIBER	2			EFBRS7 F33ER 2	
B FER25	FIERR	2			© FERS8 F28ER 7	
3 PER26	FIDER	2			© PERS9 PEER 2	
0 FER27	FILLER	2			FERIO FIER 2	
· FER.28	FIBER	2			FER61 FIBER ?	
FER.29	FIBER	2			FER62 FIBER ?	

16. Select the ports you would like to use on the **From** side, then select a starting port on the **To** side. You will see that WireCAD will automatically draw a backbone based on your port selection and **Cable Strand** count. NOTE: See \* Below!



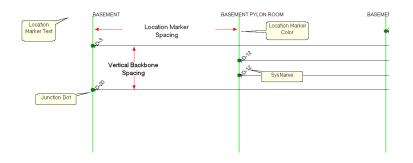
17. Click **[Apply]**. WireCAD will create this backbone and then revert to an empty page ready for another backbone assignment.

\*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.

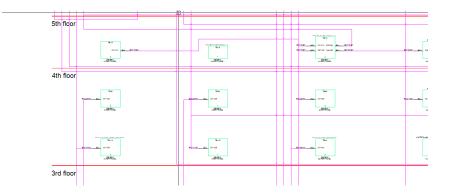
#### 3.2.1.3 Backbone Visualization Settings

These settings are available on the Backbones Grid [Visualization Settings] tab. In order to preview Backbones you will first need to <u>Add Backbones</u> These settings determine the display of the Backbones Visualize tool. There are three variants:

#### 1. Layered Digraph (ladder diagram).



#### 2. Riser Diagram



#### 3. Map

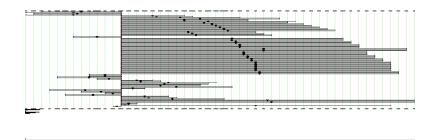


Map Tool - within the Backbones Visualizer

This mode is only viable if you have associated GPS coordinate data in your Locations table. For more information <u>see this topic [298]</u>. In Map view the backbones returned by the Filter Settings are shown on the Map tool. The backbones honor the Backbones Color, and Line Width <u>settings [415]</u>. The Map may be printed or exported through the print preview dialog.

# Layered Digraph Mode Data Source

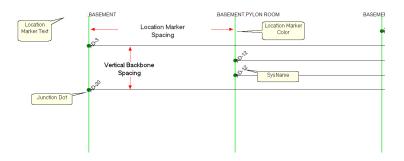
- Show All Shows all backbones in the database in the Visualize tool.
- Current Record Allows selection of only those backbones that touch the selected record.



- Search Depth How many branches deep are we going to search.
- Search Width How many backbones per branch.

# Appearance

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



• 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}

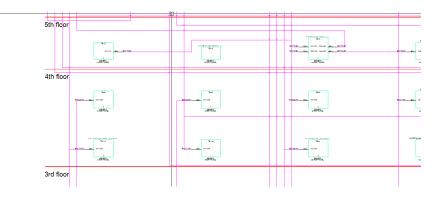
# Output:

B1001

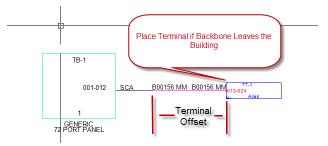
- Center Label Offset Offset from center in DU.
- Show SysNames Shows the SysName labels.
- Ignore Same Locations Hides backbones that originate and terminate in the same location.
- SysName Rotation Angle Sets the rotation angle of the SysName label if shown.
- SysName Text Height (100th DU) Sets the height of the SysName text if shown.
- SysName Text Offset Offset from the endpoint of the backbone.

# **Riser Diagram Mode**

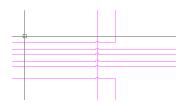
- Campus and Building The Campus and Building for which to build the riser diagram.
- Layout Max Columns, Column Spacing, Minimum Row Height Determine the layout of the panels in the diagram.



- Body Color, Body Width, Descriptor Locations Determines the appearance of the body of the panels in the diagram.
- 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.

# Map Mode

- Location Filter Filter the displayed backbones by location.
- Panels Filter This filter relies on the Locations Filter and provides further filtering by SysName.
- **Backbones Filter** This filter relies on the Locations Filter and the Panels Filter and provides further filtering by Backbone number.

The map relies on the Locations table GPS fields. If you have not assigned GPS Lat and Lon to the Location the backbones map will not display any data.

To Assign GPS Lat and Lon you can use the Map tool or your GPS calibrated drawing.

# Title and Comment Block

• Show Title - Sets the visibility of the title/comment block.

2	AMERINI PLONBOOM	A BAGENENTROOM B9
Dead Str		

# 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 Preview Export

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

The current preview will be exported based on the Export Settings found in the <u>Application Menu > Settings</u> [Project][Export Settings] [314] tool.

#### 3.2.1.5 Import Backbone Data

Menu: Database > Backbones Default command line shortcut: bbg Related Project Settings: Backbone Status Items

We have provided an import template that can be found at: c:\users\public\documents\WireCAD\WireCAD9\Import Templates\import\_backbone\_template.xlsx.

#### Command:

Open the Backbones Grid. Then click File>Import Backbones.

#### Prerequisites

You should have a Backbones import template excel file filled in with your backbone data.

#### **Related Topics:**

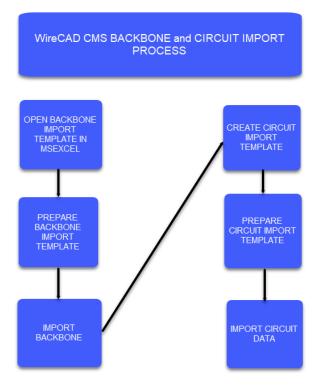
Import Circuits 269 Backbones Grid 225

This document, when properly filled out will not only import a single line of data that expands to many cables database entries as a backbone but will do the following as well:

- Create global Cable Type and Manufacturer.
- Create global panel data and Manufacturer.
- Create Project SysName data.
- Create Project Location data.

The import tool will perform several checks on the incoming data to ensure that it does not conflict with existing data. Some of these checks include:

- Basic template data check to make sure all required fields are filled in.
- Preflight queries to check against the existing project data. At this point in the import no data has actually been imported. If any errors are found the template row number is returned with error text describing the problem and the import is stopped.
- Post-flight queries to ensure no duplicates were created during the import. If found the error is reported with the opportunity to roll back the import.



## 3.2.2 Blind Patch Tool

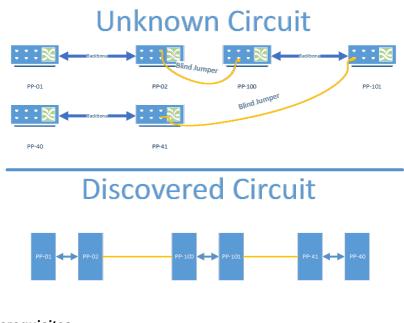
Menu: Project Explorer > Project Databases > Blind Patches Default command line shortcut: ShowBlindPatchTool Related Project Settings: Status Behavior CMS

#### Explanation

Unlike the normal WireCAD <u>New Circuit store</u> tool which requires that you know the complete circuit end-toend, the **Blind Patch Tool** allows you to document your existing patches and then discover circuits from those patches.

You will use the **Blind Patch Tool** to document patches between panels. It is not necessary that you know the whole circuit. Simply create patches from panel to panel as you go. You can use the **[Discover]** tool to find circuits from the blind patches. Once the **Blind Patch Circuits** are discovered you can use the **[Make Circuit]** function to create real **Circuits**.

As you add **Blind Patches** the **Status** of the connected **Backbone(s)** will be mark **BLIND\_PATCH**. This status item is a blocking status item. Meaning that other operations will not be able to use or delete this segment of the **Patch Panel** or **Backbone**.



Prerequisites: Backbones 225

### Related Topics:

Blind Patch Tool 567 form. New Blind Patch 538 dialog.

## 3.2.2.1 How To: Create a Blind Patch

The follow procedure describes creating a Blind Patch. Blind Patches are connections between two panels. We only know the two ends of the patch. We will discover circuits after adding more Blind Patches.

#### **Prerequisites:**

At least two backbones.

#### **Procedure:**

- 1. Open the Blind Patches tool: Click Project Explorer>Project Databases>Blind Patches.
- 2. Select the Patch Panel (SysName) from the drop-down. This will populate the ToSys in the grid.
- 3. Select the row in the grid representing the port that you want to patch to on the ToSys.
- 4. Select either **Simplex** or **Duplex Jumper**. Duplex will require two rows and that the row below the selected row be empty to receive data as well.
- 5. Click Blind Patch>New.

X New Blind Patch		? 🗙
Named Equipment (SysName)		<b>v</b>
O Customer Furnished Equipment (CFE) Manufacturer	V Model	v
	OK	Cancel

- 6. Select either Named Equipment (SysName) or new CFE. Click OK.
- 7. The new Blind Patch is added. Backbones that touch the Blind Patch will have their Status field set to Blind\_Patch.
- 8. Done.

## 3.2.2.2 How To: Discover Circuits From Blind Patches

The following procedure describes discovering circuits from Blind Patches.

### **Prerequisites:**

More than one **Blind Patch**.

#### **Procedure:**

- 1. Open the Blind Patches tool: Click Project Explorer>Project Databases>Blind Patches.
- 2. Switch to the Discover Circuits from Blind Patches tab.
- 3. Click [Discover Circuits].
- 4. The grid will be populated.
- 5. Select a row and the found circuit will be presented in the **Preview** pane (if the **[Preview Selected]** check item is checked).

ACM1-2 079 SCA			AMUSUOS 121.3RD FLOOR ROOM 325 ADM1-3 ICA 031 031 SCA			M1-1 005 SCA		AMU.BLOG 122.15T F ACM3-10 SCA 041
000 SCA			CA 032 032 SCA		504 00	07 SCA		SCA 042
GENERIC 144 PORT PANEL			GENERIE 45 PORT PANEL					GENERIC 144 PORT PANE
	019							
vered Blind Patched (								
	Circuits	Ckt Dst	Okt Description	Ckt Strand Count	IP Address	Sub Net Mask	Ckt Src Location	Ckt Dst Location
) a column header he Ckt NO	Circuits ere to group by that column	Ckt Dst ACM3-10	Ckt Description		IP Address	Sub Net Mask	Ckt Src Location AMU.BLDG 121.1ST FLOO	
g a column header he	Circuits ere to group by that column Cickt Src		Ckt Description	Ckt Strand Count	IP Address	Sub Net Mask		AMU.BLDG 123.1ST FLOO

## 3.2.2.3 How To: Make a Real Circuit From Blind Patches

The following procedure describes making real circuits from discovered circuits.

### **Prerequisites:**

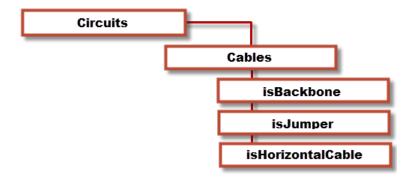
**Blind Patches** 

#### Procedure:

- 1. Follow the steps above to **Discover Circuits**.
- 2. Select the circuit in the grid that you wish to make real.
- 3. Edit the CktNo and CktDescription fields.
- 4. Click [Make Circuit].
- 5. The circuit will be added to the Circuits table and removed from the Blind Patches list.
- 6. Done.

# 3.2.3 Circuits

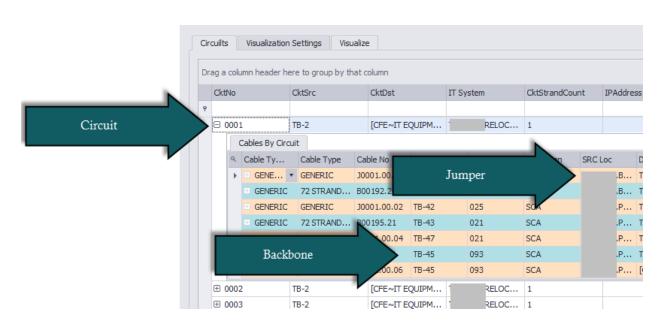
A circuit in WireCAD is defined as a collection of cables. Each circuit may have a Name, Description, and other meta data. A circuit also has a strand count to indicate the number of connections made from the originating device on through to the terminating device. Circuits have a one-to-many relationship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



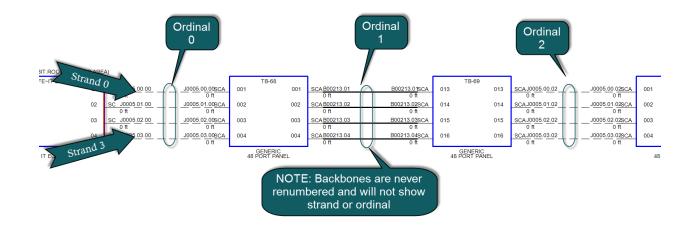
### 3.2.3.1 Circuits Grid

Menu: Database > Circuits Default command line shortcut: cmscg Related Project Settings: Circuit Status Items Product Level: CMS

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



- 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 2061.



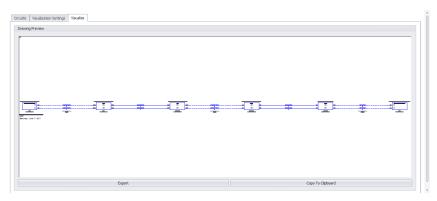
# Strand Count and Ordinal Explanation

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.

### 3.2.3.2 Circuits Preview Settings

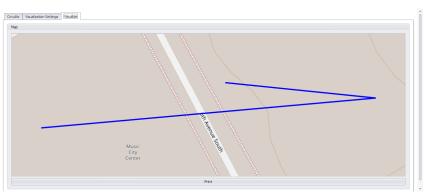
These settings are available on the Circuits Grid [Visualization Settings] tab. In order to preview Circuits you will first need to Add Circuits 258 These settings determine the display of the Circuits Visualization tool. There are two variants:

1. Functional Block Diagram.



Displays a CAD representation of the circuit as a functional block diagram. The master source and destination are show with a series of equipment panels, jumpers, and backbones.

2. Map View.



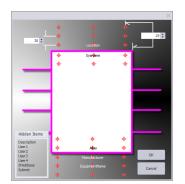
Map Tool - within the Circuit Visualizer

This mode is only viable if you have associated GPS coordinate data in your Locations table. For more information <u>see this topic and</u>. In Map view the backbones of the selected circuit(s) are shown on the Map tool. The backbones honor the Backbones Color, and Line Width <u>settings are shown</u> be printed or exported through the print preview dialog.

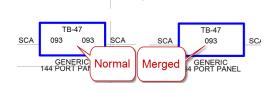
Functional Block Diagram	Мар						
Appearance							
Source Shape 🚺 A st	andard functional block appearance	<ul> <li>Middle Equipment Shape</li> </ul>	A standard functional block appea	arance •	Destination Shape	standard functional block appe	arance •
Source Width (100th DU)	500	\$ Width		500 🗘	Destination Width (100th DU)		500 🗘
Source Body Color	(0,0,255)	▼ Color	(0,0,255)	•	Destination Color	(0,0,255)	•
Descriptor Locations	SysName: 13  Manufacturer: 17  Equipment	··· Descriptor Locations	SysName: 13 Manufacturer: 17 Equip	mentName	Descriptor Locations	SysName: 13 Manufacturer: 1	7 EquipmentNa ···
Merge and Center Text	In Body	Body Pen Width		1 🗘	Text Height		25 💲
Show Vias					Via Text Format String VIA:	(0}{1}{2}{3}	
Backbone Color	ByLayer	<ul> <li>Jumper Color</li> </ul>	ByLayer	*	Horizontal Cable Color	ByLayer	•
Layout							
Max Columns	10	Column Spacing		20 🗘 Row Vertic	al Spacing		20 🗘
fitle and Comment Blo	ck						
Show Title			Tide	(0)			
itle Position	BottomLeft		-				
Show Time Stamp							
itle Text Height (100th DU)			50 🗘				
ide Offset	HL 0,-1,0		-				
lisc.							
Show Attenuation Labels	Show Jumper Length	Labels	Show Backbone Length Labels		Auto Router Avoid	Other Cables	
Show Jumper Numbers	Show Backbone Numi	iers	Show Length				

# 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.
- Source, Middle and Destination shape Descriptor Locations Drag the descriptor to the location map or to the Hidden Items list to hide.



- Backbone Color Sets the color.
- Jumper Color Sets the color.
- Horizontal Cable Color Sets the color.
- Merge and Center Text in Body



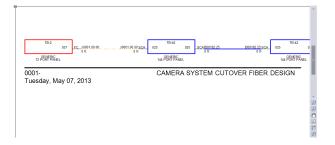
• Text Height - Sets the height of all text in the visualization.

# 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.

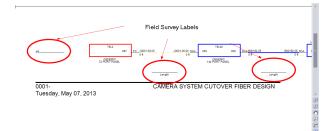
# **Title and Comment Block**

- Show Title Sets the visibility of the title/comment block.
- Title You can type whatever you want in this field. In addition the following variables are available:
  - {0} = Circuit Number
  - {1} = It System

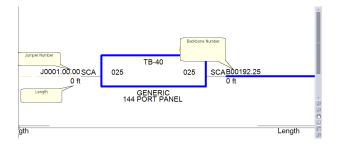


# MISC.

• Show Attenuation Labels, Show Jumper Length Labels, Show Backbone Length Labels



• Show Jumper Numbers, Show Backbone Numbers, Show Length



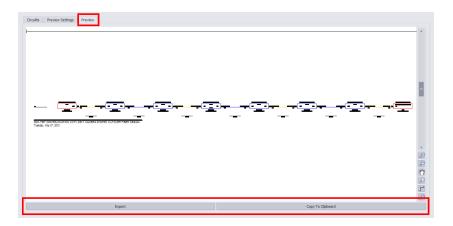
## 3.2.3.3 Outputting Circuits to CAD

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 <u>here at for more information on the settings menu.</u>

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

# 3.2.3.4 How To: Output a Circuit to CAD

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

1. Enter **ShowCircuitsGridCMS** in the command line prompt. The **Circuit Grid** Window will open.

File	cts • Plot Project Manager											• Wire
ect Explorer 🛛 🛛 🛊 ×		Refresh] = x   Blind Patch Tool = x	Circuits	÷ ×								
• S 2 0	Circuits Visualization Settings Vi	sualize										
ten												
Et Equipment Library	CktNo	OktSrc	Okt.	ITS.	Ckt.	IPA.	Sub	Okt.	Okt.	Ow.	Stat	In6
E Default Signal Types	7 404		*D*	-0-	-01	40×	-0-	-01	+0×	-0:	-0-	-
Cable Types	▶ E 0001	ACMB-2	(CF	FIB.	1					A9H	PR	4/2
Connectors     Permissions	EE 0002	ACMB-2	[OF	FIB	1					ASH	PR	4/2
E Permissions	H 0003	ACMB-2	[CF.	FIB.	1					ASH.	. PR	4/2
C1 Projects	⊞ 0004	[OFE~IT EQUIPMENT ST]	[CF	FIB.	2					ASH.	. PR	4/2
A BIG DEMO PROJECT VIST	E 0005	[OFE~IT EQUIPMENT SC]	[CP	FIB.	4					ASH.	PR	4/2
A New Drawing	0010	[CPE~CCTV EQUIPMENT SC]	(CF	FID.	4					A91	PR	4/2
Open Drawing(s)	H 0012	(OFE~EQUIPMENT SC)	(OF	FIB.	2					ASH.	. PR	4/2
Project Drawings     Project Databases	H 0013	[OFE~EQUIPMENT LC]	[OF	FIB	4					ASH.	. PR	4/2
Project Signal Type	H 0015	[OFE~CCTV EQUIPMENT LC]	[OF	FIB.	4					ASH.	. PR	4/2
Equipment List (Sy	H 0017	[CPE~EQUIPMENT SC]	[CF	FIB	4					ASH.	. PR	4/2
SysName Format	⊞ 0020	[OPE-EQUIPMENT PC]	(CP	FIB	2					ASH.	. PR	4/2
Cables	E 0022	[CPE~EQUIPMENT ST]	(CF	FID	6					A91	. PR	4/2
Backbones     Bind Patches	E 0024	[CFE~[T EQUIPMENT ST]	(OF	FIB	2					A9H.	. PR	4/2
E Bind Patches	⊞ 0027	[OFE~EQUIPMENT ST]	[OF	FIB.	2					TARA	PR	4/2
ad Map	EI 0028	[OPE~EQUIPMENT ST]	[CF	FIB.	2					TARA	PR	4/2
Cable Number For	E 0029	[OPE~EQUIPMENT ST]	[CF	FIB	2					TARA	PR	4/2
Drawings	El 0030	[CPE~IT EQUIPMENT SCA]	(CP	FIB	2					TARA	PR	4/2
Named Paths	HI HI A Record 1 of 299 + HI HI	form not magnetic of	ler								~	475
Next Numbers												
	Information:											
To Do List Locations Discrepancies	Information:				_	_	_					

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

3. Select the [Visualize] Tab.



- 4. Verify the circuit is the one you would like to use and click **[Export]**. A Windows explorer window will come up. Enter the path 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**.
- 5. 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**.

## 3.2.3.5 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

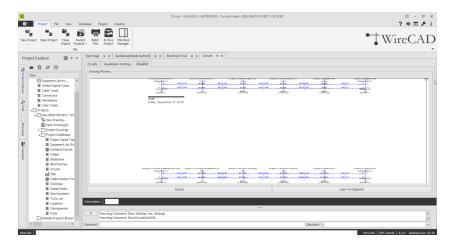
1. Enter ShowCircuitsGridCMS in the command line prompt. The Circuit Grid Window will open.

	Ottine 10: ACM8-2 ACM8-2	101	п s.	Cit.	IPA	Sub	100	Lar				
Constant Lony      Constant Lony      Constant Long      Constant Long	40: ACM8-2	101			IPA	Sub	1014	1.00.0				
E Cefuit Signal Types         v         dic           E Cable Types         v         signal Types           E Cable Types         v         signal Types           E Camectors         signal Types         signal Types           E Permissions         signal Types         signal Types           E Chernottans         signal Types         signal Types           E Chernottans         signal Types         signal Types           E Color Codes         signal Types         signal Types	ACMB-2		-0:					Oct	. Ow.	534	L. InS	
Connectors     Connectors     Permissions     Color Codes     Color Codes					•Dx	-0:	-0:	-0:	-0:	-0:		
Permissions     Color Codes     Color Codes	ACM8-2		FIB.	1						. PR	4/2	
Color Codes		ICF.	FIB.	1					ASH	PR.	4/2	
	ACM8-2	ICF.	FIB.	1					ASH	. PR.	4/2	
	[CFE~IT EQUIPMENT ST]	for-	FIB	2					ASH	PR	4/2	
A D BOG DEMO PROJECT VIST III 0005	[CPE~IT EQUIPMENT SC]	(CP	FIB.	4					ASH	PR	4/2	
S New Drawing (0) 0010	[CPECCTV EQUEPMENT SC]	(CF.	FID.	4					ASI	PR	4/2	
Dpen Drawing(s)	(OFE-EQUIPMENT SC)	ICF.	FTB.	2					ASH	PR.	4/2	
Project Drawings     O 013	[OFE-EQUIPMENT LC]	ICF.	FIB.	4					ASH	PR.	4/2	
Project Databases      Project Sanal Type     0015	TOFE~COTV EQUIPMENT LC1	ICF.	FIB	4					ASH	PR.	4/2	
Equipment List (Sy E 0017	[OFE-EQUIPMENT SC]	[CF.	FIB	4					ASH	PR.	4/2	
SysName Format  © 0020	[OFEEQUIPMENT FC]	[CF.	FIB.	2					ASH	. PR.	4/2	
Cables © 0022	[OFEEQUIPMENT ST]	[CF	FIB.	6					ASH	PR.	4/2	
Backbones (ii) 0024	[CPE~IT EQUIPMENT ST]	[CP	FIB.	2					ASH	PR	4/2	
E Bind Patches	(CPEEQUIPMENT ST)	(CP	FID.	2					TAR	PR.	4/2	
and Map	(CPE-EQUIPMENT ST)	(CF.	FIB.	2					TAR	PR.	4/2	
Cable Number Porr     ① 0029	(OFE-EQUIPMENT ST)	(CF.	FIB	2					TAR	A PR.	4/2.	
E Drawings	(OFE~IT EQUIPMENT SCA)	(CF.	FIB.	2					TAR	A PR.	4/2	
			e10								415	
			CTD									

 Select the Circuit Numbers you would like to Export. 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.

rie act Explorer 🛛 🕫 ×	50	art Page 🛥 🗙 Backbones@ieeds.Refr	esh] e x Bind Patch Tool e x	Grouts	4.2								• Wir	
ect Explorer 🔞 ៖ × • ១ ខ ៣		Circuits Visualization Settings Visual												
■ 1 ~ U														
Equipment Library ^		CictNo	CktSrc	Ckt.	IT S.	Ckt.	IPA.	Sub.	Okt	Ckt.	OH	Stat.	InS	
Default Signal Types		e +0:	0	-01	-0:	-0:	-0:	·0:	-0:	-0:	10:	·0:	-	
Cable Types		E 0001	ACMB-2	(CF	. FIB	. 1					ASH.	PR	4/2	
Connectors  Permissions		⊞ 0002	ACMB-2	(CP	FIB	. 1					ASH.	PR	4/2	
E Permissions		⊞ 0003	ACMB-2	(CP	. FIB	. 1					ASH.	PR	4/2	
Projects		E 0004	[CPE~CT EQUIPMENT ST]	(CP	. FIB	. 2					ASH.	PR	4/2	
A DI ELG DEMO PROJECT VIS		0005     0005	[CPE~ET EQUEPMENT SC]	(C*	FID.	. 4					ASH.	PR	4/2	
R New Drawing		1 0010	(OPE~CCTV EQUIPMENT SC)	(CF.,	. FID.	. 4					ASH.	PR	4/2	
Dpen Drawing(s)		0012	(OPE~EQUEPMENT SC)	(CF.	. F18.	. 2					ASH.	PR	4/2	
Project Drawings     Project Databases		0013	(OFE-rEQUEPMENT LC)	(CF.	FIB.	. 4					ASH.	PR	4/2	
Project Databases     Project Signal Type		E 0015	[OFE~CCTV EQUIPMENT LC]	(CF.	FTB.	. 4					ASH.	PR	4/2	
Equipment List (Sy		E 0017	[OFEEQUIPMENT SC]	(CF.	FTB.	. 4					ASH.	PR	4/2	
SysName Format		E 0020	[OFE~EQUIPMENT FC]	(CF.	FIB.	. 2					ASH.	PR	4/2	
Cables		E 0022	[OFE~EQUIPMENT ST]	(CF.	FIB.	. 6					ASH.	PR	4/2	
Badibones		⊞ 0024	[OFE~[T EQUIPMENT ST]	(CF	FIB.	. 2					ASH.	PR	4/2	
E Bind Patches Circuits		E 0027	[OFE~EQUIPMENT ST]	(CF	FIB	. 2					TARA	PR	4/2	
≡ crouts ad Mep		E 0028	[OFE~EQUEPMENT ST]	(CF	FIB	. 2					TARA	PR	4/2	
Cable Number For		E 0029	[CPE~EQUEPMENT ST]	(CF	FIB.	. 2					TARA	PR	4/2	
Drawings		E 0030	[CPE~IT EQUIPMENT SCA]	(CF	FIB	. 2					TARA	PR	4/2	
Named Paths		E Record S of 299 F H HI C	free rosenance cel	tee	****							~	476	
	1111	Kecord S of 299 F M M C												
Next Numbers														
Next Numbers     To Do List     Locations	100	ernation:												

3. Select the [Visualize] Tab.



- 4. Verify the circuits shown are the ones you would like to use and click **[Export]**. A Windows explorer window will come up. Enter the path 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**.
- 5. 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**.

## 3.2.3.6 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** 

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

it Number/Name* 483						IT System*				• •	- Custom	er dhris_00	0	
nd Count*					2	In Service Date		12/10/20	16					
rigin* (named equipment)						C Final Destr	ation* (	named equipr	ient)					
rigin* CFE		[GENERIC~6 P	ORT PANEL]	@ AMU.ab-[GENER]	IC-6 PORT PANEL]	▼	ation* (	FE		[GENERIC-	144 PORT FI	BER PANEL]	@ AMU.ab-[G	ENERIC-144 PORT
ild Circuit Path Finder	Preview													
mper From Equipment [GE	INERIC~144 PORT	FIBER PANEL1 (8	AMU.ab-IG	ENERIC-144 PORT F	IBER   Length	0 0		lumper to Eau	ipment A	CM1-1 @ AMU.AN	EX 1.1ST FL	DOR. 102		-
am Ports			Show All Out				1	To Ports						
Coming From	Conn		Name					Name		Conn	Comi	ng From	Goin	g To
Originates From Here	SCA		001			Conservation of the second		001		SCA			B0 10	18.001 - ACM3-1.
Originates From Here	SCA		002			Add Jumper	,	002		SCA			B010	18.002 - ACM3-1
Originates From Here	SCA		003					003		SCA			B010	18.003 - ACM3-1.
Originates From Here	SCA		004		U			004		SCA			8010	18.004 - ACM3-1.
Originates From Here	SCA		005					005		SCA			8010	18.005 - ACM3-1.
Originates From Here	SCA		006		w			006		SCA			B010	18.006 - ACM3-1.
Prev	Rer	tove	Add H	lorizontal Segment		Add Jumper		Add Vi	tual Segment	Add Ba	kbone Segme	nt	Next	Last
oposed Cables in Circuit														
CableNo Src Eou	Jip Src Po	t Dst	Equip	Dst Port	SRCLoc	DestLoc	SRCC		DestConn	CktStrandNum	per CktOrdin	al Is	SDReversed	Length

3.2.3.6.1 How To: Create a New Circuit

Menu: Database > Circuits Default command line shortcut: cmscg Related Project Settings: Circuit Status Items Product Level: CMS

Click File > New.

# **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 [562].
- 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 456 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.
- 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.

it Number/Name* 483						IT System*				* +	- Customer chr	ris_000		
id Count*						2 🌲 In Service Date		12/10/	2016					
rigin* (named equipment)		First En	nter the Originating	Equipment		▼ + c* ◯ Final Destin	ation* (	named equ	ipment)					
rigin* CFE		[GENER	LIC~6 PORT PANEL	] @ AMU.ab-[GENERI	C-6 PORT PAN	NEL] 🔹 💿 Final Destin	ation* C	OFE		[GENERIC~14	4 PORT FIBER PA	NEL] @ /	AMU.ab-[GE	NERIC-144 PORT
ild Circuit Path Finder Pr	eview													
mper From Equipment [GEN	RIC~14	4 PORT FIBER P/	ANEL] @ AMU.ab-[(	GENERIC-144 PORT FI	IBER I Lengt	th 0 🗘	1	Jumper to E	quipment A	CM1-1 @ AMU.ANNE)	1.1ST FLOOR.1	02		•
om Ports			Show All Ou	utputs			1	To Ports						
Coming From	Conn		Name				[	Name		Conn	Coming Fro	m	Going	То
Originates From Here	SCA		001		*			▶ 001		SCA			B010	18.001 - ACM3-1.
Originates From Here	SCA		002				1	002		SCA			B010	18.002 - ACM3-1.
Originates From Here	SCA		003					003		SCA			B010	18.003 - ACM3-1.
Originates From Here	SCA		004					004		SCA			B010	18.004 - ACM3-1.
Originates From Here	SCA		005					005		SCA			B010	18.005 - ACM3-1.
Originates From Here	SCA		006		-		[	006		SCA			B010	18.006 - ACM3-1.
Prev		Remove	Add H	Horizontal Segment		Add Jumper	J	Add	Virtual Segment	Add Backb	one Segment		Next	Last
oposed Cables in Circuit														
CableNo Src Equip		Src Port	Dst Equip	Dst Port	SRCLoc	DestLoc	SRCCo	onn	DestConn	CktStrandNumber	CktOrdinal	IsSDF	Reversed	Length
J483.00.00 [GENERIO			ACM1-1	001	AMU.ab	AMU.ANNEX 1			SCA	0		0		
J483.01.00 [GENERIC	C~6 P	002	ACM1-1	002	AMU.ab	AMU.ANNEX 1	SCA		SCA	1		0		

- 4. Enter your **IT System** and **Customer** info. IT System is a descriptive name.
- 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.



 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.



- 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.

cuit Number/Name*	483					IT System*				- + -	Customer chris	s_000	<b>*</b> +
and Count*						2 💲 In Service Date		12/10/2016					
Origin* (named equipme	nt)					* 👌 🔘 Final Destina	ation* (	named equipment)					
Origin* CFE		[GENER	IC~6 PORT PANEL	] @ AMU.ab-[GENER]	IC-6 PORT PANEL	] 🔹 🥥 Final Destina	ation* C	DFE .		[GENERIC~144 P	ORT FIBER PAR	NEL] @ AMU.ab	-[GENERIC-144 PORT F
Build Circuit Path Finde	r Preview	N											
lumper From Equipment	[GENERIC	~144 PORT FIBER P/	NEL] @ AMU.ab-[	SENERIC-144 PORT F	IBER I Length	0 🗘	;	Jumper to Equipment	ACM1-	1 @ AMU.ANNEX 1.	1ST FLOOR. 10	12	- + (
From Ports			Show All Ou	itputs			1	To Ports					
Coming From	0	Conn	Name					Name	Con	n	Coming From	n G	ioing To
<ul> <li>Originates From Here</li> </ul>	: 5	SCA	001		à		277	001	SC/	L. C.		В	01018.001 - ACM3-1
Originates From Here		SCA	002			Add Jumper		002	SC/	L. C.		В	01018.002 - ACM3-1
Originates From Here		SCA	003					003	SC/			В	01018.003 - ACM3-1
Originates From Here		SCA	004		U			004	SCA			В	01018.004 - ACM3-1
Originates From Here		SCA	005					005	SCA			В	01018.005 - ACM3-1
Originates From Here		SCA	006		*			006	SC/			В	01018.006 - ACM3-1
Prev		Remove	Add I	Horizontal Segment		Add Jumper		Add Virtual Segr	ient	Add Backbone	Segment	Next	Last
Proposed Cables in Circuit													
CableNo Sr	rc Equip	Src Port	Dst Equip	Dst Port	SRCLoc	DestLoc	SRCCo	onn DestConn	c	ktStrandNumber C	ktOrdinal	IsSDReverse	ed Length

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**.

Connector String Mismatch
んう One or more of the connector types are mismatched. Do you want to continue?
You can turn this warning off from Project>Settings User[CMS]
Yes No

	t Number/Name*	483						IT System*				* +	- Customer ch	ris_000		•
ran	d Count*							2 🗘 In Service Date		12/1	10/2016					
) 0	rigin* (named eq	uipment)	[	First Enter the	Originating	Equipment	•	+ 👌 🔘 Final Destin	ation* (	named e	quipment)					
0 (	rigin* CFE		[	GENERIC~6 P	PORT PANEL	] @ AMU.ab-[GENER]	C-6 PORT PANEL]	🔻 🎯 Final Destin	ation* (	FE		[GENERIC~	144 PORT FIBER P	ANEL] @	AMU.ab-[GE	NERIC-144 PORT F.
Bui	ild Circuit Path	Finder Previe	n													
ur	nper From Equipn	nent [GENERIC	~144 PORT FI	BER PANEL] (	@ AMU.ab-[	GENERIC-144 PORT FI	IBER I Length	0 ‡	1	lumper to	Equipment	CM1-1 @ AMU.ANN	X 1.1ST FLOOR.	102		- +
rc	om Ports				Show All Or	utputs			1	To Ports						
	Coming From		Conn		Name					Name	2	Conn	Coming Fr	om	Going	То
•	Originates From	Here	SCA		001		*			▶ 001		SCA			B010	18.001 - ACM3-1
	Originates From	Here	SCA		002					002		SCA			B010	18.002 - ACM3-1
	Originates From	Here	SCA		003					003		SCA			B010	18.003 - ACM3-1
	Originates From	Here	SCA		004		U			004		SCA			B010	18.004 - ACM3-1
	Originates From	Here	SCA		005					005		SCA			B010	18.005 - ACM3-1
	Originates From	Here	SCA		006		*			006		SCA			B010	18.006 - ACM3-1
	Pre	v	Remo	ve	Add	Horizontal Segment		Add Jumper		A	dd Virtual Segment	Add Bad	bone Segment		Next	Last
ra	posed Cables in (	Circuit														
	CableNo	Src Equip	Src Port	Ds	t Equip	Dst Port	SRCLoc	DestLoc	SRCC	nn	DestConn	CktStrandNumb	er CktOrdinal	IsS	DReversed	Length
۲	3483.00.00	[GENERIC~6		AC	M1-1	001	AMU.ab	AMU.ANNEX 1			SCA		0	0		
	J483.01.00	[GENERIC~6	P 002	AC	M1-1	002	AMU.ab	AMU.ANNEX 1	SCA		SCA		1	0		

10. Click the **[Next>]** button. Note: WireCAD will automatically populate an available route between Patch Panels using existing Backbone structures.

uit Number/Name* 483	3					IT System*			- + -	Customer chris	000	•
nd Count*					2	In Service Date	12/	10/2016				
Origin* (named equipment)						C Final Destin	ation* (named e	quipment)				
Origin* CFE		[GENER	IC~6 PORT PANEL	] @ AMU.ab-[GENERIC	-6 PORT PANEL]	▼	ation* CFE		[GENERIC~14	4 PORT FIBER PAN	EL] @ AMU.ab	-[GENERIC-144 PORT F
uild Circuit Path Finder	Preview											
mper From Equipment AC	ACM1-1 @ AM	U.ANNEX 1.1ST		ENERIC-144 PORT PAN	EL] Length	0 ‡	Jumper t	o Equipment AC	2M3-10 @ AMU.BLDG	123.1ST FLOOR		· · ·
om Ports			Show All Ou	itputs			To Ports					
Coming From	Con	n	Name				Nam	2	Conn	Coming Fro	m	Going To
Originates From Here	SC/	λ	001				▶ 037		SCA	801018.00	1 - ACM1-1	
Originates From Here	SC/		002			B01018	038		SCA	001010.003	2 - ACM1-1	
	30		002				038		SCA	801018.00.	2 - ACP1-1	
	30											
Prev		Remove		Horizontal Segment				dd Virtual Segment		one Segment	Next	Last
oposed Cables in Circuit		Remove	Add H			Add Jumper			Add Baddo	one Segment	Next	
oposed Cables in Circuit CableNo Src Ec	quip	Remove Src Port	Add H	Dst Port	SRCLoc	Add Jumper DestLoc	A	DestConn	Add Baddoo CktStrandNumber	one Segment	Next	
oposed Cables in Circuit CableNo Src Ec J483.00.00 [GENE		Remove Src Port 001	Add H		SRCLoc AMU.ab	Add Jumper	SRCConn SCA		Add Baddo	one Segment CktOrdinal	Next IsSDReverse	

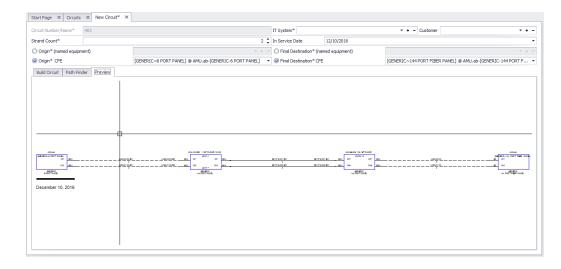
# 11. Click [Add Backbone Segment].

curt	t Number/Name*	483					IT System*			- + -	Customer			* *
and	d Count*					2	In Service Date	12/10	/2016					
Ori	rigin* (named equ	uipment)				× 4	♂ ○ Final Destin	ation* (named eq	uipment)					
Ori	rigin* CFE		[GENER	LIC~6 PORT PANEL	] @ AMU.ab-[GENERIC	-6 PORT PANEL]	▼	ation* CFE		[GENERIC~144	PORT FIBER PANE	L] @ AMU.ab-	GENERIC-144 PO	ORT F
a ale	ld Circuit Path	Finder Preview	1											
um	nper From Equipm	nent ACM1-1@/	MU.ANNEX 1.1ST	FLOOR. 102.22-[G	ENERIC-144 PORT PAN	EL] Length	0 ‡	Jumper to	Equipment ACM	43-10 @ AMU.BLDG 13	23.1ST FLOOR			× +
ror	m Ports			Show All Ou	Itputs			To Ports						
	Coming From Co		onn	Name	•			Name		Conn	Coming From		Going To	
١	Originates From Here SCA		CA	001				037		SCA	801018.001	- ACM1-1		
Originates From Here S			002			B01018					B01018.002 - ACM1-1			
	Originates From	h Here S	CA	002			BUIUIS	038		SCA	801018.002	- ACM1-1		
	-				Harizontal Segment								lac	•
	Pre	v	CA		Horizontal Segment		Add Jumper		d Virtual Segment	Add Backbon		- ACM1-1 Next	Last	ıt
ot	-	v			Horizontal Segment	SRCLoc					e Segment			ŧ
rop	Pre-	v (i	Remove Src Port	Add I		SRCLoc AMU.ab	Add Jumper	Ad	d Virtual Segment	Add Backbon	e Segment	Next		ŧ
rop	Pre posed Cables in ( CableNo	v Circuit Src Equip	Remove Src Port	Add Dst Equip	Dst Port		Add Jumper DestLoc	Add SRCConn SCA	d Virtual Segment DestConn	Add Backbon	ie Segment	Next		ŧ
op	Pre posed Cables in ( CableNo 3483.00.00	v Circuit Src Equip [GENERIC~6 P.	Remove Src Port	Dst Equip	Dst Port 001	AMU.ab AMU.ab	Add Jumper DestLoc AMU.ANNEX 1	Add SRCConn SCA SCA	d Virtual Segment DestConn SCA	Add Backbon	ie Segment [ CktOrdinal 0	Next IsSDReversed		it
rop	Pre- posed Cables in ( CableNo 3483.00.00 3483.01.00	v Crouit Src Equip [GENERIC~6 P. [GENERIC~6 P.	Remove Src Port 001 002	Add I Dst Equip ACM1-1 ACM1-1	Dst Port 001 002	AMU.ab AMU.ab AMU.ANNEX 1	Add Jumper  DestLoc  AMU.ANNEX 1  AMU.ANNEX 1	SRCConn SCA SCA SCA	d Virtual Segment DestConn SCA SCA	Add Backbon CktStrandNumber 0 1	ie Segment [ CktOrdinal 0	Next IsSDReversed		ŧ
rop	Pre- posed Cables in 0 CableNo 3483.00.00 3483.01.00 B01018.001 B01018.002	v Crouit Src Equip [GENERIC~6 P. [GENERIC~6 P. ACM1-1	Remove           Src Port            001            002           .001	Dst Equip ACM1-1 ACM1-1 ACM1-1 ACM3-10	Dst Port 001 002 037	AMU.ab AMU.ab AMU.ANNEX 1	Add Jumper DestLoc AMU_ANNEX 1 AMU_BLDG 123	SRCConn SCA SCA SCA	Virtual Segment DestConn SCA SCA SCA	Add Backbon CktStrandNumber 0 1	ie Segment [ CktOrdinal 0	Next IsSDReversed		it

- 12. Verify the correct cables have been added to the Proposed Cables In Circuit list.
- 13. Then click [Next].
- 14. Select the **Jumper To** Equipment to populate the **To Ports** list. Alternately you can click the **[Last]** button to populate the **To Ports** list with the ports of the **Final Destination Equipment**. That's what we will do here.
- 15.Click [Last].
- 16. Select the top two records.

rcuit Number/Name* 483											- + -	Customer				٠
and Count*						2 🗘 In Service Dat	rvice Date 12/10/2016									
Origin* (named equipment)						+ C Final Desti	<ul> <li>Final Destination* (named equipment)</li> </ul>									
Origin* CFE		[GENER	RIC~6 PORT PANEL	.] 🔻 🎯 Final Desti	Final Destination* CFE     [GENER				[GENERIC~144	IERIC~144 PORT FIBER PANEL] @ AMU.ab-[GENERIC-144 PORT F.						
uild Circuit Path	Finder Preview															
Imper From Equipm	ent ACM3-10 @	AMU.BLDG 123.1S	T FLOOR-[GENER]	C-144 PORT PANEL]	Length	0 ‡		Jumper to B	Equipment [E	ditValu	ie is null]					+
om Ports			Show All Ou	Itputs			1	To Ports								
Coming From Conn		ann	Name				[	Name		Conn		Coming Fro	m	Going	То	
Originates From	Here S0	A	037			Contraction.	, (	▶ A01		SC						
Originates From	Here S0	IA .	038			Add Jumper	<u></u>	A02 SC		SC						
								A03		SC				Termin	nates Here	
								A04		SC				Termin	nates Here	
								A05		SC				Termin	nates Here	
							Į	A06		SC				Termin	nates Here	_
	Prev Re			Add Horizontal Segment				Add Virtual Segment			Add Backbone Segment N		Next	ext Last		
Prev																
posed Cables in G									DestConn	Ck	tStrandNumber	CktOrdinal		eversed	Length	
posed Cables in C CableNo	Src Equip	Src Port	Dst Equip	Dst Port	SRCLoc	DestLoc	SRCC	nn								
posed Cables in C CableNo J483.00.00	Src Equip [GENERIC~6 P	. 001	ACM1-1	001	AMU.ab	AMU.ANNEX 1	SCA	onn	SCA		0		0			
posed Cables in C CableNo J483.00.00 J483.01.00	Src Equip [GENERIC~6 P [GENERIC~6 P	. 001 . 002	ACM1-1 ACM1-1	001 002	AMU.ab AMU.ab	AMU.ANNEX 1 AMU.ANNEX 1	SCA SCA	onn	SCA SCA		1		0			
posed Cables in C CableNo J483.00.00 J483.01.00 B01018.001	Src Equip [GENERIC~6 P [GENERIC~6 P ACM1-1	. 001 . 002 001	ACM1-1 ACM1-1 ACM3-10	001 002 037	AMU.ab AMU.ab AMU.ANNEX	AMU.ANNEX 1 AMU.ANNEX 1 1 AMU.BLDG 123	SCA SCA SCA	onn	SCA SCA SCA		0 1 0		-			
posed Cables in C CableNo J483.00.00 J483.01.00	Src Equip [GENERIC~6 P [GENERIC~6 P	. 001 . 002	ACM1-1 ACM1-1	001 002	AMU.ab AMU.ab AMU.ANNEX	AMU.ANNEX 1 AMU.ANNEX 1	SCA SCA SCA	nn	SCA SCA		1		-			
pposed Cables in C CableNo J483.00.00 J483.01.00 B01018.001 B01018.002	Src Equip [GENERIC~6 P [GENERIC~6 P ACM1-1	. 001 . 002 001	ACM1-1 ACM1-1 ACM3-10	001 002 037	AMU.ab AMU.ab AMU.ANNEX	AMU.ANNEX 1 AMU.ANNEX 1 1 AMU.BLDG 123	SCA SCA SCA	nn	SCA SCA SCA		1		-			

17. Click **[Add Jumper]**. This places the final jumper in the list. 18. Click **[Preview]**.

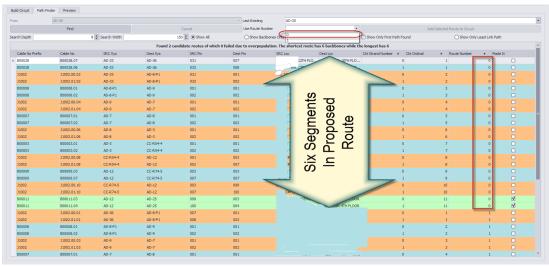


- 19. If everything looks correct, Click Build Circuit tab.
- 20. Click [Build Circuit].
- 21.Done.

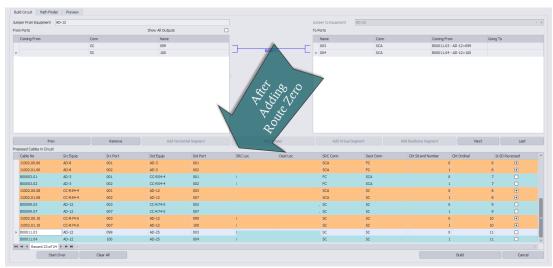
3.2.3.6.2 Path Finder Tab

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.



After adding Route 0

Controls

- From Prepopulated 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.
- 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.
- 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 247.
- Ckt Ordinal For more information about circuit strand and ordinal see here 247.
- **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.

### 3.2.3.7 Combining Circuits

Menu: Database > Circuits Default command line shortcut: showcircuitsgridcms Related Project Settings: Circuit Status Items Product Level: CMS

Click Tools > Combine 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.

🔀 Combine Circu	its					? ×
LabelsimpleLabelIten This Circuit	0010	rand Count: 4 - FIBER	CIRCUIT	 		<b>Y</b>
Appends to	0013 Circuit: 0013St	rand Count: 4 - FIBER (	CIRCUIT	 		~
🔘 Insert Into	Info					~
Insert Jumpers if	Before     After Necessary				7	> >
				10 22-10 2000 2010 2010 2010		
		i <u>F</u>				Ð
				Commit	Cance	4

- **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.
- 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

🔀 Combine Circuit	5	? ×
LabelsimpleLabelItem		
This Circuit	0010	~
	Circuit: 0010 Strand Count: 4 - FIBER CIRCUIT	
Appends to	0013	~
	Circuit: 0013 Strand Count: 4 - FIBER CIRCUIT	
🔘 Insert Into		V
	Info	
	Before	$\checkmark$
	O After	~
	Commit Cano	

• [Commit] - Do it.

## 3.2.3.8 How To: UnMake a Real Circuit Into Blind Patches

The follow procedure describes the process to turn a real circuit into a collection of Blind Patches.

## **Prerequisites:**

At least one Circuit.

### **Procedure:**

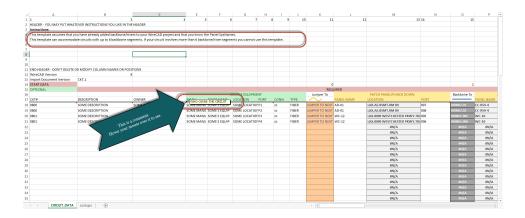
- 1. Open the **Circuits** grid.
- 2. Select the **Circuit** to remove.
- 3. Click Tools>UnMake Circuit.

The jumpers associated with the circuit will be marked as **IsBlindPatch** = true. The backbones associated with the circuit will have their **Status** field = Blind\_Patch.

## 3.2.3.9 Import Circuit Data

Menu: Database > Circuits Default command line shortcut: cmscg Related Project Settings: Circuit Status Items Product Level: ENT

Click Tools > Import Circuits.



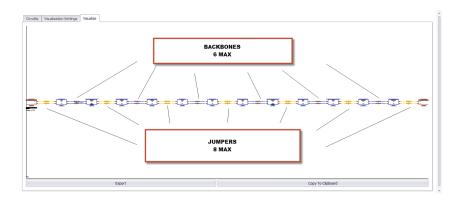
#### Command:

Open the **Circuits Grid**. Then click: **File>Create Import Template**. Open the **Circuits Grid**. Then click: **File>Import Circuits**.

### Limitations

Simplex, duplex or n-strand/core count can be imported. You are limited to 82 rows of circuit data. If you are importing more than 82 rows start another file.

The import template will only accommodate circuits with a maximum of 6 backbones/risers, or in other words a simplex/duplex/n-plex circuit with a maximum of 8 jumpers.



#### Prerequisites

You must have created backbone data in order to establish circuits.

# Related Topics: Import Backbones 240

Circuits Grid 246 Prerequisites

You will need to have entered or imported backbone data in order to create circuits.

This is a multi-step process.

# Step 1:

Create the import template:

Open the Circuits Grid. Then click: File>Create Import Template.

This will export the data from your project to the import template. This makes the use of drop downs with project-specific data possible. Without this you will likely get errors if you were to just type the data manually into the import template.

c:\users\public\documents\WireCAD\WireCAD9\Import

Templates\SomeImportTemplateNameWithADateCode.xlsx

NOTE: Be sure to use the most current import template.

# Step 2:

Open the import template in MSExcel and enter your data into the Circuit Import Template created in Step 1 above.

Be sure to fill in all fields.

NOTE: If you leave the Circuit Number field blank one will be assigned on import.

A circuit in its simplest form will consist of source and destination equipment with at least one backbone and two jumpers:

The following is a n-plex simple circuit:

	_											
c	PE-GIGE NETWORK E911 SUPPOR 01	SCA SCA	 SCA	009	SCA	800022.09.SM	SCA	009	SCA	 JCFE-G SCA	IGE NETWORK E911 SUPPOR 03	SCA
	02	SCA	 SCA	010	SCA	B00022_10.SM	SCA	010	SCA	 SCA	04	
	03	SCA	 SCA	011	SCA	B00022.11.SM	SCA	011	SCA	 SCA	05	
	04	SCA	 SCA	012	SCA	800022.12.SM	SCA	012	SCA	 SCA	06	
	GIGE NETWORK ENT SUPPORT	SCA		144 PORT PANEL				48 PORT PANEL	_	gigi	ENETWORK ENT SUPPORT S	2A
0	043											
	October 5, 2015											

This import would require 4 rows in the import template. One row for each horizontal strand/core.

When completing the import template you will need to type the source and destination equipment manufacturers/name and port info.

You will then need to select the first jumper action. The jumper will either jumper to the next backbone or to the final destination.

You will then select the first panel into which we will apply a jumper and the port we will use.

NOTE: The ports displayed in the drop downs are available ports. If you are trying to use a port that is not listed check to see why that port is not listed.

Port and System ID fields are strictly validated. You cannot enter field data in the generated template that is not allowed.

Once you have the first row of the circuit defined you will need to select the Final Action in Column BN. Your choices are:

- CKT CONTINUES ON NEXT LINE
- CKT COMPLETE. NEW CKT NEXT LINE
- CKT COMPLETE. END OF FILE

There can only be one and only one CKT COMPLETE. END OF FILE row in the template.

Once you have entered all of your data. Save the file and proceed to the next step.

# Step 3:

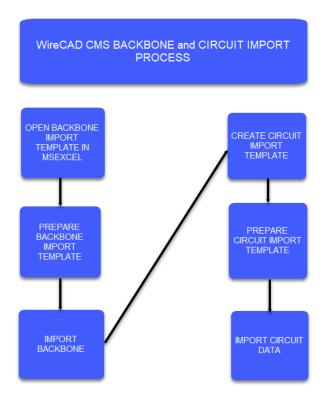
Import your data using the Import Circuits tool.

The Import Circuits tool performs several data integrity checks before the data is actually imported:

- Is the import template the proper format.
- Is all of the necessary data in place.

Then the data is validated against existing data in a preflight check.

- Do the backbones exist.
- Are the ports already assigned to another circuit.
- Is the circuit number available.



## 3.2.3.10 Exporting Circuit Data to Excel

Menu: Database > Circuits Default command line shortcut: cmscg Related Project Settings: Circuit Status Items Product Level: CMS

## Click Tools > Export Circuit to Excel

This function exports the selected circuit(s) to excel. In addition this function also creates a full circuit import template in the same file.

#### Limitations:

This function will fill up to line 100 in the excel file starting at row 18. If you have selected circuits that expand to more than 82 rows the function will fail.

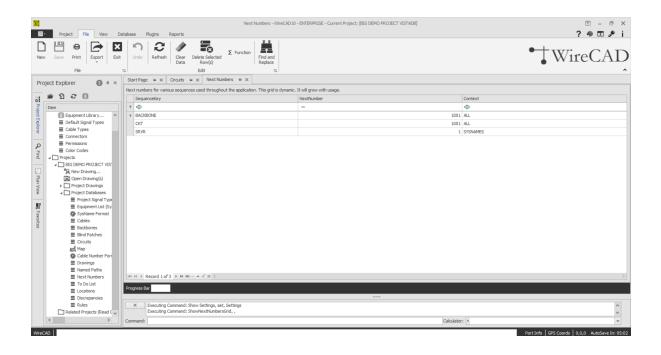
## 3.2.4 Next Numbers Grid

Menu: Database > Next Numbers Default command line shortcut: NN Related Project Settings: None Product Level: ALL

The **Next Numbers** Grid will show you the next available Cable number based on your <u>Cable Number</u> Format 123. 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.

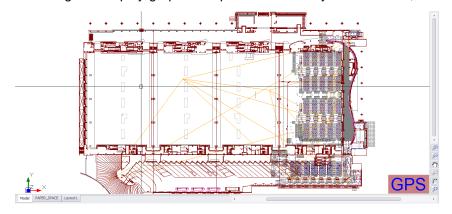


Note: Yours will look different as the Next Numbers grid will automatically create entries for each new sequence used by the application.

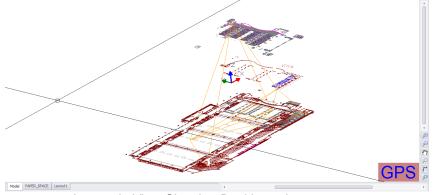
# 3.2.5 GPS Mapping Tools

WireCAD v10 CMS provides several ways for you to visualize your locations, panels, backbones and circuits with relation to their GPS coordinates:

1. GPS calibrate (georeference) your dwg drawing and use the tools to pick GPS coordinates from the drawing and display graphical representations of your Locations, Panels and Backbones.

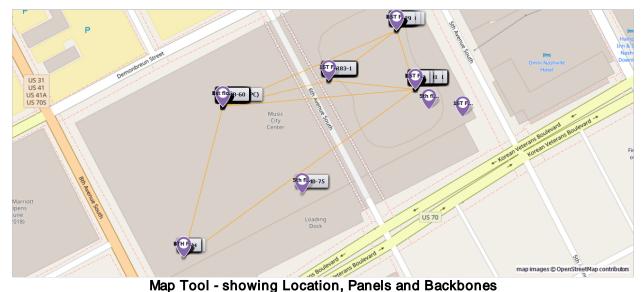


2. You can also set up isometric drawings to show your riser interconnect.



Isometric View Showing Backbone Interconnect

3. Use the Project Map. The functions are the same but the map detail will be less than that of a specific drawing. For example the map may show your building(s) but your CAD drawings will show the detail inside the buildings.



4. The Map Tool is available as a <u>visualization as higher results</u> in the Backbones grid to show you your Backbones in map view.



Map Tool - within the Backbones Visualizer

5. The Map Tool is available as a <u>visualization 248</u> in the Circuits grid to show you the GPS path of a selected circuit.



Map Tool - within the Circuit Visualizer

The WireCAD Locations table within the project database contains fields for named locations within your plant. In addition, those named locations can be associated with GPS coordinates.

D	rag a column hea	ader here to gro							
	Room	Rack	Qualified Location (What the pr $\bigstar$	GPSLocation	GPSLat	GPSLon	GPSElevation	Description	LocationUs.
۴									*
	101		AMU.ANNEX 1.1ST FLOOR.101	36.1576086,-86.77717961	36.1576086034286	-86.7771796105	0.0000000		

Once the project Locations table has associated GPS coordinates you can visualize your data:

- 1. From your GPS calibrated dwg drawing.
- 2. From the Project Map tool.
- 3. From the Backbones grid Visualizer.
- 4. From the Circuits grid Visualizer.

#### **Related Topics:**

GPS Mapping Tools For Drawings 353 GPS Mapping Tools for Map Tool 360

Note: Although we are showing a real world location in these examples the data is completely fictitious. Any resemblance to any data living or dead is purely coincidental.

# Accuracy and Precision

There are several factors that effect the accuracy of the GPS coordinate system alignment:

- The accuracy of the drawing.
- The accuracy of the control points.
- The accuracy of the GPS coordinate provided.

From the wikipedia page on decimal precision:

The radius of the semi-major axis of the Earth at the equator is 6,378,137.0 meters resulting in a circumference of 40,075,161.2 meters. The equator is divided into 360 degrees of longitude, so each degree at the equator represents 111,319.9 meters or approximately 111.32 km. As one moves away from the equator towards a pole, however, one degree of longitude is multiplied by the cosine of the latitude, decreasing the distance, approaching zero at the pole. The number of decimal places required for a particular precision at the equator is:

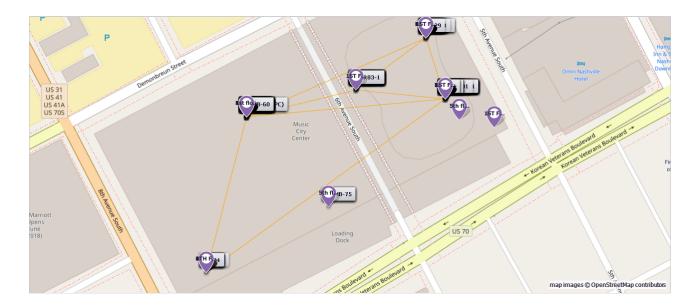
decimal places	decimal degrees	DMS	qualitative scale that can be identified	N/S or E/W at equator	E/W at 23N/S	E/W at 45N/S	E/W at 67N/S
0	1.0	1° 00' 0?	country or large region	111.32 km	102.47 km	78.71 km	43.496 km
1	0.1	0° 06' 0?	large city or district	11.132 km	10.247 km	7.871 km	4.3496 km
2	0.01	0° 00' 36?	town or village	1.1132 km	1.0247 km	787.1 m	434.96 m
3	0.001	0° 00' 3.6?	neighborho od, street	111.32 m	102.47 m	78.71 m	43.496 m
4	0.0001	0° 00' 0.36?	individual street, land parcel	11.132 m	10.247 m	7.871 m	4.3496 m
5	0.00001	0° 00' 0.036?	individual trees	1.1132 m	1.0247 m	787.1 mm	434.96 mm
6	0.000001	0° 00' 0.0036?	individual humans	111.32 mm	102.47 mm	78.71 mm	43.496 mm
7	0.0000001	0° 00' 0.00036?	practical limit of commercial surveying	11.132 mm	10.247 mm	7.871 mm	4.3496 mm
8	0.00000001	0° 00' 0.000036?	specialized surveying (e.g. tectonic plate mapping)	1.1132 mm	1.0247 mm	787.1 µm	434.96 µm

Degree precision versus length

A value in decimal degrees to a precision of 4 decimal places is precise to 11.132 meters at the equator. A value in decimal degrees to 5 decimal places is precise to 1.1132 meter at the equator. Elevation also introduces a small error. At 6,378 m elevation, the radius and surface distance is increased by 0.001 or 0.1%. Because the earth is not flat, the precision of the longitude part of the coordinates increases the further from the equator you get. The precision of the latitude part does not increase so much, more strictly however, a meridian arc length per 1 second depends on latitude at point concerned. The discrepancy of 1 second meridian arc length between equator and pole is about 0.3 metres because the earth is an oblate spheroid.

### 3.2.5.1 Using the Map Tool

WireCAD CMS provides a world map tool. The Map Tool can be opened with the link on the <u>Project</u> <u>Explorer and under the Project Database section</u>.



# Concept

The Map tool within WireCAD can be used to associate your Locations table entries to specific GPS coordinates.

Once the Locations table entries have been associated with corresponding GPS coordinates we can automatically place:

- Location Markers
- Panel Markers
- Backbone Markers

Note that the Map Tool requires an internet connection. We are grateful to the folks at OpenStreetMaps for providing the map image data. The map images are © OpenStreetMap contributors.

## **Pseudo Procedure**

The following is a rough procedure for automatically creating a grapic that shows all locations in the Locations table, all SysNames in the Project Equipment List, and all Backbones in the Backbones grid.

- 1. Use the **Map>Tools>ID GPS Location Coord** tool **550** to specifically associate your named locations to GPS coordinates.
- 2. Use the **Map>Display>Location Markers** tool to display all of the Locations in the Locations able that have GPS coordinates.



3. Use the **Map>Display>Panel Markers** tool to display all of the **SysNames** in the Project <u>Equipment</u> <u>List</u> [574] that have **Locations** in the <u>Locations</u> [560] table that have GPS coordinates.



4. Use the **Map>Display>Backbone Markers** tool to display a polyline representing the <u>Backbone</u><sup>[225]</sup> between location/panels that have **Locations** in the <u>Locations</u><sup>[560]</sup> table that have GPS coordinates.



#### **Related Topics:**

Map Display 36th tab GPS Settings 415 panel

Note: Although we are showing a real world location in these examples the data is completely fictitious. Any resemblance to any data living or dead is purely coincidental.

3.2.5.1.1 How To: Associate GPS LAT, LON with your Locations

This topic focuses on the procedure to identify GPS Lat, Lon point from the Map tool. For a similar procedure using your GPS calibrated dwg drawing see here 2001.

### Explanation

The WireCAD Locations table within the project database contains fields for named locations within your plant. In addition, those named locations can be associated with GPS coordinates.

C	rag a column hea	ader here to gro							
	Room	Rack	Qualified Location (What the pr $\bigstar$	GPSLocation	GPSLat	GPSLon	GPSElevation	Description	LocationUs.
٩									*
	101		AMU.ANNEX 1.1ST FLOOR.101	36.1576086,-86.77717961	36.1576086034286	-86.7771796105	0.0000000		

There are four fields to contain the GPS data:

- GPSLat Latitude decimal precision 18 decimals.
- GPSLon Longitude decimal precision 18 decimals.
- GPSEI Elevation decimal precision 18 decimals.
- GPSLocation text convenience field of the Lat,Lon.

Note: We realize that 18 decimal places is far beyond the capabilities of any non-stationary GPS receiver. We just want to be thorough.

#### Related Topics:

ID GPS Locations 550 dialog reference.

The Map Tool does not give us specific detail of the rooms within our building so some guessing is required if we are going to use this tool to identify Locations within a building. If you have dwg drawing of your building you may be better served to <u>Calibrate</u> 295 those and use the same tool within the drawing to <u>pick location</u> point 295.

WireCAD provides a tool to identify the GPS coordinates from the Map Tool and fill the GPS field data appropriately.

- 1. Open the Map tool.
- Click Tools > ID GPS Location Coords. This will open a dialog from which to select the Location of interest.

<b>1</b> õ				GPS ID Existing Loca	tion		?	×
le	) H	Close Cop	y Selection Down	Pick > Show Me Leave Location Marker				
	File	Es .	Edit 15	Tools 15 Behavior				1
Ŷ	Campus	REC	Floor	Room	Rack	Qualified Location		
		header here to gr			la.d	o ste h ser		
		-						
۲	LA	THE FACTO	MAIN	MR	RK-10	LA.THE FACTORY.MAIN.MR.RK-10		
	109					109		
	109	1	5	507		109.1.5.507		
	109	1				109.1		

3. Select the row(s) of interest within the Locations grid. Here we will define the GPS coordinates for the Location "AMU.COM CTR CORE SWITCH.ROOM 120.5".

S S Nev		Close Copy	Down	Ptdc > Show Me Leave Location Marker	GPS ID Existing	Location		? ×
	File		Edit ra	Tools 🕞 Behavior				•
	ag a column h Campus	eader here to gro Building -	Floor	Room	Rack	Qualified Location	GPS Location	GPS Lat
9	-	#Ec	8 C	REC.	880	a∎c	RBC	=
Þ	LA	THE FACTO	MAIN	MR	RK-10	LA.THE FACTORY.MAIN.MR.RK-10		
1	109			50.3		109		
	109 109	1	5	507		109.1.5.507	HOR	
						40.58	- restore	
144	44 4 Record	lof4 ► ↦ ↦	<					2
Statu	15							

4. Click **Pick >** . The ID dialog is temporarily dismissed to allow you to pick the coordinate from the Map Tool.

<b>χ</b> , ₹					GPS ID Ex	cisting Location		?	×
9	File			_					
New	L Save	Close	Copy Selection Down	Pick >	Show Me	Leave Location Marker			
	File	E	Edit 🗔	To	ols 🗔	Behavior			~

5. Pick the coordinate by moving your cursor to the coordinate in the Map Tool and left-click. Here we will select a location in the corner of the building where we estimate the AMU.COM CTR CORE SWITCH.ROOM 120.5 to be. If you have selected **[Leave Location Marker]** as we have here you will leave behind a location marker at the point you have picked.

- Image: Construction
   Image: Construction
- 6. The ID dialog will be shown with the coordinate data in the selected row(s).

- 7. Click File > Save.
- 8. You are done.

Note: Although we are showing a real world location in these examples the data is completely fictitious. Any resemblance to any data living or dead is purely coincidental.

3.2.5.1.2 How To: Show Location Markers in the Map Tool

This topic focuses on the procedure to display Locations in the Map tool. For a similar procedure using your GPS calibrated dwg drawing see this topic and to the second dwg drawing see the second dwg drawing second dwg drawing see the second dwg drawing second dwg dr

# Explanation

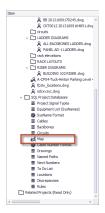
The WireCAD Map Tool con show your Locations for which you have entered GPS coordinate data. Only Locations that have GPS data will be considered.

The text displayed in the Location Marker is determined by the Display Format String of the Location section of the <u>GPS Settings</u> [415] panel.

#### **Related Topics:**

<u>Display Tab</u> (sef) of the Map Tool interface. <u>Map Tool Dialogs</u> (ssb) <u>GPS Settings</u> [415]

1. Open the Map Tool. It can be found in the Project Explorer of under the Project Databases section.



2. Enter any Filter 202 data that you would like to limit the display of Locations by.

$\mathbf{x}_{\mathbf{x}}$						
∎-	Project	File	Tools Disp	play View Database	Plugins Reports	
Reset	Locations	P Panels	B Backbones	THE FACT     V     X     Locations       V     X     Panels       V     X     Backbones	Zoom Extents	Settings
Reset	Locatio	Pan	Backbon	Filters	View 🗔	Sett 🖬

3. Click **Display > Locations**. This will display all locations for which GPS data has been entered. If you have an empty filter all Locations will be shown.



4. You are done.

Note: Although we are showing a real world location in these examples the data is completely fictitious. Any resemblance to any data living or dead is purely coincidental.

3.2.5.1.3 How To: Show Panel Markers in the Map Tool

This topic focuses on the procedure to display Panels or Equipment in the Map tool. For a similar procedure using your GPS calibrated dwg drawing see this topic [303].

#### Explanation

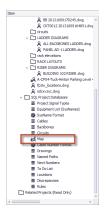
The WireCAD Map Tool can show your **Panels (SysNames)**. The Location of the SysName will be referenced to the Locations table entry. If the Locations record has GPS data the SysName will be placed. Only **Locations** that have GPS data will be considered.

The text displayed in the **Panel Marker** is determined by the **Display Format String** of the **Panles** section of the <u>GPS Settings</u> [415] panel.

#### **Related Topics:**

Display Tab ash of the Map Tool interface. <u>Map Tool Dialogs</u> (556) <u>GPS Settings</u> (415)

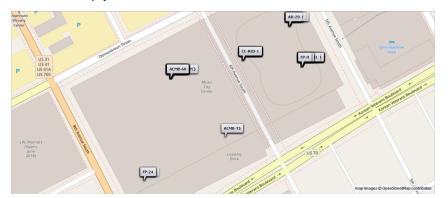
1. Open the Map Tool. It can be found in the Project Explorer of under the Project Databases section.



2. Enter any Filter 292 data that you would like to limit the display of Panels (SysNames) by.



3. Click **Display > Panels**. This will display all Panels (SysName) for which GPS data can be found. If you have an empty filter all Panels with Locations with GPS data will be shown.



4. You are done.

Note: Although we are showing a real world location in these examples the data is completely fictitious. Any resemblance to any data living or dead is purely coincidental.

3.2.5.1.4 How To: Show Backbone Markers in the Map Tool

This topic focuses on the procedure to display Backbones in the Map tool. For a similar procedure using your GPS calibrated dwg drawing see this topic [305].

#### Explanation

The WireCAD Map Tool and can show your **Backbones** for which you have entered GPS coordinate data. Only **Backbones with Locations** that have GPS data will be considered.

The **Backbone Marker** color and Line Width is set in the **Backbones** section of the <u>GPS Settings</u> [415] panel.

#### **Related Topics:**

Display Tab ast of the Map Tool interface. <u>Map Tool Dialogs</u> <u>GPS Settings</u> [415]

1. Open the Map Tool. It can be found in the Project Explorer of under the Project Databases section.



2. Enter any Filter 202 data that you would like to limit the display of Backbones by.



3. Click **Display > Backbones**. This will display all Backbone for which GPS data can be found. If you have an empty filter all Backbone with Location data will be shown.



4. You are done.

Note: Although we are showing a real world location in these examples the data is completely fictitious. Any resemblance to any data living or dead is purely coincidental.

3.2.5.1.5 Using Filters

<mark>x</mark> i ∎-	Project	File	Tools Disp	av View Database Pl	ugins Reports	
Reset All	Locations	P Panels	Backbones	THE FACT     v     X     Locations       v     X     Panels       v     X     Backbones	Zoom Extents	Settings
Reset	Locatio	Pan	Backbon	Filters	View 🖬	Sett 🖬

The filter section is cascading. Selecting a **Location** will cascade to the **Panels** filter by limiting the **Panels** shown to those that appear at the selected **Location**(s). In the same way, the **Panels** filter will cascade to the **Backbones** filter. You may select as many of the filterable items you wish.

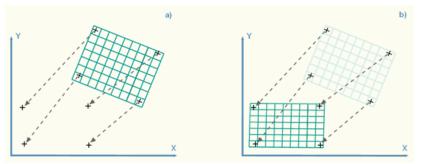
# 3.2.5.2 Using Your DWG Drawings as Maps

WireCAD CMS supports the use of DWG maps to display equipment and backbones.

#### Concept

WireCAD can calibrate or georeference any properly scaled drawing to two known control points. These control points typically reference survey markers in the drawing with their associated GPS coordinates. Control points can be any geometry in the drawing for which you know the GPS latitude and longitude. In other words, the control points can be any two points as long as they have known coordinates in both systems.

Note **WireCAD** uses the term **Calibrate** synonymous with georeference. Calibration or georeferencing is the process of aligning the WCS (world coordinate system) of the drawing with the GPS coordinate system.



Coordinate System Alignment Showing Four Control Points for Illustration. WireCAD Requires Only Two Control Points

Once the drawing has been calibrated, the cursor location is displayed in both Drawing and GPS coordinates.

Snap OSnap Grid Ortho Polar Tracking Extension Tracking Port Info 36.15591428,-86.77864911 -9802.4045 , -8903.9658 , 0.0000 AutoSave In: 07:25

Further, WireCAD can then be used to associate your **Locations** table entries to specific GPS coordinates. Once the Locations table entries have been associated with corresponding GPS coordinates we can use that data to automatically draw:

- Location Markers. Location markers can be any CAD Block of your choice.
- Panel Markers. Panel markers can be any CAD Block of your choice.
- Backbone Markers. Backbones will be represented using polylines with the vertexes defined by the GPS coordinates of the end point locations as well as Via locations.

#### **Related Topics:**

Display Tab 356 of the Drawing Mapping Tools interface.

# **Pseudo Procedure**

The following is a rough procedure for automatically creating a drawing that shows all locations in the Locations table, all SysNames in the Project Equipment List, and all Backbones in the Backbones grid.

# Prerequisites

You will need a DWG drawing of your plant or campus that is drawn to scale. The scale used does not matter as long as it is applied consistently. You will need the GPS coordinates of two control points in the drawing.

- 1. Calibrate the drawing using Mapping Tools>GPS>Calibrate.
- 2. Use the Mapping Tools>Tools>ID GPS Location Coord 550 tool to specifically associate your named locations to GPS coordinates.
- 3. Use the Mapping Tools>Display>Location Markers tool to display all of the Locations in the Locations table that have GPS coordinates.
- 4. Use the Mapping Tools>Display>Panel Markers tool to display all of the SysNames in the Project Equipment List that have Locations in the Locations table that have GPS coordinates.
- 5. Use the Mapping Tools>Display>Backbone Markers tool to display a polyline representing the backbone between location/panels that have Locations in the Locations table that have GPS coordinates.

3.2.5.2.1 How To: Calibrate (Geo-Reference) Your DWG to the GPS Coordinate System

#### Prerequisites

This topic assumes that you have a scaled drawing of your plant.

Further that there exists in the drawing two control points. Control points are typically survey markers for which you have the GPS coordinate data. However, they can be any geometry in your drawing such as the corners of buildings or manhole covers as long as you have reliable GPS data for that point.

#### Procedure

- Open your plant or campus drawing. If the your plant drawing is very large you may want to consider <u>Externally Referencing</u> (XREF) it into a new drawing. This is done to keep the save operation lightweight. Externally referenced drawings do not get saved, only the base drawing.
- 2. Click Mapping Tools > GPS > Calibrate.



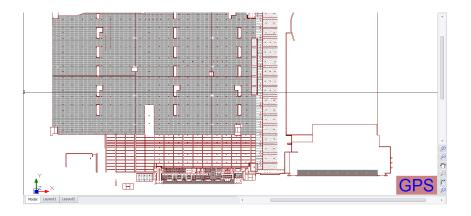
- 3. You will be prompted in the Command Prompt to pick the first point, or lower left point, from the drawing. Do so.
- 4. Enter the GPS point data for the lower left point. The control point does not necessarily have to be the lower left corner. We just need points opposite.

 Executing Command: CalibrateDWGtoGPS, , Pick the LL point -1140'-3 7/8", -764'-9 13/16",0 " Enter the LL Latitude,Longitude in decimal form here>>

Please note that the coordinate is expected in decimal lat, lon form. **Do not CrtI+V** to paste your coordinate data as this will initiate the paste function in the drawing not the command line. Use the Right-Click context menu and select Paste there.

- 5. Pick the upper right point in the drawing.
- 6. Enter its GPS coordinate.

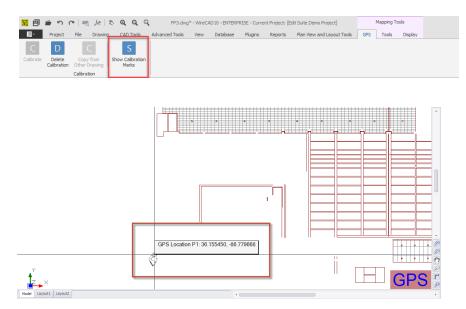
When done the drawing will display GPS in the lower right-hand corner to indicate that it is calibrated.



You will be able to use the GPS tools to pick location points from the drawing. The statusbar text will show you the GPS coordinate of the current cursor position.

Snap	OSnap Gr	rid Ortho	Polar Tracking	Extension Tracking	Port Info	36.15591428,-86.77864911	-9802.4045	, -8903.9658 , 0.0000	AutoSave In: 07:25
------	----------	-----------	----------------	--------------------	-----------	--------------------------	------------	-----------------------	--------------------

Once the drawing is calibrated you can use the **Mapping Tools > GPS > Show Calibration Marks** tool to place a marker in the drawing at your calibration points.



# **Related Topics:**

Display Tab [356] of the Drawing Mapping Tools interface.

3.2.5.2.2 How To: Copy Calibration Data from another Drawing

WireCAD provides a tool to copy calibration or georeference data from another drawing. This assumes the following:

- The drawing you are copying from has been Calibrated. You can tell if the drawing has been calibrated if you open it and it displays the text GPS in the lower right-hand corner.
- The geometry in the two drawings shares the same WCS origin point. This is crucial. If the geometry in the two drawings does not share the same origin point the GPS coordinate system will be off.

# Procedure

1. Open the drawing that you want to copy Calibration data into.

n 🛛	🕱 🗐 🕋 🗠 🏲 🕌 🛵 🗶 🔍 🔍 🍳 🤤 🖓 💦 FP3.dwg - WreCAD10 - BNTERPRISE - Current Project: (Edit Suite Demo Project)										Mapping Tools		
目-	Project	File Drawin	CAD Tools	Advanced Tools	View	Database	Plugins	Reports	Plan View and Layout Tools	GPS	Tools	Display	
C	D	C	S										
Calibrate	Delete Calibration	Copy from Other Drawing	Show Calibratio Marks	n									
		Calibration											

2. Click Mapping Tools > GPS >Copy From Other Drawing. This will open a file browser dialog.

Organize 🔻 🛛 New folde	er				8EE 💌	
Ouick access	Name	Date modified	Туре	Size		
	Floor Plan	4/29/2019 3:27 PM	File folder			
Desktop 🖈	Project Base Template Drawing	3/2/2018 11:42 AM	File folder			
🕹 Downloads 🖈	Single Lines	7/17/2018 11:04 PM	File folder			
📋 Documents 🖈	Snap Shots	3/2/2018 11:42 AM	File folder			
📰 Pictures 🛛 🖈	(Table Of Contents).dwg	3/29/2013 7:01 PM	WireCAD6 Drawing	92 KB		
California Media	all systems.dwg	5/8/2019 4:18 PM	WireCAD6 Drawing	214 KB		
Heartland Video	📄 demo today.dwg	8/13/2018 11:56 AM	WireCAD6 Drawing	65 KB		
IMT	EL_OFFICE_116A.dwg	7/11/2018 5:23 PM	WireCAD6 Drawing	1,645 KB		
WireCAD10Art	📄 rack demo.dwg	5/10/2019 12:41 PM	WireCAD6 Drawing	87 KB		
📤 OneDrive						
This PC						
Network						
DENISE-PC						

- 3. Browse to the Calibrated drawing and select it.
- 4. Click **[Open]**. This will initiate the process. If the drawing has been calibrated the process will proceed and the commandline history will indicate that the process has been completed.
- 5. Click **File > Save** to save the calibration data with the drawing.
- 6. You are done.

3.2.5.2.3 How To: Associate GPS LAT, LON with your Locations

This topic focuses on the procedure to identify GPS Lat, Lon point from a GPS calibrated drawing. For a similar procedure using the Map tool see this topic [284].

#### Prerequisites

This topic assumes that you have a GPS Calibrated drawing of your plant. For more information on calibrating your drawing see this <u>topic</u> [295].

#### Explanation

The WireCAD Locations table within the project database contains fields for named locations within your plant. In addition, those named locations can be associated with GPS coordinates.

D	rag a column hea	ader here to g							
	Room	Rack	Qualified Location (What the pr $\blacklozenge$	GPSLocation	GPSLat	GPSLon	GPSElevation	Description	LocationUs
٩									*
	101		AMU. ANNEX 1.1ST FLOOR. 101	36.1576086,-86.77717961	36.1576086034286	-86.7771796105	0.0000000		U

There are four fields to contain the GPS data:

- GPSLat Latitude decimal precision 18 decimals.
- GPSLon Longitude decimal precision 18 decimals.
- GPSEI Elevation decimal precision 18 decimals.
- GPSLocation text convenience field of the Lat,Lon.

Note: We realize that 18 decimal places is far beyond the capabilities of any non-stationary GPS receiver. We just want to be thorough.

#### Related Topics:

ID GPS Locations 550 dialog reference.

WireCAD provides a tool to identify the GPS coordinates from your GPS calibrated drawing and fill the field data appropriately.

1. Open your GPS calibrated drawing. If your drawing does not display GPS in the lower right-hand corner, stop.



2. Click **Mapping Tools > Tools > ID GPS Location Coords**. This will open a dialog from which to select the **Location** of interest.

Qualified Location
Qualified Location all: LA.THE FACTORY.MAIN.MR.RK-10 109
n t LA.THE FACTORY.MAIN.MR.RK-10 109
109
n t LA.THE FACTORY.MAIN.MR.RK-10 109
109.1.5.507
109.1
109.1

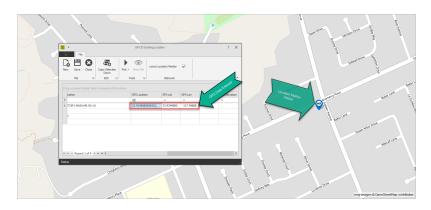
3. Select the row(s) of interest within the Locations grid. Here we will define the GPS coordinates for the Location "AMU.COM CTR CORE SWITCH.ROOM 120.5".

lev	Save	Close Copy	-0	tick > Show Me Tools 15 Behavior	3			
		eader here to gro						
	Campus		Floor	Room	Radk	Qualified Location	GPS Location	GPS La
9	-	# <b></b> ]C	# <b>⊡</b> c	<b>#</b> <u>□</u> c	# 🖸 C	*D:	#Ex	-
ŀ	LA	THE FACTO	MAIN	MR	RK-10	LA.THE FACTORY.MAIN.MR.RK-10		
1	109					109		
	109	1	5	507		109.1.5.507		
	109	1				109.1 ailoft		
						109.1.5.507 109.1 109.5		

4. Click **Pick >** . The ID dialog is temporarily dismissed to allow you to pick the coordinate from the drawing.



- 5. Pick the coordinate by moving your cursor to the coordinate in the drawing and left-click. If you have selected **[Leave Location Marker]** as we have here you will leave behind a location marker at the point you have picked.
- 6. The ID dialog will be shown with the coordinate data in the selected row(s).



- 7. Click File > Save.
- 8. You are done.

3.2.5.2.4 How To: Show Location Markers in your Drawing

This topic focuses on the procedure to place Location Markers in a GPS calibrated drawing. For a similar procedure using the Map tool see this topic [287].

#### Prerequisites

This topic assumes that you have a GPS calibrated drawing of your plant.

For more information on calibrating your drawing see here 295.

Further, this topic assumes that you have identified GPS coordinates for your Locations in your Locations table. For more information on this topic see here 298.

#### Explanation

WireCAD has the ability to place a marker for every location in the Locations table for which GPS coordinate data exists. The markers placed are based on the current filter settings. For more information on setting filters see here 307.

The type of marker placed, its scale, and Overlay Mode can be determined in the menu structure. The marker text, color and Overlay Mode settings can be controlled in the <u>GPS Settings</u> [415] panel.

#### **Related Topics:**

<u>GPS Settings</u> 415 <u>Display</u> 356 Tab

#### Procedure

1. Open your GPS calibrated drawing. If your drawing does not display GPS in the lower right-hand corner, stop.



2. Select the **Geometry** and **Scale**. **Geometry** sets the block to insert as a **Location Marker**. For more information on the **Geometry** see this topic 356.

X 8	💼 🔊 🍅 🦂 🛵 🎝 🍳 🍳 🍳 🔍 🛛 FP3.deg - WreCAD 10 - ENTERPRISE - Current Project: (Edit Suite Demo Project)	Mapping Tools	⊞ – <i>⊕</i> ×
U.	Project File Drawing CAD Tools Advanced Tools View Database Plugins Reports Plan View and Layout Tools	GPS Tools Display	? 🗢 🗔 🖉 i
Reset Al	1 © laver 5ole     1 © lave	t	• WireCAD
Re., 15	Location Markers Panels Baddoones	ra Filters Settin	^

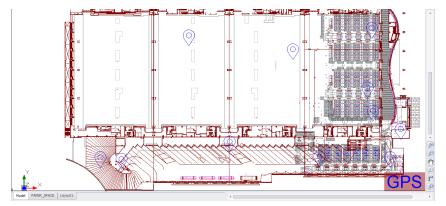
- 3. Select the Overlay Mode. For more information on the Overlay Mode see this topic 3361.
- 4. Enter any <u>Filter</u> [292] data that you would like to limit the display of Locations by. For more information on the **Filters** see this <u>topic</u> [307].

X	Ø	<del>ن ش</del>	∩   ₩	10 0 0 1 H	Q,	FP3.dwg	- WreCAD 10 - ENTERPRI	ISE - Current	Project: [Edit Suite Demo Project]		Mapping T	'ools				
	۲.	Project	File	Drawing CAD Tools	Adva	nced Tools	View Database	Plugins	Reports Plan View and Layout Tools	GPS	Tools	Display				? 🖲 🗖 🖉 i
Re	3 et	L Location Markers	location_pi	V Overlay Mode	P Panels	None	1 🗘 Insert Scale	Baddones	0 \$Arc Distance 0 \$Self-Connect Arc Dis ByGPSLocation ¥Show Mode	e	i Sho I Sho	ow Backbone Stat	THE FAC	T V X Locations V X Panels V X Backbones	<b>Ç</b> o Settings	• WireCAD

Here we have selected a block that has the appearance of a Location pin



5. Click **Mapping Tools > Display > Locations**. This will display all locations for which GPS data has been entered. If you have an empty filter all Locations will be shown.



6. You are done.

Note: Although we are showing a real world location in these examples the data is completely fictitious. Any resemblance to any data living or dead is purely coincidental.

3.2.5.2.5 How To: Show Panel Markers in your Drawing

This topic focuses on the procedure to place Panel Markers in a GPS calibrated drawing. For a similar procedure using the Map tool see this topic [289].

#### Prerequisites

This topic assumes that you have a GPS calibrated drawing of your plant.

For more information on calibrating your drawing see here 295.

Further, this topic assumes that you have identified GPS coordinates for your Locations in your Locations table. For more information on this topic see here 298.

#### Explanation

WireCAD has the ability to place a marker for every Panel in the Locations table for which GPS coordinate data exists. The markers placed are based on the current filter settings. For more information on setting filters see here 307.

The type of marker placed, its scale, and Overlay Mode can be determined in the menu structure. The marker text, color and Overlay Mode settings can be controlled in the <u>GPS Settings</u> [415] panel.

#### **Related Topics:**

<u>GPS Settings</u> 415 <u>Display</u> 357 Tab

#### Procedure

1. Open your GPS calibrated drawing. If your drawing does not display GPS in the lower right-hand corner, stop.



2. Select the **Geometry** and **Scale**. **Geometry** sets the block to insert as a **Panel Marker**. For more information on the **Geometry** see this topic **set**.

X 🗄	<del>ب ش</del> ا	C A A A A	C FP3.dwg - WreCAD10 - ENTERPRI	SE - Current Project: [Edit Suite Demo Project]	Mapping Tools		
- <b>B</b> +	Project	File Drawing CAD Tools	Advanced Tools View Database	Plugins Reports Plan View and Layout Tools	GPS Tools Display		? @ 🗉 🖉 i
Reset All	L Location Markers	i 🗘 Insert Scale location_pin v Geometry None v Overlay Mode	Panels	Baddones  0  Arc Distance  0  Self-Connect Arc De  ByGPSLocation  Show Mode	at Show Backbone Sta	tats THE FACT V X Locations V X Panels V X Backbones	
8e (		Location Markers	Panels	Baddones		rs Filters Settin	A

Here we have selected a block that has the appearance of a simple rectangle with an angled line.



- 3. Select the Overlay Mode. For more information on the Overlay Mode see this topic 356.
- 4. Enter any <u>Filter</u> by. For more information on the **Filters** see this topic **307**.



5. Click **Mapping Tools > Display > Locations**. This will display all locations for which GPS data has been entered. If you have an empty filter all Panels with found GPS data will be shown.



Here we see the panels displayed with the Radial Overlay mode

6. You are done.

Note: Although we are showing a real world location in these examples the data is completely fictitious. Any resemblance to any data living or dead is purely coincidental.

3.2.5.2.6 How To: Show Backbone Markers in your Drawing

This topic focuses on the procedure to place Panel Markers in a GPS calibrated drawing. For a similar procedure using the Map tool see this <u>topic</u> [29].

#### Prerequisites

This topic assumes that you have a GPS calibrated drawing of your plant.

For more information on calibrating your drawing see here 295.

Further, this topic assumes that you have identified GPS coordinates for your Locations in your Locations table. For more information on this topic see here 298.

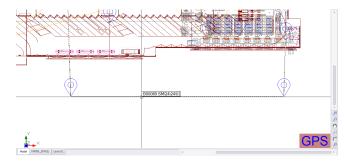
#### Explanation

WireCAD has the ability to place a polyline for every **Backbone** in the <u>Backbones</u> table for which GPS location coordinate data exists. The markers placed are based on the current filter settings. For more information on setting filters see <u>here</u> [307].

The Arc Distance, Self-Connect Arc Distance and the Show Mode can be determined in the menu. For more information on these settings see this topic [358].

The marker text, color and other settings can be controlled in the <u>GPS Settings</u> [415] panel.

The tool can **[Show Backbone Stats]** such as the fiber count, availability, and blocked fiber count. This data, if generated, is displayed in the tooltip of the **Backbone** when the mouse hovers over it. The statistics are presented in the form: Backbone Number FiberMode\Count\Available\Blocked



You can also see **Backbone** stats with or without having the **[Show Backbone Stats]** checkbox checked by double-clicking a **Backbone**. Doing so will present a message box with the stats.



The polyline can be made to show only its end points or if the **Show Vias** is checked it will jump from the starting location through every **Via** location until it reaches the ending location.



Backbone from panel to panel Via Manhole 1 and Manhole 2

The polyline can also be made to show the Backbone number as the polyline LineType



Backbone showing number as Line Type

### **Related Topics:**

GPS Settings Display 358 Tab

#### Procedure

1. Open your GPS calibrated drawing. If your drawing does not display GPS in the lower right-hand corner, stop.



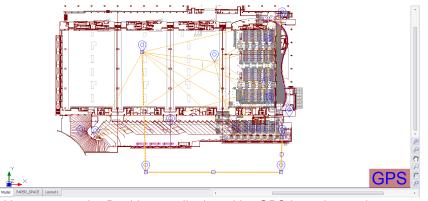
2. Select the **Arc Distance** and **Self-Connect Arc Dist**. **Arc Distance** sets the polyline bulge factor. An Arc Distance of 1 creates an arc of 180°. For more information see this topic [358].

🗙 🗐 🕋 ち ベ 🗮 🎘 🕸 🍳	Q Q PP3.dwg* - WreCAD10 - ENTERPR	ISE - Current Project: [Edit Suite Demo Project]	Mapping Tools			🗄 – 🕫 🗙
Project File Drawing CA	Tools Advanced Tools View Database	Plugins Reports Plan View and Layout Tools	GPS Tools Display			? 🖶 🗆 🖋 i
Reset Al None V Overlag	Geometry	Backbornes	st Show Backbone Stats	v X Locations	<b>O</b> Settings	• WireCAD
Re., 15 Location Markers	Panels	Paddonee		Filters	Settin	~

- 3. Select the Overlay Mode. For more information on the Overlay Mode see this topic 3561.
- 4. Enter any <u>Filter</u> 292 data that you would like to limit the display of **Backbones** by. For more information on the **Filters** see this topic 307.



5. Click **Mapping Tools > Display > Backbones**. This will display all locations for which GPS data has been entered. If you have an empty filter all Panels with found GPS data will be shown.



Here we see the Backbones displayed by GPS Location and we are showing Vias

6. You are done.

Note: Although we are showing a real world location in these examples the data is completely fictitious. Any resemblance to any data living or dead is purely coincidental.

3.2.5.2.7 Using Filters

X 🗉	💣 🗠 🎮 🖟 🛛 🤹 🛵 🔍 🍳 🔍 🖓 PP3. dwg* - WreCAD 10 - ENTERPRISE - Current Project: (Edit Suite Demo Project)	Mapping Tools	Ξ - σ ×
- III -	Project File Drawing CAD Tools Advanced Tools View Database Plugins Reports Plan View and Layout Tools	GPS Tools Display	? @ 🖬 🖉 i
Reset	I         Incent State         P         I         Disert State           Coation_pin         © Secretify         Panels         © Secretify         Baddones           Anteres         Norwey Mode         Incent State         Description         0         Secretify	ist 2 Show Was bodone Stats 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	• WireCAD
Re., 15	Location Markers Panels Backbones	Settin.	A

The filter section is cascading. Selecting a **Location** will cascade to the **Panels** filter by limiting the **Panels** shown to those that appear at the selected **Location**(s). In the same way, the **Panels** filter will cascade to the **Backbones** filter. You may select as many of the filterable items you wish.

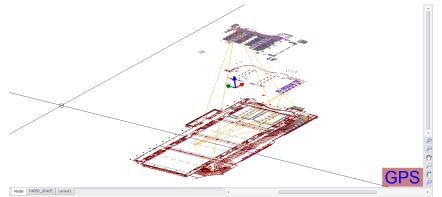
3.2.5.2.8 HOW TO: Create a Multistory Isometric Drawing to Display GPS Data

#### Prerequisites

We will need a new drawing. We will also need the floor plans for each floor one per file all aligned to the same X,Y origin.

#### Concept

We can use the different floor plans of a structure stacked one on top of another along the Z axis to display our interconnect in an isometric view.



Isometric View Showing Backbone Interconnect

Here we have created a new drawing called map.dwg and Externally Referenced each floor on the same X,Y origin but at a different Z axis location.

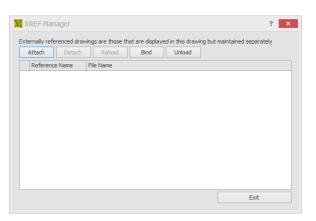
# Pseudo Procedure

- 1. Create a new drawing.
- 2. XREF the first floor inserting it at 0,0,0.
- 3. XREF the next floor inserting it at 0,0,n where n is some value along the Z axis far enough away from the origin that when we rotate the drawing into isometric view the two floors do not interfere with each other.
- 4. Lather, rinse, repeat for each floor inserting the floor at 0,0,n\*f where n is the distance along the Z axis and f is the floor number.
- 5. For ease of use we recommend creating a layer for each floor and assigning the floor to the layer in order to control visibility.
- 6. <u>Calibrate</u> 295 the drawing.

# Procedure

Before you start. Collect all of your floor plan files into a known location. We recommend in the same folder as the new drawing you are about to create.

- 1. <u>Create a New Drawing</u> 1. Name it map.dwg or some-such.
- 2. Make sure you are in Model space.
- 3. With the map dwg drawing as the active form. Click **CAD Tools > External Reference Manager (XREF).** This will open the **XREF Manager dialog** 442.



4. Click the [Attach] button. This will open a file browser dialog.

Look in	Drawings V	G 🤌 📂 🛄 -		Preview
Jick access Desktop Libraries This PC	Name ^	Date modified 4/24/2019 2:33 PM	Type WireCAD6	
Network	<      File name:      Files of type:     All Drawing Files (".vdml;".vdd;".vdl;".vd		> Ok Cancel	

5. Browse to your floor plan file and click **[OK].** This will display the Insert dialog.

Insert Block					X
Block					
O Block in Drawing					3
From File	C:\Users\Public	\Documents\WireCAD\	WireCAD9\D	emo Projects\BIG ENTERPRISE DEM ••	•
Global Attributes Mode				Preview:	
Normal	•				
Select all parameter	5 on barcan	Select on Screen		Select on Screen	
Insertion Point		Scale		Rotation Angle	
X:	0 韋	X:	0 🛟	Θ	•
Y:	0 🗘	Y:	0 🗘		
Z:	0 🗘	Z:	0 🗘		
			ОК	Cancel	

# 310 WireCAD v10 User Manual

6. For the first floor use the default settings for all other floor enter a Z axis insertion point. Click [OK].

You may need to play with this to find a number that works for the structure you are trying to show. You don't have to reinsert it every time you want to modify the Z axis. Just open the Drawing Properties at tool panel and with the XREF selected in the drawing find the Insertion Point property and modify the Z Axis there.

Drawing Properties	() a x	Start Page X	map.dvg* +	X Seckbones	×						- states
2 🕫 🚳 🔍		1	1						1775		ARCHITECTUCK OF
velopert & CP01-lower h	leeting room lighting 3187 +	1									10 M 10 M 10
Colections			/								THE OWNER WATER
Wroperties	0 Items		1								NAME AND POST OFFICE ADDRESS.
Geometry	U LOOPO		1								" montheastern
Entransitienter	0.0000 0.0000 1.0000		1								
InsectionPoint	0.0000.0.0000.3000		1							93) 100	of Sin on one of
Referen	0 0.0000		հ								Reason in the second
Xacale	1.0000		7								Succession
Yscale	1.0000		1								Sector and the sector of th
Zucale	1.0000		1								
Misc	^			1							in a second
AlignToView				1							e -
AlignToViewSize	0			1						191	
Attributes	0 Itens			1						12	
5lock.	A-CP01-lower Meeti			1				1.11	an Denier	100.00	a la constante de la constante
ClpBoundary			5		States of	- C - 190	and the second				Contraction of Contra
Draw30Flag	ExcludeFromList			<i>[]</i> ]	F 14			141		141	lizzanii i
FadeEffect	0			11.4	0 1	11		111		1111	framework (
Handle	95713		19	1178	1	11		171		1111	-tanant
HighLight	×.		- F	N 11		間		171		1711	110
Label			1		THE OWNER WATER	1 1101	1142.8	an thing		1000	HALF AND
Layer	0			1 1-20	Part	100	1000	843,53	1000 C	1000	
Line Type	DyLayer			100	Contraction of the local division of the loc	55		-			And the strength of the second second
Line Type Scale	1.0000 *			1	Accession (Filling				_		

- 7. This will load the drawing. Note that you may not see the drawing in the current view of Model space until you dismiss all dialogs and click Zoom Extents.
- 8. Repeat steps 4-7 until you have added all floors.
- 9. <u>Calibrate</u> 295 the map.dwg drawing.
- 10. Click File > Save.
- 11. You are done.

# 3.3 CMS Settings and Options

# Menu: Application Menu > Settings

Default Commandline Shortcut: set

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.

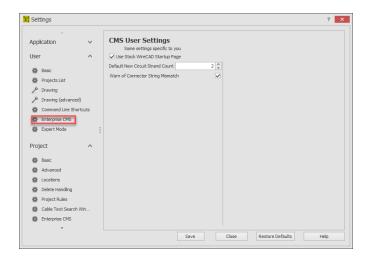
Note: Third party Plugins may register their own settings categories and panels. Shown are the stock settings.

Application	^	Application Settings Some of the basic settings and behaviors
Basic     WireCAD Security     Global Database Locz     Support Paths     Organization     Enable/Disable Plugin     Todo List User		Check for Program Updates Automatically Upon Startup Show Application Setup Wizard Upon Startup Community Equipment Library Connection and Contribution Community Library Auto-Contribution Mode AutoContributeMyWork
<ul> <li>Basic</li> <li>Projects List</li> <li>✓ Drawing</li> <li>✓ Drawing (advanced)</li> <li>✓ Command Line Shorts</li> <li>✓ Enterprise CMS</li> <li>✓ Expert Mode</li> <li>Project</li> </ul>	uts	Customer Experience Improvement Program Silent Plugin Loading (hides message if plugin fails to load) Default Project Database Host(SQL only) [spdexpress Use SQL Server Project databases by default Users (mere mortals) can select Project Database Mode Disable Form State Tracking - this may be useful if you are having trouble with different screen resolutions Disable Natural Sort on grids - this may be helpful if your grids are taking a long time to load

# 3.3.1 User Settings

# Menu: Application Menu > Settings[User][CMS User]

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



- Use Stock WireCAD Startup Page Not used anymore.
- **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.

# 3.3.2 Project Settings

#### Menu: Application Menu > Settings[User][CMS User]

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.

Basic	Cable Management	System Basics		
Projects List     Projects List     Proving     Drawing     Orawing     Orawing (advanced)     Command Line Shortcuts     Enterprise CMS     Expert Mode     Project	Some basic setting: Manage Status Items Default New Backbone Status Default New Circuit Status	s for the CMS module PROPOSED PROPOSED		v v
<ul> <li>Basic</li> <li>Advanced</li> <li>Locations</li> </ul>		B{0} J{0}.{1}.{2}	Circuit Number Format Horizontal Cable Number Format	{0} H(0) (1) (2)
🏶 Delete Handling		GENERIC V	Default Jumper P/N Default H Cable P/N	GENERIC

- 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. Selecting a status will cause that to become the default for all backbones in this project. Status Items are defined in the Status Behavior Project Settings panel.
- Default New Circuit Status Just like above, when creating a Circuit, you have the ability to mark a status on that circuit.
- Backbone Number Format The variable {0} contains the next number in the Next Numbers grid for Backbones.
- Circuit Number Format The variable {0} contains the next number in the Next Numbers grid for Circuits.

#### • 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.

#### 3.3.3 Output Settings

Menu: Application Menu > Settings[Project][Export Settings]

	Basic	Ouput Settings	
登	Projects List	Determines the default preview output behavior	
۶	Drawing		
۶	Drawing (advanced)	Use Template	
☆	Command Line Shortcuts	Always Ask For Filename and Path	
÷	Enterprise CMS	Circuit File Name Format CKT (0)	
ŵ	Expert Mode	Backbone File Name Format BB{0}	
		File Format dwg	
Proj	ject ^	Path C:\Users\Public\Documents\WireCAD\WireCAD9\Demo Projects\Edit Suite Demo Project\Drawings	
۰	Basic :	Create Folders For Each IT System	
÷	Advanced :	Automatically Overwrite Files of Same Name	
٠	Locations	Append Date Stamp to File Name	
٠	Delete Handling		
÷	Project Rules		
* *	Project Rules Cable Text Search Win		
* * *			
* * *	Cable Text Search Win		
***	Cable Text Search Win Enterprise CMS	Circuit Post Process Script	

- Use Template Path 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 file name 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.
- 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 Self-explanatory.
- **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 at topic for more information.
- Backbone Post Process Script Path to a c# file which will be run post export but pre write-to-disk. See the Post Process Scripts at topic for more information.

#### 3.3.4 Status Behaviour

🔀 Settings ? × Application  $\sim$ Assigned to Circuit Color SeaShell User  $\sim$ Status Item Behaviour  $\sim$ Project Context Status Display Name
 P C REC REC Back Ground Color Is Blocking 🚯 Basic Backbones\_Status ✓ Available Advanced 255, 255, 255 Locations Backbones\_Status DEAD 255, 165, 0 ~ 🏶 Delete Handling Backbones Status In Use 245, 222, 179 Backbones\_Status PROPOSED 255, 255, 255 Project Rules Backbones\_Status 255, 192, 203 Reserved 🎄 Cable Text Search Win. Unknown Backbones\_Status Circuits\_Status 255, 192, 203 255, 255, 255 Enterprise CMS INSERVICE 🕸 Export Settings 255, 255, 255 Circuits\_Status PROPOSED 🔹 Status Behaviour \* GPS Settings HH +H + Record 1 of 8 ► H+ HH + - + √ × < Save Close Restore Defaults Help

Menu: Application Menu > Settings[Project][Status Behavior]

• Assigned to Circuit Color - The color to display in the Backbones grid if the record is assigned to a circuit. Here we see circuit 0232 using the backbone B000003.41.

CktNo	CableType	CableType	CableNo	SrcSys	DestSys	SRCPIn	DestPin	SRCLoc	SRCE	DestLoc	DestEl	SRCConn	DestConn	MultiCore	AvailableC
														<b></b>	8
Đ	GENERIC	48 STRAND	800003.36	AD-3	CC-R54-4	036	036	AMU.BLDG		AMU.COM		FC	SCA		
Ð	GENERIC	48 STRAND	B00003.37	AD-3	CC-R54-4	037	037	AMU.BLDG		AMU.COM		FC	SCA		
÷	GENERIC	48 STRAND	800003.38	AD-3	CC-R54-4	038	038	AMU.BLDG		AMU.COM		FC	SCA		
Ð	GENERIC	48 STRAND	B00003.39	AD-3	CC-R54-4	039	039	AMU.BLDG		AMU.COM		FC	SCA		
	GENERGE	10.31104140	000003.40	40-0	CORDIN	040	040	AP10.0200		API0.0001		rc .	308		
··· 0232	GENERIC	48 STRAND	B00003.41	AD-3	CC-R54-4	041	041	AMU.BLDG		AMU.COM		FC	SCA		
0222	CENERIC	10 070 410	000000.12	10.2	60 NS1 1	0.42	0.12	MW.0100		AND CON		10	001	- 0	
Œ	GENERIC	48 STRAND	B00003.43	AD-3	CC-R54-4	043	043	AMU.BLDG		AMU.COM		FC	SCA		
Ð	GENERIC	48 STRAND	B00003.44	AD-3	CC-R54-4	044	044	AMU.BLDG		AMU.COM		FC	SCA		
0242	GENERIC	48 STRAND	B00003.45	AD-3	CC-R54-4	045	045	AMU.BLDG		AMU.COM		FC	SCA		
· 0243	GENERIC	48 STRAND	B00003.46	AD-3	CC-R54-4	046	046	AMU.BLDG		AMU.COM		FC	SCA		
Ð	GENERIC	48 STRAND	B00003.47	AD-3	CC-R54-4	047	047	AMU.BLDG		AMU.COM		FC	SCA		
Œ	GENERIC	48 STRAND	800003.48	AD-3	CC-R54-4	048	048	AMU.BLDG		AMU.COM		FC	SCA		
	oPrefix: B00004	1													
Ð	GENERIC	24 STRAND	B00004.01	AD-4	AD-5	001	001	AMU.BLDG		AMU.BLDG		ST	ST		
÷	GENERIC	24 STRAND	B00004.02	AD-4	AD-5	002	002	AMU.BLDG		AMU.BLDG		ST	ST		
Ð	GENERIC	24 STRAND	B00004.03	AD-4	AD-5	003	003	AMU.BLDG		AMU.BLDG		ST	ST		
	GENERIC	24 STRAND	000004.04	AD-4	AD-5	004	004	AMU.BLDG		AMU,BLDG		ST	ST		

- **Context** Backbones\_grid or Circuits\_grid.
- Display Name The name of our status.
- Background Color Self-explanatory.
- Is Blocking A blocking status is one that blocks operations from proceeding. For example: if we mark a backbone fiber as DEAD we would not want to use that in a Circuit. If the status item is set as Is Blocking = true then the New Circuit tool will not allow a circuit to involve that strand of fiber.

#### 3.3.5 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
/// </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.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)

# 3.3.6 GPS Settings

#### Menu: Application Menu > Settings[Project][GPS Settings]

See the Reference section regarding the <u>GPS Settings</u> [415] panel.



# Reference

Here you will find a listing of all menu functions, forms, and dialogs.

# 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

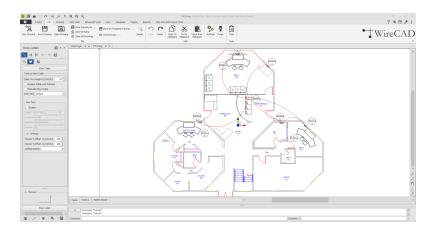
Please note that although this reference is quite complete, only dialogs that really need explaining are documented. For example, we assume that you can figure out what menu entries like Save and Save As do for yourself.

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.

### 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:

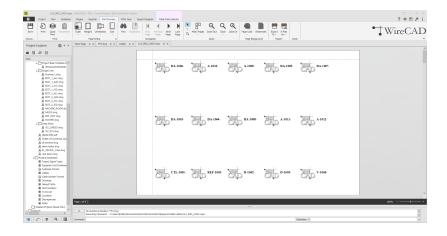
#### 1. The Drawing environment



# 2. The Data environment

Same Ant Coper Sect	SportPlade	Exit	<b>S</b> Unde	Betreth 1	Clear Delata S Dela Ran Ed	idected (6)	義 Copy Increment Σ Funct	Down	A	apeir Bqui Itlach Doc a-index C	unent.		0 Table	Tada											• Wire	еC
ect Explorer 🛛 🛛 ×	StartPage e x	FP1.64	9 0 3	x Cobles + :	×																					
ລະອ	Cata Navalo	ition Setting	p 10	rotsslau																						
0.00	04	unne with o	alored b	adiground must be	edited from the	Calpin	ent List table	ar Locat	tions table and ripple	d here.																
A C T Project Base Template D P	Search															Search					Pred -	Al				
A demograpiectemplete.																										
I Single Lines																									Changes to Ripple Across Project	
& Drawing Liding		Cable			<ul> <li>SrcSys</li> </ul>		. SROPIN		SROLoc		Derts			. Destloc		. DestConn				. Sign					CK .	
R EDIT_1_ALL dug	1.0			0 0	-0-	•	•		-0-	•	-01	-0:	۰	·0:		-0	-0	•	۲		-01			-	^	
A DOT_1_AUD.deg	> 21 DELDEN		WC	A-2005-	VTR-01		MONIL	х	R00H110.2	20	2016		L.1	R00H110.2		370		MA.		ALD.						
A KOTT_1_CTL.dvg	E BELDEN	380 LA		A-2002-	VTR-01		MONR	х	ROOM 110.2	20	30K			ROOM 130.2		370		MA.		AUD						
A EDIT_1_VID.dvg	E BELDEN	3801A	w	A-3000-	VTR-02	VR.	MONH	х	800H110.2	8	3004,-	01 QC	1.2	8.00H 130.2	35	370		MA.		AUD.						
8 EDIT_2_ALL.dvg 8 EDIT_2_ALD.dvg	33 BRUEN	1901A		A-1004-	VTR-02		MON-R	х	800H110.2	8	2016		8.2	ROOM 110.2		220		MA.		ALD.						
8 KOT 2 CTL deg	23 BELOEN	100 LA	WG	A-1005-	VTR-03	VR.	MONIL	х	R00H 110.3	20	20HL-	01 QC	6.3	ROOM 110.2	25	370		MA.		ALD						
8 EDIT 2 VID.dvg	23 66.00N	350 LA	W	A-1005-	VTR-03	VR.	MONR	х	ROOM 110.3	20	308	01 QC	R.3	ROOM 130.2	35	370		MA.		AUD						
8 MACHINE ROOM.dw	E RELORN	3801A	w.	A-1007-	VTR-04	VTL.	MONE	х	ROOM 110-3	19	3000	01 QC	1.4	800H 130.2	35	370		MA.		AUD.						
A RADG.drg	33 BR.DEN	3801A	WG-	A-1008-	VTR-04	VR.	MONIR	x	800H 110.3	24	2014	01 QC	8.4	8.00H 130.2	25	220		MA.		ALC:						
R REF_DIST_dwg	33 66LOEN	100 LA	WC-	A-1009-	028-01	02	CRL	1/4	209	OES.	PA-00	PR-0		209.1	12	x		000		ALD.						
A ROUTER.dvg	21 BELDEN	300 LA	w.	A-1212-	028-01	02.	CRR	1/4	209	oes.	PA-00	28-0	R	109.1	12	x		223		ALD.						
Step She's	E BELDEN	3831A	W.	A-2012	PA-01	PAG		x	225.1	12	250	c 95.	71	129	835	5en		225		DAN						
A 112_CABLES.deg A 112_375.deg	E PROFIN	18114	WC.	A-1212-	FR-01	96-0		x	208.1	12	SPC-C	1 9%	21	209	LEFT	Eac.		FCC.		BAN					1.1	
& READ HELDST	33 66.00N	19914		A-1212-	028-02	02	CRL	1/4	113	OES.	PA-00	F8-0		112.1	12	x		100		ALD.						
R (Table Of Contents).dea	23 OBLOOM	1001A	100	A-1214-	028-02	02	CRR	1/4	118	OPS.	PA-00	PA-0	0	112.1	12	x		223		ALD.						
8 al potens des	E BELDEN	ALOSE		A-2015-	PA-02	PAG		x	112-1	12	25.0			112		. Sen		225		DAN						
R deno today deg	ERIDEN	18114		A-1216-	FB-02	PAG		x	112-1	12	195.0		21	112	LIFT			FCE		BAN						
R EL_OFFICE_115A.dvg	21 BRURN	19214		A-1217-	1216-01				800H 110.2	10	AMU			8004110.2		X		MA								
R rack deno.dwg	21 00 000	2001A		A-1213-	106-01			370	R00H110.2	25	AML			R00H110.2	2			114		*0						
Project Databases	E DELUCH		WL-	A-1313- CTL-3001-			K R5 422	5.0	100		\$P-01			5004 130.2	20			ECC.		R54						
E Project Signal Types E Equipment List Similians	B		WL-	CTL-3002-	10-01		85 422	09	112		99-03		854		114.0			PCC.		854						
Systeme Formet	12		WG.				85 422	09	112 208.1				R54		20			333		0154						
E Cables				CTL-2022-	CP8-01					10	STR-C															
Cable Number Format	33		wc	CTL-2004	CP0-01		8-02	09	209.1		NTR-G		R54			90		MA.		om						
E Drawings	8		wc	CTL-3005-	CP6-01		8-03	09	209.1	10	VTR-C		R54			90		MA.								
Named Patho	B		₩	CTL-3006/	078-01		8.01	09	309-1	10	STR-C		854			90		MA.		OUL						
E NextNumbers	23		WC-	0-3005-	CPU-01		FRENDE		209		UF-0			\$209		1394		601								
E To De Let	10 IN A RECORD	1 of 122	3 34 34	0.000	CDUZK	ere	MONUON	HOIS	***		Canon	a		*10	nee	10010		ere		VCA				>	·	
E Locations Decrepandes					_		_			_	_	_			_		_	_	_	_	_	_	_	_	1	
E Rules	Progress																									
Related Projects (Read Only)		_			_		_					_			_		_									_
v troot	× Commo	wh Marcel																								

# 3. The Reporting environment



# 4. The PDF viewer environment

PROJECT View Database Plugins	Reports PDF Vever		test1.pdf - Win	CADE - ENTERPRESE - Current P	roject: (just a	test]					۰ 🗈	
	n Out Zoom In Zoom								•	Wire	CA	١D
File Navigation	Zooni Start Page X FP3.dwg			Silvery X testLodf X								
ស្ទុណ	start Page X PP3.0vg	04/9	8		24.102			5A-CT			IA-II	
7 6 0	-	- A 10	107		101	LINE GROUP					A-01	10
	-	A 10	H0 A	A.0	1.00	1. NOT THE ACCURACE			HO A.		4.61	8-66
Connectors A	-	4 4.0	10 A			1.00108050			1-10 a		A-01	8-01
Permissions	-	A = 100	111 A		8-04 <u>8</u>	24,522					#44	8.04
Color Codes	-		10			24,405					A-01	1.0
Prouts	-	A = 100	P.01 A.		8-X 4	24.103			100 A		#-06	8-06
Projects	-		MP a Casa		5-17 <u>-</u>	24, 803.			147 <u>a</u>		A-01	0.07
🗀 just a test 🦷	-	A 10	100 A		8.01	24103202		A-08			4.04	8-04
A New Drawing	-	4 410	10		1.0	24.10%	26.10% 8	A-00	1-10 A		A-01	8-01
(A) Open Drawing(s)	-	A 1/2	11 A		8.00	MD 307-	MAND A	A-10	P.0 0		4.10	8.10
+ C Project Drawings	-		0.1 .	A.1	8-11 <u>-</u>	14.055	0.05 8	A-1	6/1 <u>8</u>		A.11	
R P2.dvp	-	A 20	8-0 A		8.0	auto-122243	adia-00010 A	A-12	P.0 0.		A-0	8.0
A plan view dwg	-	4.0	P-11 - 2		0.11	1.001.00010	centrated at	Ar10	5-0 <u>s</u>		A12	8.11
A racks too.dvg	-	A 1/1	8-14 A		8.14	DA STORACOURSES	A ROMANDARIA	Artic	P.11		4.14	8.14
A reda.dvg	-		P.0 .		6.00	DA HOUR ACCOUNTS	APRICATION IN	A-10	P.0		A.11	6.11
A testlowg	_	cost a sit	1-11 A	A.11	8.44	DA NUMBER CODER	TOROTOMOS A	Arit .	1 X A		A-10	8.16
人, test1.pdf	_	4 67	8-17 B	- A.11	8.11	DA HOLINACIONAL ON	CLEADERLOR R	1.17	P.7		A-11	6.0
A WreCAD Drawing.dwg		4 52	1.1		a.c	DA NUMBER OF DESIGNATION	A CONSTRUCTION	N 8	P.T. A. COMMENT	_	4.11	1.1
+ C Project Databases		4 4.7	A-12 A	- A1	6.02	IL CLEASON B	aroaucoousof a	~ 2	NO A COLONE WW		A-11	
Equipment List (SysNemes)		Capit A 1/2	10			DA NUMBER OF T	parenter a	A-22	ton a community of		6.01	1.0
SysNeme Pormet		4 40	0.01	1 40	10.1	LANCING	1.00.0070 0	A-0	ALL A COMPANY		4.11	
Cables		canal A AC	P.22	- 500 A 40		LOW-REACE DOIT			10 A 100000	h	A.02	
E Eckbores		Cathal A Arth	NO A	- A11		A NAME OF A DRIVE OF THE			NO A COMMENT	I —	A.01	
Drouts		A 10	EN A			LAND MARKED IN			tor a commenter	I —		
Gable Number Format			1.0	1 44		A MARK DO A THE OTHER DOCUMENT			AND A COMPANY		A.01	1.0
Drawings			ES A	7007 1 41					13			1.0
Named Paths			10	A11	6.0	A REAL PROPERTY AND A REAL PROPERTY.			100		A.01	
Next Numbers     To Do List		- 4 10	10	AP	8.0				10 4		A.01	10
Locations		A A00	NO A		100	CLOUDE DOUT			100 0		A.11	1.0
Discrepancies	_					1.010			10			10
Related Projects (Read Drily)												
C America Projecta (America Unity)												
	× No AutoSave Needed I											
		pen PDP - C: (Lisers (Publ	c'/Documents/just a test/D	wings/jast1.pdf								
Proje 🔍 mid 🖉 Plen 📷 Ferro	Command:						Calculators					

5. 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.

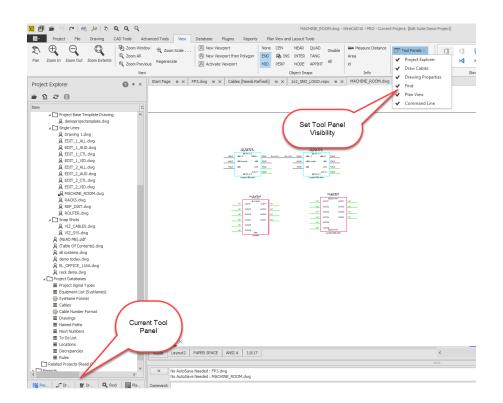
# 6. The Ribbon Toolbar

🕱 🛃 👼 🗠 ल 🚔 🖳 🕅	Q Q Q		MACHINE_ROOM.dwg - WireCAD10 - PR	0 - Current Project: [E
Project File Drawing	CAD Tools Advanced Tools View Database	Plugins Reports	Plan View and Layout Tools	
New Drawing Save Drawing Open Drawing	Save Drawing As P Save As Template Drawing .     Close Drawing     Close All Drawings	Export Undo	Redo Copy To Cut to Paste from Settings	Purge Todo
	Exp Close All Drawings	•	Clipboard Clipboard Clipboard Edit	 Todo

**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.

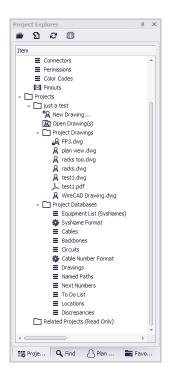
# 7. Tool Panels



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

# 8. 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.

# 9. 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 behavior of cables.

Start Cable Point to Point Cable Cable Text Height (1/100 DU) Replace Cable with Pointers													
Cable Text Height (1/100 DU) 25													
	Cable Text Height (1/100 DU)												
Manually Draw Cable													
Manually Draw Cable													
Aux Text													
Enable													
Height (1/100 DU) 0													
Location Over	~												
Variable CircuitNumber	~												
Format {0}													
^ Settings													
Router X Offset (1/100 DU)													
Router Y Offset (1/100 DU) 100 🗘													
Default Pointer	•												

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

# 10. 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.

Grid Space X	lic\Documents\just a test\D	-
one opace A	1.0000	
Grid Space Y	1.0000	
GridStyle	Dot	
Limits	0.0000,0.0000,0.000	
OrthoMode		
OrthoModeAxis	X, Y, Z	
PolarTrack		
PolarTrackAngle	45.0000°	
PolarTrackLock		ſ
SnapAngle	0°	
SnapBase	0.0000,0.0000,0.0000	
SnapMode		
SnapSpaceX	1.0000	
SnapSpaceY	1.0000	
Keyboard	^	-
OrbitActionKey	AltLeft	
OsnapDialogKey	Ctrl+None	
PanMouseButton	Middle	
SelectionPreviewDo	Down	
SelectionPreviewUpl	Up	
UrlActionKey	Ctrl+None	
Misc	^	-

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

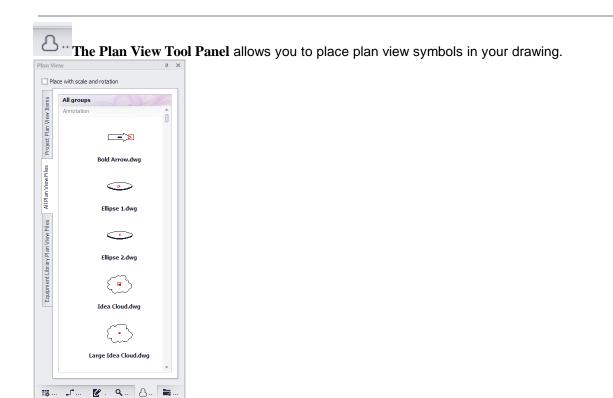
# 11. The Find and Replace Tool Panel

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.

Search Where  Active Drawing  All Project Drawings  Project Databases  Search Options  Show File  Show File  Show Item Type  A Replace Replace		άx
Active Drawing All Project Drawings Project Databases Search Options Show File Show File Show Item Type A Replace Replace With	ind:	× Find
All Project Drawings     Project Databases     Search Options     Show File     Show Item Type     A Replace Replace With	Search Where	
Project Databases  Search Options  Show File Show File Show Item Type  Replace Replace With	Active Drawing	
☑ Show File ☑ Show Item Type	All Project Drawings	
∑ Show File ∑ Show Item Type ^ Replace Replace With	🖌 Project Databases	
Show Item Type	<ul> <li>Search Options</li> </ul>	
Replace Replace With	🖌 Show File	
Replace With	🗹 Show Item Type	
	<ul> <li>Replace</li> </ul>	
results. Double-Click to Show	Replace With	
	esults, Double-Click to Show	
Select All Clear Selection Results Count = 0	Select All Clear Selection Results	Count = 0
Select All Clear Selection Results Count = 0 Replace Selected Cancel Find		

Note: This tool panel is active at all times.

# 12. The Plan View Tool Panel



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

# 13. 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.

#### 14. 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.

XE	Executing Command: Open PDF - C: \Users\Public\Documents\just a test\Drawings\test1.pdf	*
C	Can't find dependent file: C:\Users\Tarab\Documents\Marketing\Art\hires\WireCAD logo.jpg	*
Comma	mmand: Calculator: 4	•

#### 4.1.2 Ribbon Tabs

#### 4.1.2.1 Application Menu



The Application Menu contains the following static menu functions:

- New Project... Displays the New Project Wizard. 364
- **Open Project** Display a file open dialog. Browse to and select a \*.wc6plf file to open the WireCAD Project.
- Save Project As... Displays the <u>Save Project As</u> 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 art.

Check In/Out >

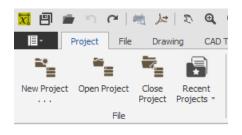
Pack Up / Check Out - Packup/check at out utility. Collects all info for the project and makes is portable.

Unpack Project ... - Unpack a project. 376

Check In Project - Check in a Checked Out project 3771.

- Project Info Project specific info 555 like the current revision and related projects list.
- Account Info Who is the project for 378.
- Application Setup Displays the <u>Application Setup Wizard</u> 379. This is shown once on startup but you can review and change settings here.
- Settings Displays the main <u>Settings</u> 387 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:

- New Project ... Display the New Project Wizard 364.
- **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 selection is based on the Project List setting in the Application Menu>Settings[Project List].
- Batch Plotter Launch the <u>Batch Plotter</u> [213] tool.
- Archive Project Launch the Archive tool.

#### 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.

#### 4.1.2.3 File

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

ターメ 参一つ ? 🖷 🖪 🗖	🔍 🔍 🔍 MACHINE_R	ROOM.dwg	- WireCAD1	0 - PRO -	Current Proj	iect: [Edit S	uite Demo Pro	ject] [		- 🗆	×
Project File Drawing	CAD Tools Advanced Tools Vi	iew Dai	tabase	Plugins	Reports	Plan Vi	ew and Layou	t Tools ?	#	I 🖉	i
<ul> <li>New Drawing</li> <li>Save Drawing As</li> <li>Save Drawing</li> <li>Close Drawing</li> </ul>	🗐 Save As Template Drawing	0	Ŋ	2	D	Ж		¢ ø¢ Settings …		Ê	
Open Drawing 🔊 Close All Drawings	🚔 Print Preview	Export *	Undo	Redo	Copy To Clipboard	Cut to Clipboard	Paste from Clipboard	Purge	1	odo	
Fi	e					Edit			1	odo	^

Again, we will not explain the obvious ones.

- New Drawing ... Shows the New Drawing Wizard 420.
- 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** 422 dialog.
- **PDF Export** ... Display the <u>PDF Export</u> 424 dialog.
- Export to Visio <u>Create smart Visio drawings</u> where the WireCAD cable becomes live active Visio connections.
- Settings ... Display the main <u>Settings</u> and dialog. Same as clicking Application Menu>Settings.
- **Purge** ... <u>Purge</u> 440 unused entities from the drawing.
- Todo Create a <u>New Todo</u> [532] linked to this drawing.

# Data Environment



For an general discussion on grid basics see this topic 3.

- New Create a new item on the collection. The dialog presented will differ based on the collection.
- Clear Data [Del] -
- Delete Selected Rows [Ctrl + Del] -
- Copy Down [Ctrl]+[D] -
- Increment Down [Ctrl]+[I] -
- Find and Replace -
- Function Displays the Expression Builder 525 dialog so you can manipulate data using the Expression engine.
- Tools See Grid Specific Functions for a listing of the tools available to each data grid.

#### 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.

#### 4.1.2.4 Drawing

Active only when the current environment is a drawing.

D &   💐 🎢   N C 🖷 🖪 🔀	ର୍ ୍				MACHINE_RO	DM.dwg* - W	ireCAD 10 - PR	RO - Current Pr	oject: (Edit Suite Demo Pr	oject]	I - 8 ×
Project File Drawing CA	Tools Advanced Too	ls View Datab	base Plugins Reports	Plan View and La	yout Tools						? 🖷 🗊 🎤 i
Grid Mode TExtension Tracking Snap Mode Ortho Mode Polar Track Mode -9.5442 , 67.8229 , 0.0		Lavouts	🐼 Dimension Styles	H Groups	Select	S Move	Mirror	Trim	Fillet Offset E Rectangular Array	✤ Polar Array ♣ Bring to Front Corner ♣ Send to Back	• WireCAD
Status			Format					м	lodify		*

- 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.
- Extension Tracking -
- 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 427 dialog.
- Layouts ... Shows the Layouts 429 dialog.
- **Point Styles** ... Shows the <u>Point Styles</u> [430] dialog.
- Text Styles ... Shows the <u>Text Styles</u> 431 dialog.
- **Dim Styles** ... Shows the <u>Dimension Styles</u> 432 dialog.
- Model Space Bounds Shows the Model Space Boundaries 434 dialog.
- **Groups** ... Shows the <u>Groups</u> 435 dialog.
- Images ... Shows the Images 437 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 Rotate 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.
- **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 segments. 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.

- 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.
- 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 a specified distance from the original object which is used as pattern for the new object. When you execute an 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 drawn because there are two sides.
- **R** Array Creates multiple copies of objects in a rectangular pattern. Shows the <u>Rectangular Array</u> and 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.

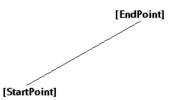
#### 4.1.2.5 CAD Tools

Active only when the current environment is a drawing.

X 🗐	• n (	a   al ( al ) a	ଭ୍ଘ୍	Q.	MACHINE_ROOM.dwg* - WireCAD 10 - PRO - Current Project: [Edit Suite Demo Project]	■ - 0 ×
旧-	Project	File Drawing	CAD Tools	Advanced Tools View Database Plugins	Reports Plan View and Layout Tools	? 🖷 🗇 i
Line	Point	🛋 Image Frame	C Ellase	T Insert Block Into Drawing T Make a Block	Horizontal Radius	
Polyline	Rectangle	Construction Ray	~ ~	🕫 Write Block to File 🔹 🛍 External Reference Man	ager (IREF) Vertical Diameter	WireCAD
Orde	Text -	2 or 3 Pt Arc	Cloud	📽 Create Attribute Definition 🛛 😵 Edit Attributes	Aligned Angle	WIECAD
		Entities	5	Blocks and Inserts (Groups)	rs Dimensions rs	^

# **Entities Page Group**

• 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...** 

Point Style Format	x
Point Properties	
Dot None Cross X Mark Une Add Crcle Add Square	Point Size: 0.2500 🗘 Units © Relative to Screen @ Absolute Units
	OK Cancel

• Rectangle - A rectangular object defined by an insertion point, height and width.



Reference	339
-----------	-----

#### • 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.



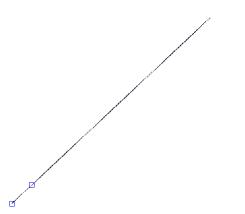
Multiline Text (MTEXT) - A multiline text entity.



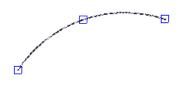
• Image Frame - Used to render images in the document. Images may either be linked or imbedded in the drawing file. The image frame defines the location and size of the displayed image. To imbed an image you must edit the document Images collection **Drawing>Images**.



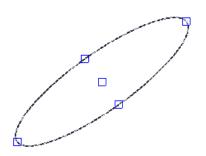
• Construction Ray - A line entity defined by its starting point and an angle.



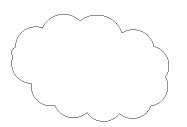
• 2 or 3 Pt Arc - A circular arc defined by the center point, the radius, the start angle and the end angle. An arc is always drawn anti-clockwise from the StartAngle to the EndAngle. The StartPoint and EndPoint properties of an arc are calculated through the StartAngle, EndAngle and Radius properties. 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.

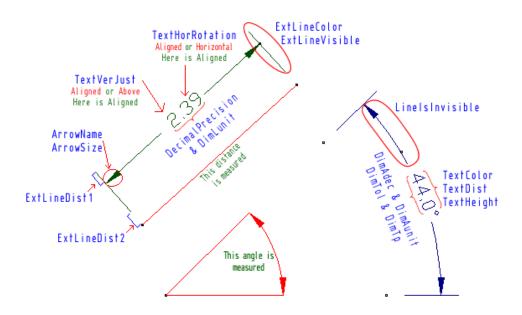


# Blocks and Inserts Page Group

- Insert Block Into Drawing Opens the Inserts 44th 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.
- 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 [442] dialog.
- Edit Attributes Allows editing of the attributes of the selected insert of a block.

# **Dimensions Page Group**

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, and angular. A linear dimension measures 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.



#### 4.1.2.6 Advanced Tools

Active only when the current environment is a drawing.



# Equipment Library page group

• Equipment Library - Opens the Equipment Library 4561.

# Rack Tools page group

• Rack Builder - Opens the <u>Rack Builder</u> 475 tool.

# Equipment Functions page group

- Assign SysName Assigns a <u>SysName</u> 477 to all selected inserts that are assignable.
- Error Check Shows the Drawing SysName Error Check 484 dialog.
- Sync Insert with Database Checks the selected insert to see if the SysName, Alias, Manufacturer, EquipmentName, Location and User fields match the Equipment List. If they do not you will be presented with the Sync Equipment Decision [45] dialog.
- Verbose SysName Assignment When checked displays the <u>SysName Assignment</u> 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.
  - See also: Project Delete Handling 410 settings.
- Reset Selected SysNames, Reset All SysNames 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.
- 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.
- Link Selected Pointers Allows you to link a selection of pointers with another selection of pointers.
- Rereference Drawing Pointers (change sheet reference name) Allows you to change the name of the sheet to which pointer(s) are pointed.
- Swap -

Swap Equipment - Allows you to change your equipment out for something else.

Swap All Pointers - Allows you to change your pointer type if the current pointer displeases your

eye.

Swap All Terminals - Allows you to change your terminal type if the current terminal displeases your

eye.

#### Cable Functions page group

• Assign Cable Number - Assigns the cable 479 a number based on several factors:

The Project Settings[Starting Number] 407.

Project Cable Number Format 123 tool. Next Number 594 sequence.

Verbose Cable Assignment - See below.

The process of assignment will update drawing with the number as well as place an entry in the project **Cables** table.

- Error Check Shows the Error Check 486 dialog.
- Verbose Cable Assignment When checked displays the <u>Cable Assignment</u> dialog. Otherwise the assignment proceeds with all default information.
- Add Multicore Cable Displays the <u>Add Multi-core Cable</u> 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 [612] function.
- De-Assign Cable Number De-Assign will remove the Cable data from the drawing and mark the record in the database deleted/available. This function works across pointers. In other words if the cable that is being de-assigned is pointed to another cable/drawing the complementary pointer is de-assigned as well. See also: Project Delete Handling and a settings.
- Reset All, Reset Selected Cables Removes 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. This function does not work across pointers.
- 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 Port names match.

- 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.

# AutoScheme Tools page group

- Auto Block Shows the <u>Auto Block</u> all 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 <u>Ratsnest</u> and 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 Tool page group

- WireCADify Block Shows the WireCADify Block 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 and dialog. Add WireCAD Connection Points to blocks that you have WireCAD ified. 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** 

X	Start Page - WireCAD 10 - PRO - Current Project: [Edit Suite Demo Project]	🗈 – 🗗 🗙
Project View Database Plugins Reports		? 🖷 🗇 i
□ <sup>10</sup> Tool Panels -		• WireCAD
Skin Window		^

Tool Panels >

Project Explorer - Toggle the visibility of the Project Explorer [611] Tool Panel. Draw Cables - Toggle the visibility of the Draw Cables [612] Tool Panel. Drawing Properties - Toggle the visibility of the Drawing Properties [613] Tool Panel. Find and Replace - Toggle the visibility of the Find and Replace [615] Tool Panel. Plan View Tools - Toggle the visibility of the Plan View Tools [617] Tool Panel. Favorites - Toggle the visibility of the Favorites Tool [618] Panel. Command Line - Toggle the visibility of the Command Line [619] Tool Panel. There may be others depending on the plugins that are loaded. These are the default tool panels.

- 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

X 回 = って   =   × Q Q Q X	MACHINE_ROOM.dwg* - WireCAD 10 - PRO - Current Project: [Edit Suite Demo Project]	1 – 8 ×
Project File Drawing CAD Tools Advanced Tools View Database Plugins Report	Plan View and Layout Tools	? 🖷 🗇 i
Image: Specific constraints         Image: Specific constrating         Image: Specific constraints <t< td=""><td>None         CON         None         Massure Distance         CP* Tool Panels         Image: Constraint Panel         Image: Constraintee         Image: C</td><td>•+WireCAD</td></t<>	None         CON         None         Massure Distance         CP* Tool Panels         Image: Constraint Panel         Image: Constraintee         Image: C	•+WireCAD
View	Object Snaps Info Skin Window	^

### View page group

- **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 Commands 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 commands are transparent. 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 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 commands 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 in a layout and not in Model space. You can also attach viewports to closed polygons (polylines, circles, ellipses, rectangles).

# **Object Snaps page group**

**Object Snaps -** OSnaps provide an easy way to pick geometric points from the drawing.

OSnap	Function
End	End Point snap
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.

#### Info page group

- **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.

#### 4.1.2.8 Database

No environments currently merge with this tab. This is the default view but Plugins may register additional commands.



# Equipment Library page group

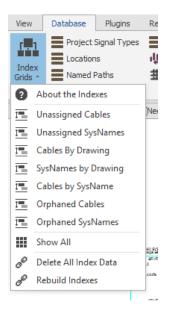
• Equipment Library - Show the global Equipment Library 456.

#### Global Database Grids page group

- Manufacturers Show the global Manufacturers 557 Grid.
- Equipment Show the global Equipment 558 Grid.
- **Connectors** Show the global <u>Connectors</u> **56** Grid.
- Cable Types Show the global <u>Cable Types</u> **Grid**.
- Default Signal Types Show the Default <u>Signal Types</u> Grid. This grid defines many default behaviors like cable color and default cable type. For more information see this topic on <u>Signal</u> <u>Types</u> 50.
- **Pinouts** Show the global <u>Pinouts</u> 564 tool.

### Project Database Grids page group

- Equipment List Show the project Equipment List 574. 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 <u>Cables</u> or grid. This is the collection of all **Cables** in the project.
- Index Grids > For more information see this topic 132. This sub menu will show any or all of the index grids and allow you to delete and rebuild the indexes.



- Project Signal Types Show the <u>Project Signal Types</u> [572] grid. This grid has priority for Signal Types. If a signal type is not found in this database it is pulled from the <u>Default Signal Types</u> [560] grid.
- Locations Show the project Locations grid. This is the collection of all Locations in the project.
- 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 485 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.

### Utilities page group

- 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 solution. 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.

「「「」」で(minited and a minited and a ministra and and a ministra and and and and a ministra and and and and and a mini	shapes.dwg - WireCAD10 - TRIAL - Current Project: [Edit Suite Demo Project]	🗈 – 🗗 🗙
Project File Drawing CAD Tools Advanced	ools View Database Plugins Reports Plan View and Layout Tools	? 🖷 📼 🖉 i
Plugin Script Manager Editor/Rumer Plugins Plugins	Extract Buck Book DWC Diff Al Block Drobs	• WireCAD

### Plugins page group

- Plugin Manager ... Shows the Plugin Manager 544 dialog where you can control which plugins are loaded.
- Script Editor Runner Shows the <u>Script Editor/Runner</u> additional 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\wirecad\scripts. Therein you will find many example scripts. Scripts are written in C# and the editor provides intellisense hints.
- **Translation Manager** Shows the <u>Translation Manager</u> 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 <u>Batch Plot</u> 213 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.

## CAD Tools page group

- 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 else's 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.

#### 4.1.2.10 Reports

Items on this tab are static. Whether or not the gallery displays is based on the **Application Menu>Settings[User][Basic]ReportShowMode**.



### Reports page group

- 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 <u>BOM generator</u> 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 <u>Discrepancy Scanner</u> and 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.



For more information see the <u>Plan View and Layout Tools</u> 153 topic.

### Estimating page group

• **Take Offs** - Show the <u>Take Offs</u> 497 tool. This tool assists in counting items in the drawing.

### Locations page group

• Add Boundaries from Text - Add Location Boundaries sol 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.

### Cabling page group

- **Draw Backbone ENT only.** 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.

### Equipment page group

- **Populate Equipment** Automatically place **SysName**d 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

#### 4.1.2.13 HTML View

Visible only when the active environment is a report.



Related Topics: HTML Preview Reports Form 597

#### 4.1.2.14 Report Designer

Visible only when the active environment is a report.



Related Topics: <u>Report Design Form</u> A discussion on report design can be found here 176.

#### 4.1.2.15 Toolbox

Visible only when the Report Designer Tab is active.



Related Topics: Report Design Toolbox Form

#### 4.1.2.16 Cable Data Selector

Visible only when the active environment is a report.



Related Topics: Cable Data Selector Form

#### 4.1.2.17 GPS Mapping Tools For Drawings

Active only when the current environment is a drawing.

The GPS Mapping Tools section provides access to the functions necessary to use your DWG plant drawings with the GPS coordinate system.

#### 354 WireCAD v10 User Manual

4.1.2.17.1 GPS

Active only when the current environment is a drawing.



Calibrate: Align the world coordinate system of the drawing to the GPS coordinate system.

**Delete Calibration:** Removes the calibration data from the drawing. Only available if the drawing has current GPS calibration data.

**Copy from Other Drawing:** Allows you to copy calibration data from a drawing that shares the same coordinate data. The drawing you are copying from must have GPS calibration data or this function will fail.

Show Calibration Marks: Place location markers at the two calibration points in the drawing.

Related Topics: How To: Calibrate Your DWG to the GPS Coordinate System 2951

How To: Copy Calibration Data from another Drawing [297]

4.1.2.17.2 Tools

Active only when the current environment is a drawing.

🔀 🗐 💣 🥱 🍽 🗮 輝 👂 🍳 🍳 🍳 🔍 🛛 FP3.dwg*- WireCAD10-ENTERPRISE-Current Project: (Edit Suite Demo Project)	Mapping Tools	🗈 – 🗗 🗙
Project File Drawing CAD Tools Advanced Tools View Database Plugins Reports Plan View and Layout Tools	GPS Tools Display	? 🖷 🗷 🕴 i
Image: Display of the constraint of the con		• WireCAD

### **Relate Section**

ID Location GPS Coord: Associate a Locations table record with a specific GPS coordinate point.

#### Related Topics:

- How To: Associate GPS LAT, LON with your Locations 284 Map tool version
- How To: Associate GPS LAT, LON with your Locations 298 DWG version.
- <u>ID GPS Locations</u> **550** dialog reference.

### **Tools Section**

**Get GPS Point to Clipboard:** Allows you to select a point in the drawing. Once a point is selected its GPS lat, lon are copied to the clipboard as text. You can paste this data into any other application as text.

**Show GPS Point in Drawing:** Prompts for the GPS Lat,Lon to show. Enter the Lat,Lon in the command line. A location marker will be placed and zoomed into view.

### **Draw Section**

**Panel:** Place a new SysNamed Panel or other equipment at a specific location within the drawing using the GPS Location markers as the location for the equipment. Requires that at least one Location Marker is displayed. For more information on displaying **Location Markers** see this topic and.

Backbone: Draw a new Backbone between two panels. The panel markers must exist in the drawing.

#### **Related Topics:**

- How To: Show Panel Markers in your Drawing 303.
- How To: Draw a Backbone in your Drawing.

#### 356 WireCAD v10 User Manual

4.1.2.17.3 Display

Active only when the current environment is a drawing.

🕱 🗐 💣 🔊 🍽 🗮 輝 📚 🍳 🤤 🔍 🛛 FP3.dwg* - WreCAD10 - ENTERPRISE - Curr	rrent Project: [Edit Suite Demo Project] Mapping Tools	Ⅲ – <i>□</i> ×
Project File Drawing CAD Tools Advanced Tools View Database Plugins	Reports Plan View and Layout Tools GPS Tools Display	? 🖷 🗇 i
Image: Constant of the second secon	0 C Self-Connect Arc Dist	nels Setting • WireCAD
Re 15 Location Markers Panels	Backbones 15 Filters	Settin

#### **Reset Section**

**Reset All:** Removes existing Location, Panel and Backbone markers.

### Location Marker Section

Location Marker: Toggle the view of the Location Markers in the GPS calibrated drawing.



Location Markers are inserts that are placed at the GPS coordinates of the drawing. The tooltip of the marker displays the Location name as defined in the **Display Format String** of the <u>GPS Settings</u> [415] tool as well as any equipment found at that location.

Location Markers are placed in the drawing on a layer named "GPS\_LOC\_PIN\_TEMP". We do not recommend placing any other entities on this layer. When the Location Marker toggle button is set to unchecked, all layer entities are deleted without prompting.

Double-clicking a Location Marker in the drawing will show its statistics.

Insert Scale: Sets the scale of the block defined in the Geometry setting.

**Geometry:** Sets the block to insert as a Location Marker. The Geometry dropdown is populated by dwg files in the <u>%BLOCKS%</u> [392] (GPS) Location Markers directory.

In a stock installation this will be:

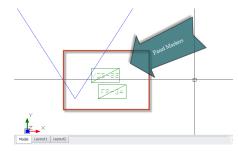
C:\users\public\documents\WireCAD\WireCADx\Blocks\GPS\Location Markers.

**Overlay Mode:** Determines the display behavior of locations that share the same GPS coordinates. The modes are:

- None: Do nothing. Overlay marker upon marker. In this mode the tooltip data is aggregated to the topmost marker.
- Offset: Offset the markers based on the OffsetX and OffsetY of the <u>GPS Settings</u> 415.
- Rotate: Rotate the markers around the point.
- Radial: Rotate the markers based on the Radial Angle and Radial Distance of the GPS Settings 415.

### **Panel Marker Section**

Panel: Toggle the view of the Panel Markers in the GPS calibrated drawing.



Panel Markers are inserts that are placed at the GPS coordinates of the drawing. The tooltip of the marker displays the Sysname as defined in the **Display Format String** of the <u>GPS Settings</u> [415] tool as well as any Backbones found on that SysName.

Panel Markers are placed in the drawing on a layer named "GPS\_LOC\_PANEL\_TEMP". We do not recommend placing any other entities on this layer. When the Panel toggle button is set to unchecked, all layer entities are deleted without prompting.

Double-clicking a Panel Marker in the drawing will show its statistics.

Insert Scale: Sets the scale of the block defined in the Geometry setting.

**Geometry:** Sets the block to insert as a Panel Marker. The Geometry dropdown is populated by dwg files in the <u>%BLOCKS%</u> [392] (GPS) Panel Markers directory.

In a stock installation this will be:

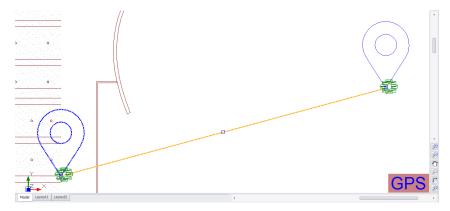
C:\users\public\documents\WireCAD\WireCADx\Blocks\GPS\Panel Markers.

**Overlay Mode:** Determines the display behavior of panels that share the same GPS coordinates. The modes are:

- **None**: Do nothing. Overlay marker upon marker. In this mode the tooltip data is aggregated to the topmost marker.
- Offset: Offset the markers based on the OffsetX and OffsetY of the <u>GPS Settings</u> 415.
- Rotate: Rotate the markers around the point.
- Radial: Rotate the markers based on the Radial Angle and Radial Distance of the GPS Settings 415.

### **Backbones Section**

Backbones: Toggle the view of the Backbones Markers in the GPS calibrated drawing.

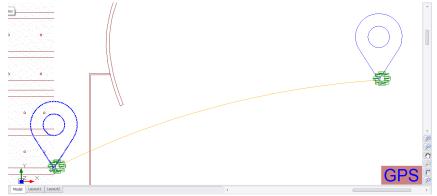


Backbone Markers are polylines that are placed at the GPS coordinates of the drawing. The tooltip of the marker displays the Backbone either the basic data of the first strand of fiber in the Backbone or the full Backbone statistics if the **Show Backbone Stats** checkbox is checked.

Backbone Markers are placed in the drawing on a layer named "GPS\_LOC\_BB\_TEMP". We do not recommend placing any other entities on this layer. When the Backbone toggle button is set to unchecked, all layer entities are deleted without prompting.

Double-clicking a Backbone Marker in the drawing will show its statistics.

Arc Distance: Sets the polyline bulge factor of the Backbone. A bulge factor of 1 will create an arc of 180°.



Arc Distance of .1

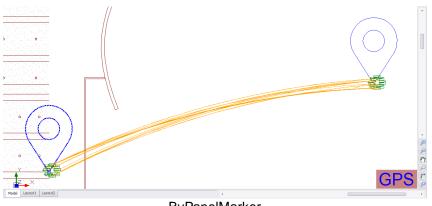
**Self-Connect Arc Distance:** Sets the polyline bulge factor of polyline that share the same source and destination location GPS coordinates.

Show Mode: Determines the display behavior of backbones. The modes are:

• **ByGPSLocation**: Place the source and destination points of the polyline based on GPS coordinates.

Reference	359
-----------	-----

- **ByLocationMarker**: Place the source and destination points of the polyline based on the GPS coordinates of Location Markers found in the drawing. This can be used to limit the display of Backbones.
- **ByPanelMarker**: Place the source and destination points of the polyline based on the GPS coordinates of Panel Markers found in the drawing. This can be used to limit the display of Backbones.



ByPanelMarker

**Show Backbone Stats:** Generate the backbone statistics such as total fiber count, available fiber count and blocked fibers. This data is then displayed in the tooltip when the mouse hovers over the Backbone polyline.

**Show Vias:** If the Backbone contains related Via data with Locations (with GPS data) the polyline traverse from source to destination and every Via point.

### **Filter Section**

The filter section is cascading. Selecting a location will cascade to the Panels filter by limiting the Panels shown to those that appear at the selected Location(s). In the same way, the Panels filter will cascade to the Backbones filter.

Locations: Filter by Location. Panels: Filter by Panels. Backbones: Filter by Backbones.

#### **Settings Section**

Settings: Display the <u>GPS Settings</u> 415.

#### 4.1.2.18 GPS Mapping Tools for Map Tool

Active only when the current environment is the Map Tool.

4.1.2.18.1 File

Active only when the current environment is the Map tool.



**Print Preview:** Show the Print Preview dialog. From the Print Preview dialog you can set the paper size, scale, orientation, and printer. You can also export to several formats from here.

Print Setup: Show the printer setup dialog where you can set the printer and print preferences.

Related Topics: Print Preview 352

4.1.2.18.2 Tools

Active only when the current environment is the Map tool.



ID GPS Location Coord: Show the ID GPS Location Coordinate dialog.

**Copy Point to Clipboard:** Select a point and the GPS coordinates are copied as text to the clipboard. The text format is: Lat,Lon in decimal form.

Related Topics: ID GPS Locations 550 4.1.2.18.3 Display

Active only when the current environment is the Map tool.

	Map - WireCAD 10 - ENTERPRISE - Current Project: [Edit Suite Demo Project]	🗉 – 🗗 🗙
Project File Tools Display View Database Plugins Reports		? 🖷 🗊 🤌 i
Locations Panels Badbones V X locations Zoom Extents Settings		•+WireCAD
Locatio Pan Backbon Pilters View 15 Sett 15		^

**Reset All:** Removes all Location, Panel and Backbone Markers from the map. **Locations**: Toggle the display of Location Markers in the map.



**Panels**: Toggle the display of Panel Markers in the map. Panel text is determined by the Display String Format of the <u>GPS Settings</u> [415] panel.



**Backbones**: Toggle the display of Backbone Markers in the map. Backbone color and line width can be controlled from the GPS Settings [415] panel



#### Filters:

The filter section is cascading. Selecting a location will cascade to the Panels filter by limiting the Panels shown to those that appear at the selected Location(s). In the same way, the Panels filter will cascade to the Backbones filter.

Locations: Filter by Location. Panels: Filter by Panels. Backbones: Filter by Backbones.

**Zoom Extents:** Show all entities in the map.

Settings: Show the Settings dialog with the <u>GPS Settings</u> [415] panel shown.

Related Topics: GPS Settings 415

# 4.2 Dialogs

Dialogs differ from Forms in that they do not occupy the full client docking area of the main window. Dialogs can be floating or modal. When a dialog is modal no other interaction with elements outside the modal dialog can take place.

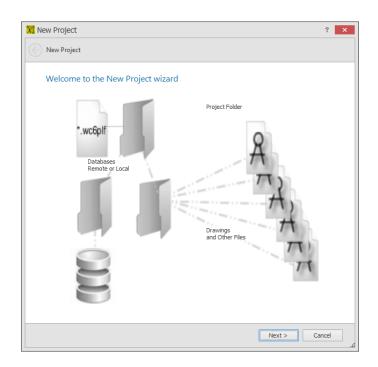
Dialogs will remember their position and size unless you enable the <u>setting</u> setting.

Related Topics: None

# 4.2.1 Application Menu Dialogs

The following is a set of dialogs associated with Application Menu.

#### 4.2.1.1 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.

For a more extensive discussion see the <u>How To: Create a New Project</u> <sup>[52]</sup> topic.

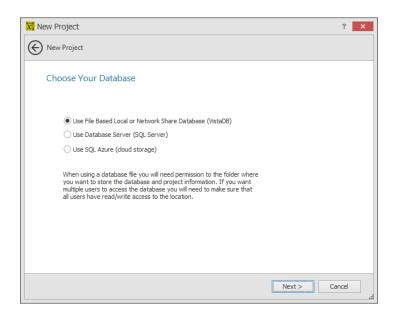
# Related Topics:

Create a new Project 62

# **Dialog Options**

#### • Navigate Forward, Navigate Backward





Related Topics: Choose your Database Type

# **Choose Database Page Options**

- 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.



X New Project		? ×
New Project		
Project Name and	Location	
Name:		
Description:		_
Project Files Path:	C: \Users\Public\Documents	
Project Lead Person:		
Project Path:		
	Next >	ancel

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 392

# Name, Description, Location Page Options

- 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.



	<sup>r</sup> Information	
Database Host:	.\sqlexpress	
Database Name:	alfjalsdfjsdlfj	
	✓ Use Windows User Validation	
Database User:	testUsername	
Database Password:	*****	
		Test Connection

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.

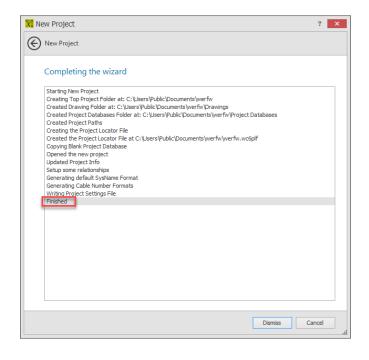
#### Related Topics: Choose your Database Type

## **Database Host Page Options**

- 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?

Next >

There are several pages of project settings that can also be found in the **Application Menu>Settings[Project]** dialog.



# Finalization

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.

#### 4.2.1.2 Project Save As

Save As						
→ ✓ ↑ - WireCAD > WireCAD9 >	emo Projects > Edit Suite Demo Project >	Project Databases	√ Ō	Search Project D	atabases	Q
rganize 🔻 New folder						6
^ Name	Date modified	Туре	Size			
Cuick access	No items o	natch your search.				
Desktop 🖈	No items n	natch your search.				
🖶 Downloads 🖈						
Documents *						
E Pictures 🖈						
Proleaf Corporat						
UF Health						
WireCAD10Art						
ConeDrive						
This PC						
Network Y						
File name: MACHINE_ROOM						
Save as type: DWG 2007 (*.dwg)						
Save as type: Dave 2007 ( .dwg)						

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.

# **Dialog Options**

Navigate Forward, Navigate Backward



- Create a New Server Database Only if source project is SQL.
- Create as File Based (local) Database Only if source project is SQL.

## Explanation

Select the location and whether we copy the data from the database or create a new empty database.

### 4.2.1.3 Manage Security

e						
ser	rs and Groups Permission	ns				
N	ew User		Search A.D.	] _ N	ew Group	
	ser Name	+			roup Name	+
	UserName	Group			GroupName	Description
9	80c	=		٩	8 C	88c
Þ	cbh	Users		Þ	Administrators	The Great and Powerful OZ
	chris_000	Administrators			Users	Mere Mortals
	I Record 1 of 2 ▶ ₩ -	1 / Y / 3		144	4 Record 1 of 2 ▶ ₱₱ - <	

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 added to the Users group.

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

Related Topics: <u>Application Setting - WireCAD Security</u> <u>Application Setup Wizard</u>

# Users and Groups Tab Options

- 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 Using the standard AD search box.

Select Users or Groups	s	×
Select this object type:		
Users, Groups, or Built-in security principals		Object Types
From this location:		
CBH-LAPTOP-2013		Locations
Inter the object names to select ( <u>examples</u> ):		
		Check Names

• User Grid - Assign the User to a Group.

# Permissions Tab Options

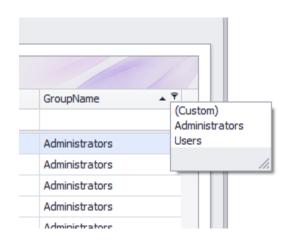
Use	ers and Groups Permissi	ons				
Dr	ag a column header here to	group by that column	AllowDelete	AllowAddNew	GroupName	
9	8 <b>0</b> 0				#BC	1
Þ	CableTypes		<ul> <li>Image: A start of the start of</li></ul>		Administrators	
	RelatedProjects	<b>v</b>	$\checkmark$		Administrators	
	Circuits	$\checkmark$	$\checkmark$	$\checkmark$	Administrators	
	DefaultDisplaySettings	$\checkmark$	$\checkmark$	$\checkmark$	Administrators	
	DiscrepancyReport	$\checkmark$	$\checkmark$	$\checkmark$	Administrators	
	DrawingRevisions	$\checkmark$	$\checkmark$	$\checkmark$	Administrators	
	Drawings	~	$\checkmark$	$\checkmark$	Administrators	
	NamedPaths	~	$\checkmark$	$\checkmark$	Administrators	
	ProjectInfo	~	$\checkmark$	$\checkmark$	Administrators	
	ProjectRevisions	~	$\checkmark$		Administrators	
	ProjectSettings	~	$\checkmark$		Administrators	
	Dulate During Cotting				A desiring and a second	`

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

#### **Related Topics:**

Grid Basics 37

- Collection Name This is usually the table name in the database.
- Permissions. Edit, Delete, AddNew.
- GroupName You may find it handy to filter by group name then set the permissions for the group.



• Select All and Clear Selection.



#### 4.2.1.4 Packup / Checkout

🕻 Checkout Project	? 🗙
Packup/CheckOut	
Settings	
- Check Out Project	
Check Out Project	
Expected Return Date:	✓
- Final Output	
Compress Output	Include Archived Drawings in Zipped Output
FileName and Path:	
	Next > Cancel

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 maintained 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 with the SQL Server version if necessary.
- Copy all linked images to the drawings directories.
- If [Check-out] then flag the project as read only.
- If [Compress Ouput] then zip all the project folder items into a single zipped file with the name: [PROJECT\_NAME.ZIP]

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

Related Topics: <u>Moving Projects</u>

# **Dialog Options**

- 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.

#### 4.2.1.5 Unpack Project

🔀 Unpack Project	? ×
O UnPack/Check-In	
Settings	
Path to Project to UnPack/Check in	
Open Project Options	
Open project after UnPack	
	Next > Cancel

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: <u>Pack Up / Check Out</u> 374 <u>Moving Projects</u> 191

## **Dialog Options**

- Project Path Browse to the zipped file or the .wc6plf file.
- Open project after unpack Of course.

#### 4.2.1.6 Check in Project

X Unpack Project	?	×
€ UnPack/Check-In		
Settings		
- Path to Project to UnPack/Check in		
Open Project Options Open project after UnPack		
Next > Ca	incel	
Next > Ca	incel	

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.

Related Topics: Pack Up / Check Out 374 Moving Projects 191

# **Dialog Options**

- Project Path Browse to the zipped file or the .wc6plf file.
- Open project after unpack Of course.

#### 4.2.1.7 Account Info

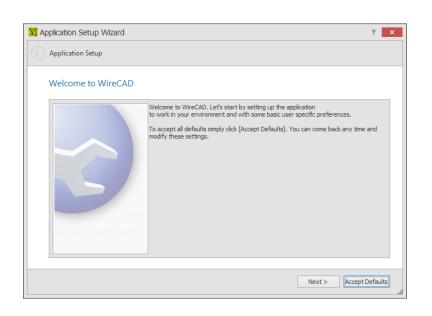
	Edit Account Information	? X
E File		
Save Print	Exit On Refresh	~
AccountName	ContactName	
ContactPhone	ContactFax	
ContactEmail	AccountWebsite	
AccountAddress1		
AccountAddress2		
AccountCity	State AccountPostalCode	
AccountInfoUser 1	AccountInfoUser2	
AccountInfoUser3	AccountInfoUser4	
Information:		.:

Application Menu > Account Info Commandline: Edit Account Info

# Explanation

This dialog allows you to enter account specific data for use in reports.

#### 4.2.1.8 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.

# **Dialog Options**

• Navigate Forward, Navigate Backward

Next >

• Show This Again - Show this dialog again.

X Application Setup Wizard	?	x
S Application Setup		
Global Database Location		
The WireCAD Global Database contains information that we only want to define once. Things like manufacturers, equipment, cable types and connectors. Sometimes it is desireable to share this information with collegues. Let's determine where your global databases are going to reside. Select [Local Machine] if you are working entirely local (default single user mode) Select [Remote Network Share] if you wish to share global information within a closed network (closed network mult NOT RECOMMENDED Select [SQL Server] if you would like to attach to global data on a SQL Server (wan-lan multi-user) use this setting if you are connecting to a SQLAzure database or your own SQL Server instance.	-user	)
Location Local Machine Remote Network Share - NOT RECOMMENDED SQL Server Next > Accept	Defa	ults .:

# **Global Database Location Page Options**

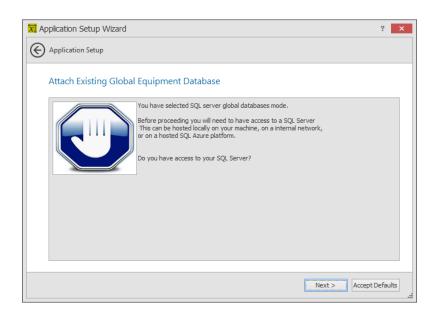
- Local Machine The default location is c: \users\public\WireCAD\WireCADx\WireCADGlobalEquipment.vdb3. You may rename the file in order to better organize your global data by client. See this topic on the <u>Global Database Location</u> and the file in order to the the topic on the <u>Global Database Location</u> and the topic of topic of the topic of the topic of topic of the topic of the topic of to
- **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

• Path to Shared Global Database - Show if the first selection is Remote Network Storage. Enter the Path to the WireCADGlobalEquipment.vdb3

🔀 Ap	plication Setup Wiz	ard				? X
$\bigotimes$	Application Setup					
Where is Your Database						
	Enter the database ser	ver host	name and instance.			
	Create stand-alone	databa	se	O Use existing data	name	
	Host	localhos	t			
	Global Database Name	WireCA	DGlobalEquipment			
	Schema Name	WireCA	DGlobalData			
	Use Windows Secur	rity	– Database Login –			
			User Name	testUsername		
			Password	*****		
					Test Connection	
					Next > Accept	Defaults

Show only if the initial selection is SQL Server.

### Database Host Info Page Options

- Create stand-alone database Use this option if you are installing on an internal network.
- Use existing database. Create global db using schema name. Use this option if you are installing on a SQL Azure database. The schema name is used to separate different data structures on the same database.
- Host The hostname\instance name or IP address\instance name.
- Global Database Name Either the name of the existing global database or the name of the SQL Azure database on which we will create our global database schema.
- Schema Name Name this something like WireCADGlobalData.
- Use Windows Security Not available on SQL Azure.
- User Name, Password -
- Test See if we can connect.

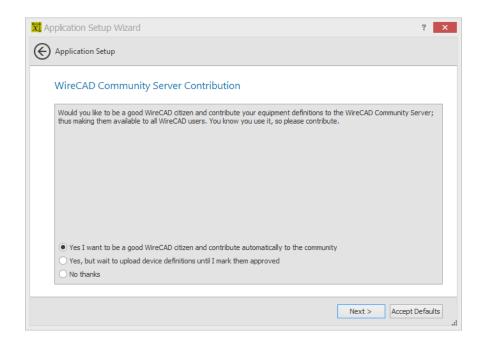
Reference	383

📆 Application Setup Wizard	? 🚺	ĸ
Application Setup		
Create Tables and Add Data		
<ul> <li>Add default global data</li> <li>Add manufacturer data</li> <li>Add equipment data</li> <li>Add cable types</li> <li>Add connector data</li> <li>Add signal types</li> </ul>	Create empty database	
This can take up to 15 mins depending on conn	ection speeds. Be patient. Create Database and Add Data	
	Next > Accept Defaults	

Shown only if the SQL Server Option is selected.

# Create Tables and Add Data Page Options

- 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.
- Create Database and Add Data Do it!



WireCAD Community Server Contribution Mode Page Options

- 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.

XI Application Setup Wizard	? ×
S Application Setup	
Use WireCAD Security Settings	
Select Use WireCAD Security if you want to limit access to the application.	
Administrators set up Groups and Permissions, then assign users to those Groups.	
WireCAD can use either a file based(VISTA) or server based(SQL) permissions set. Choose SQL Server based if yo set up a global equipment server.	ou have
WireCAD uses the windows built-in or Active Directory logins so user creation is easy.	
Use WireCAD Security	
Permissions Database Location SQL	~
Create SQL Permission Database	
Next > Acce	pt Defaults
5	

# Explanation

WireCAD Security is used to restrict 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 art dialog.

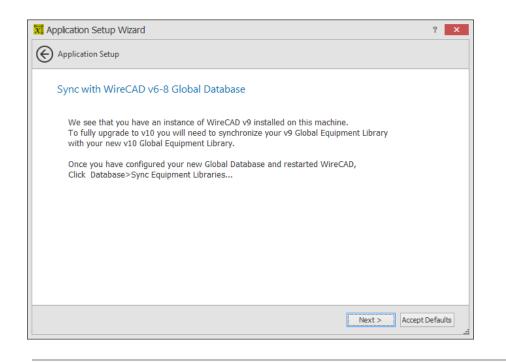
## Use WireCAD Security Setting Page Options

- 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.

Create SQL Permissions Database - Do It!



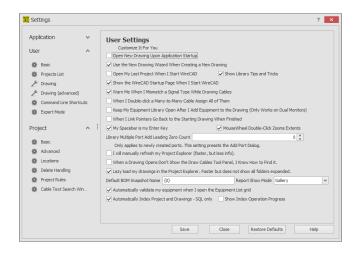
### Explanation

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:**

<u>Synchronizing with Another Global Database</u> ाभी <u>Sync Global Database dialog</u> िट्यी

### 4.2.1.9 The Settings Dialog



Application Menu > Settings Commandline: set

### Explanation

The Settings dialog is comprised of the following sections:

• Application - settings that determine the behavior of WireCAD for this machine. These settings are stored in the Global Application Data folder as ApplicationSettingsX.xml.

 Basic
 388

 WireCAD Security
 390

 Global Database Location
 397

 Support Paths
 392

 Organization
 393

 Enable/Disable Plugins
 395

 Todo List
 398

• User - settings specific to your user profile on this machine as UserSettingsX.xml.

Basic 397 Projects List 399 Drawing 335 Drawing (advanced) 402 Command Line Shortcuts 403 Enterprise CMS (ENT Only) 404 Expert Mode 405

 Project - settings specific to the current project. These settings are stored in the project folder as ProjectSettingsX.xml.

 Basic
 407

 Advanced
 408

 Locations
 408

 Delete
 Handling

 Enterprise
 CMS

 Export
 Settings

 412

Project Rules 413 Status Behavior 414

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

Prerequisites

None

## **Dialog Options**

- 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.

4.2.1.9.1 Application Settings

Application settings that determine the behavior of WireCAD for this machine. These settings are stored in the Global Application Data folder as ApplicationSettingsX.xml.

Reference	389
-----------	-----

#### 4.2.1.9.1.1 Application Basic

Settings		?
Application  Basic  WreCAD Security  Global Database Location	^	Application Settings Some of the basic settings and behaviors
Support Paths Crganization Enable/Disable Plugins		
鑙 Todo List		Check for Program Updates Automatically Upon Startup
User	^	Show Application Setup Wizard Upon Startup Community Equipment Library Connection and Contribution
Basic Projects List Drawing Drawing (advanced)		Attempt to connect to the community server over port 1433     Community Library Auto-Contribution Mode   Auto-ContributedWWork      Customer Experience Improvement Program     Stern Flugai Loading Index message (Folucin fails to load)
Command Line Shortcuts  Enterprise CMS  Expert Mode  Project	^	Default Project Database Host(SQL only) Vedeopress
Basic  Advanced		Disable Form State Tracking - this may be useful if you are having trouble with different screen resolutions     Disable Natural Sort on grids - this may be helpful if your grids are taking a long time to load
÷		Apply Save Close Restore Defaults Hel

## **Basic Panel Options**

- 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.
- **Disable Form State Tracking** The setting disables the functions that remember form position and sizing. This can be helpful if you are experiencing trouble with different resolution monitors in a multi-monitor setup.

4.2.1.9.1.2 WireCAD Security

	n	^	WireCAD Security Using WireCAD Security limits access to program function by Users and Groups	
Global Suppo	AD Security Database Location wrt Paths iization e/Disable Plugins List		If you opt to use WireCAD Security you will need to select a Security Database location. We recommend using SQL server based security	
Jser		~	NOTE: Use the File>Application Setup wizard to setup WireCAD Security Use WireCAD Security	
			Security Database Type VISTA	
🕸 Basic			Create Security Database on SQL Server	
Projec	tts List			
🎤 Drawir	ng			
🎤 Drawir	ng (advanced)			
🕸 Comm	and Line Shortcuts			
🕸 Enterp	prise CMS			
Experi	t Mode			
roject		^		
🕼 Basic				
Advan	nced			

### WireCAD Security Panel Options

• 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.

le								
Jse	rs and Groups Per	missions						
- N	ew User			Search A.D.	lew Group			
U	ser Name		+	G	Group Name	2		+
G	roup		¥	D	escription			
	UserName	Group			GroupNa	me	Description	
Ŷ	RBC	-		٩	8 <b>0</b> 0		RBC	
Þ	cbh	Users		+	Administr	ators	The Great and Powerful	oz
	chris_000	Administrators			Users		Mere Mortals	
		₩ -	>	144	4 Record	ilof2 ⊧ ⊮ – <		>

• **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.

Reference	391

#### 4.2.1.9.1.3 Global Database Location

pplication	^	Database C		DIN base Type and Loca	ation			
🕸 Basic		Database Mode	VISTA					
WireCAD Security		VISTADB Location	C:\Users\Pu	blic\Documents\Wire	eCAD\WireCAD10\E	nterprise Databases		
Global Database Location		Global DB File Name						
Support Paths		- SQL Server Login	Information					
Organization		Host Name and Ins	stance localh					
Enable/Disable Plugins		Database Name		obalEquipment				
Todo List		Use Schema		Schema Name	WireCADGloba	lData		
		Use Windows S						
ser	^	User Name	testUserna	me				
		Password						
Basic	:						Test Connection	
Projects List								
Drawing								
Drawing (advanced)								
Command Line Shortcuts								
Enterprise CMS								
Expert Mode								
roject	~							
·								
Basic								
Advanced								

### **Global Database Location Panel Options**

- 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.
- 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.
- Use Schema, Schema Name WireCAD 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.
- 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.

4.2.1.9.1.4 Support Paths

Application	~	Support Paths		
hppicadori		Where we expect to fi	ind things	
🎡 Basic		Blocks %BLOCKS%	C: \Users \Public \Documents \WireCAD \WireCAD 10\Blocks	
MireCAD Security		Images %IMAGES%	C: \Users \Public \Documents \WireCAD \WireCAD 10\Images	
Global Database Location		Documents %DOCUMENTS%	C: \Users \Public \Documents \WireCAD \WireCAD 10 \Documents	
Support Paths		Icons %ICONS%	C:\Users\Public\Documents\WireCAD\WireCAD10\Icons	
Second Contraction		Template Drawings	C: \Users \Public \Documents \WireCAD \WireCAD 10 \TemplateDrawings	
alle an est and est at a		Reports	C:\Users\Public\Documents\WireCAD\WireCAD10\Reports	
Enable/Disable Plugins				
🍄 Todo List	^ !	Default New Project Location These support paths indepentant paths, path above.	C: Users'PABC/Documents are used as variables in equipment definition external file paths. This allows external files to be moved a h spical path looks like the: %8LOOCS% (Idder (Mename.ext where %8LOOCS% will be replaced by the	or reside in OS e program with the
🕸 Todo List User	^	These support path indepentant paths.	s are used as variables in equipment definition external file paths. This allows external files to be moved	or reside in OS
委 Todo List User 委 Basic 委 Projects List 人 Drawing	^ 1	These support path indepentant paths.	s are used as variables in equipment definition external file paths. This allows external files to be moved	or reside in OS
<ul> <li>Todo List</li> <li>User</li> <li>Basic</li> <li>Projects List</li> <li> <i>P</i> Traving</li> <li> <i>P</i> Traving (advanced)     </li> </ul>	^ :	These support path indepentant paths.	s are used as variables in equipment definition external file paths. This allows external files to be moved	or reside in OS
Todo List User  Todo List  Sea  Projects List  Drawing  Conwing (solvanced)  Command Line Shortcuts	^	These support path indepentant paths.	s are used as variables in equipment definition external file paths. This allows external files to be moved	or reside in OS
Todo List User  Basic Projects List Common Line Shortcuts Enterprise CMS	^ !	These support path indepentant paths.	s are used as variables in equipment definition external file paths. This allows external files to be moved	or reside in OS
Todo List User  Todo List  Sea  Projects List  Drawing  Conwing (solvanced)  Command Line Shortcuts	^	These support path indepentant paths.	s are used as variables in equipment definition external file paths. This allows external files to be moved	or reside in OS
Todo List  Todo List  Ser  Sesc  Projects List  Proving (advanced)  Command (advanced)  Command (advanced)  Ecompare Line Shorturus  Enterprise LINS  Enterprise LINS  Expert Mode	*	These support path indepentant paths.	s are used as variables in equipment definition external file paths. This allows external files to be moved	or reside in OS
		These support path indepentant paths.	s are used as variables in equipment definition external file paths. This allows external files to be moved	or reside in OS

## **Application - Support Paths Panel Options**

- 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:

Select a	a Template Dra	awing		
(None) ANSI AH				
	Landscape.DWG Portrait.DWG			
ISO_A1 ISO_A2 ISO_A2 ISO_A3 ISO_A3	DWG DWG DWG DWG			

Reference	393

- **Reports** The path to the top reports folder. This is a recursive search and will enumerate all subfolders and files.
- Default New Project Location Presets the New Project Wizard.

New Project		? ×
New Project		
Project Name and	Location	
Project Name and	Location	
Name:	1	
Description:		
Project Files Path:	C:\Users\Public\Documents	
Project Lead Person:		
Project Path:		
		Next > Cancel

#### 4.2.1.9.1.5 Organization

Application	^	Organization Inf	FO sed in some of the plugins. For an example, see the Title Block Filler plugin
Basic     WireCAD Security     Global Database Location     Support Paths     Organization     Enable/Disable Plugins     Todo List			
Jser	^	Company Name	WreCAD
<ul> <li>Basic</li> <li>Project list</li> <li> <i>P</i> Draving (advanced)          <i>P</i> Draving (advanced)      </li> <li> <i>Draving (advanced)</i> </li> </ul>	*	Address 1 Address 2 City State,Region Postate,Region Postate,Region Postate,Region Postate,Region Phone Fax Web Address	1112 61 Street South Sampa Sam

# **Application - Organization Panel Options**

This one's self-explanatory

 Reference	395

4.2.1.9.1.6 Enable/Disable Plugins

X Settings		? 🗙
Application  Basic  WireCAD Security	^	Hide Plugins that you never use to increase program startup speed
Cobal Database Locaton Cobal Database Locato	^ :	Hidden Plugins (not loaded on program startup)     Active Plugins       AltibioEExtractor.wpl     BidoFAteFixer.wpl       BidoFAteFixer.wpl     BidoFAteFixer.wpl       BidoFAteFixer.wpl     BidoFAteFixer.wpl       BidoFAteFixer.wpl     BidoFAteFixer.wpl       BidoFAteFixer.wpl     BidoFAteFixer.wpl       BidoFAteFixer.wpl     BidoFAteFixer.wpl       BidoFAteFixer.wpl     WreCAD.Ardive1.wpl       WreCAD.Ardive1.wpl     WreCAD.TitleBidodManager.wpl
Project Basic Advanced	^	
		Apply Save Close Restore Defaults Help

# Enable/Disable Plugins Panel Options

Move items to the left-hand list to disable.

Move items to the right-hand list to enable.

This panel only works with Plugins that support the wpi manifest file. Auto-discovered Plugins cannot be disabled from here.

### 396 WireCAD v10 User Manual

4.2.1.9.1.7 Todo List

Settings					? 🗾
Application	~	Enter one item per line Assignees	Tod	do Statuses	
Basic     WreCAD Security     Global Database Location     Support Paths     Organization     Enable/Disable Plugins     Todo List		Fred Flexibund Hilling Finitation Barry Rubble Betty Rubble Pebbles Bam Bam	∧ In I Det	Progress Eferred aiting Parts	^
User	^				
Basic	1			do Priorities	
<ul> <li>Projects List</li> <li>Drawing</li> <li>Drawing (advanced)</li> <li>Command Line Shortcuts</li> <li>Enterprise CMS</li> <li>Expert Mode</li> </ul>			Tor Sor	e Nov Man morrow me Day Hencver	~
Project	^				
🏶 Basic					
Advanced			~		~
		Apply	Save	Close Restore Defaults	Help

### Explanation

Sets the drop downs in the Project Todo List

## **Application - Todo Panel Options**

- 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.

4.2.1.9.2 User Settings

User settings specific to your user profile on this machine. The path to these settings is usually: C:\Users\<YOUR\_USER\_NAME>\AppData\Local\WireCAD\WireCAD9\UserSettings.xml.

Your system administrator has the ability to modify this.

You can use:

**Application Menu > Frequently Used Folders > User Application Data Folder** To know the path we are using.

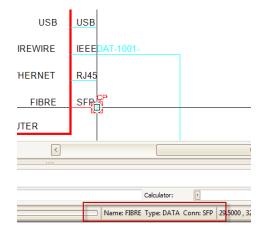
#### 4.2.1.9.2.1 User Basic

🔀 Settings			?
Application	~	User Settings Customize It For You	
User	^	Open New Drawing Upon Application Startup     Use the New Drawing Wizard When Creating a New Drawing	Show Tool Panel tabs on bottom
Basic Projects List		<ul> <li>Open My Last Project When I Start WireCAD</li> <li>✓ Show the WireCAD Startup Page When I Start WireCAD</li> </ul>	Show Library Tips and Tricks
<ul> <li>Drawing</li> <li>Drawing (advanced)</li> </ul>		Warn Me When I Mismatch a Signal Type While Drawing Cables When I Double-click a Many-to-Many Cable Assign All of Them	
Command Line Shortcuts		Keep My Equipment Library Open After I Add Equipment to the Drawing (C When I Link Pointers Go Back to the Starting Drawing When Finished	
<ul> <li>Enterprise CMS</li> <li>Expert Mode</li> </ul>		My Spacebar is my Enter Key      Library Multiple Port Add Leading Zero Count Only applies to newly created ports. This setting presets the Add Port D	MouseWheel Double-Click Zooms Extents
Project	^ i	I will manually refresh my Project Explorer (faster, but less info).      When a Drawing Opens Don't Show the Draw Cables Tool Panel, I Know H	
🏶 Basic		Lazy load my drawings in the Project Explorer. Faster but does not show a	
🎄 Advanced		Default BOM Snapshot Name {0}	Report Show Mode Gallery 🗸
Locations		Automatically validate my equipment when I open the Equipment List grid	
Delete Handling		✓ Automatically Index Project and Drawings - SQL only	Show Index Operation Progress
Project Rules			
Cable Text Search Window			
Enterprise CMS			
Export Settings			
🎄 Status Behaviour			
GPS Settings			
		Apply Save	Close Restore Defaults Help

These are settings for your user profile on this machine.

## **Basic Panel Options**

- 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
- 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
- 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.
- Default BOM Snapshot Name Presets the BOM Generator. The {0} represents the current date.
- Report Show Mode Where are we seeing the reports.
  - **Project Explorer** appends the reports tree after the project.

**Reports Gallery** - populates the Reports Gallery with thumbnails and descriptions from the accompanying report manifest xml files (if any).

- Automatically validate my equipment when I open the Equipment List grid Default = true but can be expensive on large projects.
- Automatically Index Project and Drawings For more information see the <u>Understanding Indexes</u> topic. True will re-index the project on open and drawings on save.
- Show Index Operation Progress Displays the progress bar during index operations.

399

4.2.1.9.2.2 Projects List

Application	~	Most Recently Used Project		
User	^	Most Recently Used Projects List Count		6 0
🚯 Basic		FileName	FilePath	Exists
🌸 Projects List		<ul> <li>BIG DEMO PROJECT VISTADB.wc6plf</li> </ul>	C:\Users\Public\Documents\WireCAD\WireCA	V
> Drawing		Cable Rules Demo Project.wc6plf	C:\Users\Public\Documents\WireCAD\WireCA	
		Edit Suite Demo Project.wc6plf	C:\Users\Public\Documents\WireCAD\WireCA	V
Drawing (advanced)				
Command Line Shortcuts				
Enterprise CMS				
🏶 Expert Mode				
	. :			
Project	^ :			
🏶 Basic				
🏶 Advanced				
A Locations				
Delete Handling				
Project Rules				
Cable Text Search Window				
Enterprise CMS				
Export Settings				
<ul> <li>Export Settings</li> <li>Status Behaviour</li> </ul>			Clear Remove Missing Ite	ms Remove Item

The Most Recently Used (MRU) projects list. The depth of the list is set. As soon as the list count is exceeded the oldest item is discarded.

## **Projects List Panel Options**

- Most Recently Use Projects List Count How many items allowed in the list.
- Projects List displays the name path and whether the project can be reached.
- 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.

4.2.1.9.2.3 Drawing

pplication	~	Drawing Environment Settings Set up the drawing environment to your liking. Other users on this	is machine will be able to set their own settings.
lser	~	Auto Save Duration (in minutes)	10 🗘 🔽 Drawing Background Follows Skin Theme
1001		Arrow Move Nudge Distance	0.05 🗘 Background Color 🔲 255, 255, 255
🕸 Basic			
Projects List		Grip Color 0, 0, 255 🗸	
🎤 Drawing			OSnap Color 255, 0, 255 V
Prawing (advanced)		Grip Size 10 0	
Command Line Shortcuts			
Enterprise CMS			
Expert Mode			<b>X</b>
roject	~	Cross Hair Size in Pixels 2000 🗘	Pick Size in Pixels 10 🗘
Basic			Ψ
Advanced			
Locations		L	
Delete Handling		Contract of the second	Mousewheel Zoom Scale Plus20
		Show Layout Tabs	Mousewheel Zoom Scale Plus20 Hover OSnap Toolbar
Project Rules		Show the UCS Axis	Show Rulers Widt 15
Cable Text Search Window		Show Paper Space Paper (Draws a "Paper" border indicating the s	
Enterprise CMS		Save Drawing After Every Cable Number Assignment	Default File Format DWG 2007
Export Settings		Touchscreen Mouse Logic	
Status Behaviour		Clear Selection After Command Executes	
GPS Settings		Disable Progress Bar	

Common user specific drawing environment settings.

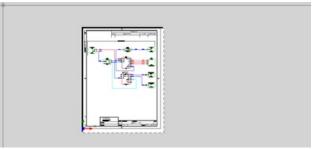
## **User - Drawing Panel Options**

- Auto Save Duration Sets the Auto Save Duration. Auto Save saves only drawings that are modified but not currently involved in a function.
- Arrow Move Nudge Distance When nudging a selection how far do we move in the direction.
- Grip Color, Grip Size, Cross Hair Size
- Show UCS Axis Shows the UCS Axis:

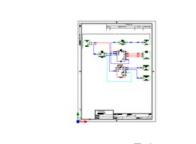


Reference	401
-----------	-----

• 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



- 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 behavior of leaving the selection set in tact after an operation.
- Drawing Background Follows Skin Theme, Background Color, OSnap Color
- **Pick Size** Sets the pick size in pixels. The pick determines the search window aperture when clicking the cursor.

4.2.1.9.2.4 Drawing (advanced)

Settings					?
Application	~	Advanced Drawing Behaviors and Properties			
мррісацоп	~	∡ General Document Properties			
User	^	Backup On Save		۲	
🏟 Basic		Disable Xref Tool Tips		۲	
<ul> <li>Projects List</li> </ul>		Enable Tool Tips		۲	
Prawing		Enable URLs		۲	
Drawing (advanced)		Hide Paperspace Printer Paper		Õ	
Command Line Shortcuts		Mirror Text		۲	
Enterprise CMS		Show UCS Axis		۲	
🌸 Expert Mode		▲ Global Render Properties		Ŭ	
		Action HighLight Quality		HighSpeed	~
Project	^ :	Action Properties		Default	~
🏶 Basic		Cross Size		10	0
Advanced		Cursor Axis Color		Black	~
Locations		Cursor Pick Color		Black	~
🏶 Delete Handling		Curve Resolution		500	0
🌸 Project Rules		Grid Color		Tomato	~
🎄 Cable Text Search Window		Line Draw Quality Mode		HighSpeed	v
Enterprise CMS					
🏶 Export Settings					
🏶 Status Behaviour					
GPS Settings					
*		Apply Save	Close	Restore Defaults	Help

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.

### **User - Drawing Advanced Panel Options**

- BackupOnSave Saves the file with the ~.bak extension before overwriting the existing file.
- DisableShowPrinterPaper Same as Show Paper Space Paper.
- DisableXrefTooltips Sometimes XREF tool-tips can be annoying.
- EnableTooltips Show tool-tips or not.
- EnableURLs URLs of object will be opened.
- MirrorText Controls how the Mirror command deals with text.
- CurveResolution How many segments to a circle.
- PickAdd Sets whether a user selection action replaces the current selection or adds to it.
- SelectActionKey Set a key value used in combination with mouse-down to add or remove selected item(s) from a selection.

Reference	403
-----------	-----

4.2.1.9.2.5 Command Line Shortcuts

· · ·			Command Name	Alias	Sh	ortCut	Assem	bly	NameSpaceAndClass	MethodName
Application	~	ę	1 <b>0</b> 0	* <b>D</b> :	-0		* <b>D</b> ¢		R C	#IIC
Jser	^	•	About							About
			Activate Viewport							ActivateViewport
🏶 Basic			AddAttribute							AddAttribute
🏶 Projects List			Add Attribute	AddAttribu	te att		Vector	Draw.Professi	VectorDraw.Professi	AddAttributeEx
J Drawing			AddBackboneSegment							AddBackboneSegment
Drawing (advanced)			Add Cable Jumps		aj					AddCable3umps
Command Line Shortcuts			AddCircuit							AddCircuit
Enterprise CMS			AddConnectionPoint							AddConnectionPoint
			AddEditPluginInfo							AddEditPluginInfo
Expert Mode			AddMultiCoreCable							AddMultiCoreCable
	~ :		AddSpareCables							AddSpareCables
Project	~ ·		Add Vertex		av					AddVertex
🕸 Basic			My Cool Function 2		mc	f2	Project	ExplorerNode	ProjectExplorerNode	AMethodWithExtraArg
Advanced			ApplyAuxTextoCables							ApplyAuxTextoCables
Locations			ApplyGPSData							ApplyGPSData
			Arc	Arc	a		Vectori	Draw.Professi	VectorDraw.Professi	ArdEx
Delete Handling			ArchiveProject		ap		WireCA	D.Archiver1	WireCAD.Archiver1	ArchiveProject
Project Rules			Area		aa					Area
🏶 Cable Text Search Window			Assign Cable Numbers		ac					AssignCableNumbers
Enterprise CMS			AssignSplice							AssignSplice
A Export Settings			AssignSysName		as					AssignSysName
Status Behaviour			AssignTerminal		at					AssignTerminal
GPS Settings			AssignTerminals	1	ats		_			AssignTerminals
We GPS Setungs			Register Your Own Com	mand	Remove (	Command		Export to Exc	el Click tr	o Check for Warnings Check

**User - Command Line Shortcuts Panel Options** 

- Register Your Own Command, Remove Command Developer function.
- **Check** Checks the shortcuts to see if you have any duplicates.
- 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.



4.2.1.9.2.6 CMS

Application	~	CMS User Settings		
Jser	~	Some settings specific to you Use Stock WireCAD Startup Page		
		Default New Circuit Strand Count	2 🗘	
Basic		Warn of Connector String Mismatch	~	
Projects List				
J Drawing				
Drawing (advanced)				
Command Line Shortcuts				
Enterprise CMS				
鬱 Expert Mode				
Project	^ !			
Advanced				
Locations				
Delete Handling				
Project Rules				
🏶 Cable Text Search Window				
Enterprise CMS				
Export Settings				
🏶 Status Behaviour				

## **Enterprise CMS Panel Options**

- Use Stock WireCAD Startup Page No longer active. Has no effect.
- **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.

#### 4.2.1.9.2.7 Expert Mode

🔀 Setti	ngs			? ×
User & F & F 2 C & C & C	ation Basic Projects List Drawing Drawing (advanced) Command Line Shortcuts	*	Beginner Mode Beginner mode causes the help system to track your moves and display help topics related to the current form or dialog. Expert Mode Expert Mode Expert mode disables the explanatory text boxes that introduce function behaviors. Expert Mode	
	Enterprise CMS Expert Mode			
346.0	Expert Mode			
Proje	ct	^ !		
	Basic			
-	Advanced			
	locations Delete Handling			
	Project Rules			
	Cable Text Search Window			
	Enterprise CMS			
10 E	Export Settings			
<u>ن</u>	Status Behaviour			
<u>∰</u> (	GPS Settings			
	•		Apply Save Close Restore Defaults	Help

## **User - Export Mode Panel Options**

### Explanation

Fine tune WireCAD for you.

- **Beginner Mode** tightly couples the help system with your actions in the application. The help system will display topics based on the current form or dialog.
- Enable Expert Mode Once you learn WireCAD functions, the explanatory dialogs that show before a function executes can be disabled.

The functions that will execute without explanation are:

- Rack Builder tool.
- De-assign Cable.
- De-assign SysName.
- Reset All SysNames.
- Reset Selected SysNames.

- Reset All Cables.
- Reset Selected Cables.
- Project switching will not inform you that the current project needs to be closed.
- Equipment Library tips will not be shown.

4.2.1.9.3 Project Settings

Settings specific to the current project. These settings are stored in the project folder as ProjectSettings9.xml.

Reference	407
-----------	-----

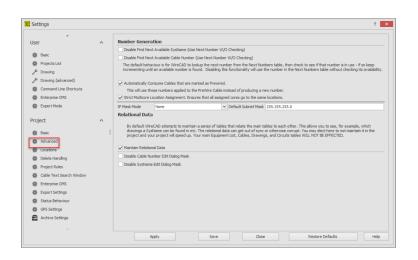
#### 4.2.1.9.3.1 Project Basic

Jser	^	Project Settings Set up defaults for the current project. Each project h	as its own settings.	
Basic     Projects List     Projects List     Drawing     Drawing (advanced)     Command Line Shortcuts     Enterprise CMS     Expert Mode		Starting Cable Number Integer used in conjunction of	with the Cable Number Format tool as a starting number	1001 🗘
Project	^	Leading Zero Count	3 🗘 🗌 Ignore Cable# Text Color	45 🗘
Advanced		Default Cable Type Manufacturer and Cable Type To Use Wh		
Locations     Delete Handling     Project Rules     Cable Text Search Window     Enterprise CMS		Default Cable Manufacturer BELDEN Used when no cable type is associated with a Sign	v Default Cable Type [1555A	v
<ul> <li>Export Settings</li> <li>Status Behaviour</li> <li>GPS Settings</li> <li>Archive Settings</li> </ul>		Default Plan Wew Block File: %6B.OCK5% Vilan Wew lequip Users (mere mortals) Can Modify These Project Settings Add Pinout Data to Each Cable. Pinout Data is Defined in the Show duplicate numbers from related projects		•

## **Basic Panel Options**

- Starting Cable Number The default starting number of ALL sequences.
- 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, Default Rack Height
- Default Cable Type This is the default of defaults. The Project 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.
- Show duplicate numbers from related projects Only if Verbose assignments are being done.

4.2.1.9.3.2 Advanced



# **Project - Advanced Panel Options**

- Disable Find Next Available SysName, Disable Find Next Available Cable Number The default behavior is for WireCAD to look-up 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.
- Automatically Consume Prewire Cables This will use those numbers applied to the PreWire Cable instead of producing a new number.
- Strict Multi-core Assignment 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** See this discussion on Understanding Indexes. Disabling this will not disable the indexing function if you call Re-index but will not attempt to initiate the data in real time.
- **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. This also disables the mask on the SysName assignment dialog.

Reference	409

4.2.1.9.3.3 Locations

Jser	^	Location Settings				
		Constituent part like: Car Default Location Loc Constituent Locations Lookup T	d to separate the various elen pous.Building.Floor.Room.Rac ation able	ents of the location field. Exan		e the location field into it
Expert Mode	*	Locations Table Peids     Poshle Campus     Poshle Campus     Poshle Campus     Poshle Room     Poshle Room     Poshle Room     Poshle Rook     Start Numbering at 1. U	ncheck to Start at 0	Campus Field Building Field Room Field Ca Room Field Ca Radi: Field Ca	Caption Building ption Floor aption Room	

# **Project - Locations Panel Options**

- 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 Look-up If disabled the locations field may be typed into directly. This may lead to confusion or referential 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 and call them what you will.
- Start Numbering at 1 Only applies if you are auto generating locations.

4.2.1.9.3.4 Delete Handling

lser	^	Delete Handling
🗱 Basic		How to handle deleted SysNames and Cables.
Projects List		The default behaviour in WireCAD for deleting SysNames and Cables is to set the Available=true and place the text "Deleted" in each field. You can override that behaviour here.
P Drawing		
Drawing (advanced)		
Command Line Shortcuts		Hard Delete
Enterprise CMS		Hard Delete Removes the Cable or SysName record upon delete instead of marking available.
Expert Mode		namena en la ancia en a persena a apena acora en escara en menengia enamenan
		Deleted Text Deleted
roject	^	Leave this blank to not overwrite the fields in the record. The Available field will be marked true. The remainder of the record will be untouched.
🗱 Basic		
🕸 Advanced		
Locations		If you are having trouble deleting something you can use the [Ctrl]+[Del] function to remove the item from the drawing
Delete Handing		
Project Rules		
Cable Text Search Window		Deleting Equipment Deletes ALL Connected Cables
Enterprise CMS		
Export Settings		Deleting a cable on a pointer resets the cable on the other side of the pointer
Status Behaviour		
GPS Settings		
Archive Settings		

## **Delete Handling Panel Options**

- Hard Delete Overrides the default behavior which is to mark a deleted cable Available=true and place the Deleted Text in key fields. Enabled this removes the row from the table upon deletion.
- **Deleted Text** If deleted and not Hard Deleting the text to place in fields. Leave empty to leave existing text in place.
- Deleting Equipment Deletes ALL Connected Cables Works with functional blocks, concept blocks, and terminals.
- Deleting a cable on a pointer resets the cable on the other side of the pointer The other sheet will be opened and updated. This can take some time.

4.2.1.9.3.5 Enterprise CMS

	^	Cable Management	System Basics				
			ettings for the CMS module				
Basic		- Manage Status Items					
Projects List		Default New Backhone Status	PROPOSED				~
P Drawing		Default New Circuit Status	PROPOSED				~
Drawing (advanced)		Default New Circuit Status	PROPOSED				Ŷ
Command Line Shortcuts							
Enterprise CMS							
Expert Mode							
叠 Basic 叠 Advanced	1	Backhone Ni mber Format	8(0)		Circuit Number Format	{0}	
Locations			3(0). (1). (2)		Horizontal Cable Number Format		
			GENERIC	×	Default Jumper P/N	GENERIC	
			GENERIC		Default H Cable P/N	GENERIC	
Project Rules					berout rifebole r pre		
Project Rules							
Project Rules     Cable Text Search Window     Enterprise CMS							
Project Rules Cable Text Search Window Enterprise CMS Export Settings							
Project Rules Cable Text Search Window Enterprise CMS Export Settings Status Behaviour							
Celete Handling Project Rules Cable Text Search Window Enterprise CMS Exprose CMS Status Behaviour GPS Settings Archive Settings							

## **Enterprise CMS Panel Options**

- Manage Status Items When creating a backbone, you have the ability to mark a "status" on that backbone such as "In Use", "Proposed" ETC. The Status Behavior settings panel defines the Status Items in the list.
- 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.
- 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.

4.2.1.9.3.6 Export Settings CMS

Settings			?
ser ****	^ ^	Ouput Settings Determines the default preview output behavior Use Template Averya Ack For Flename and Path Crout Fle Name Format [07(0) Backborne File Name Format [08(0) File Format (ong Path C:UseryPubAl: Counters UwireCAD /WireCAD //WireCAD ///WireCAD ///WireCAD ///WireCAD ////////////////////////////////////	
Locations Locations Project Rules Cable Text Search Window Enterprise CMS Export Settings Status Behaviour			
GPS Settings Archive Settings		Crout Post Process Script Badbone Post Process Script	

## **Project - Export Settings Panel Options**

- Use Template Path 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 will be 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.
- Create Folder for Each IT Systems
- Automatically Overwrite Files of Same Name
- Append Date Stamp to FileName
- Circuit Post Process Script, Backbone Post Process Script Path to a c# file which will be run post export but pre write-to-disk. See the Post Process Scripts at topic for more information.

#### 4.2.1.9.3.7 Project Rules

Settings			? ×
Basic Projects List Crawing Command Line Shortcuts Command Line Shortcuts Enterprise CMS Expert Mode	^	Project Rules Enable/Diable Project Rules Rules allow you to modify data during the Systeme and Cable Number Assignment processes. Say that you want to modify the CableType for a cable if the SignaType is SDI and the Length > 100. Simply create a rule that sets the CableType field to some data if the conditions are met. You can have an unlimited number of rules. Rules execute based on their ExecutionOrder field. Disabiling Rules will stop all rule evaluation for the project. There are two types of Rule Execution and four different events. Rules may be executed using the simple expression	
Project	^	language from within WireCAD or via the Software Development Kit(SDK).	
<ul> <li>Basic</li> <li>Advanced</li> <li>Locatons</li> <li>Debte Handing</li> <li>Project Rules</li> <li>Cable Text Search Window</li> <li>Etroprise CMS</li> <li>Export Settings</li> <li>Status Behaviour</li> <li>GPS Settings</li> <li>Archive Settings</li> </ul>	***	The SDK approach will execute faster but requires that you write and comple a plugin.	
Ŧ		Apply Save Close Restore Defaults	Help

**Project - Project Rules Panel Options** 

## Explanation

Rules allow you to modify data during the SysName and Cable Number assignment processes. There are four events or contexts

in which rules may execute:

SysName assignment pre and post dialog show/dismiss.

Cable Number assignment pre and post dialog show/dismiss.

Related Topics: <u>Project Rules</u> 217 Expression Syntax 218

• Enable Rule Execution - Enable/Disable all rule and rule event execution.

4.2.1.9.3.8 Status Behaviour CMS

lser	~	Assig	ned to Circuit Color					
			ieaShell			~		
Basic								
Projects List		Statu	s Item Behaviour					
🎤 Drawing		Co	ntext	Status Display Name	Back Ground Color	Is Blocking		
Drawing (advanced)		9 R	c	R C	=			
Command Line Shortcuts		▶ Ba	ckbones_Status 🗸	Available	255, 255, 255			
Enterprise CMS		Ba	ckbones_Status	BLIND PATCH	255, 192, 203	$\checkmark$		
Expert Mode		Ba	ckbones_Status	DEAD	255, 165, 0	$\checkmark$		
We expertinue		Ba	ckbones_Status	In Use	245, 222, 179	$\checkmark$		
Project	~	Ba	ckbones_Status	PROPOSED	255, 255, 255			
Tojecc		Ba	ckbones_Status	Reserved	255, 192, 203	$\checkmark$		
🗱 Basic	1	Ba	ckbones_Status	Unknown	255, 192, 203	$\checkmark$		
Advanced		Cir	cuits_Status	INSERVICE	255, 255, 255			
Locations		Cir	cuits_Status	PROPOSED	255, 255, 255			
Delete Handling		*						
-								
Project Rules								
Cable Text Search Window								
Enterprise CMS								
Export Settings								
🗱 Status Behaviour								
GPS Settings								
Archive Settings								
a nonce betange		144 44	Record 1 of 9 + ++ ++ - +	141		×		

**Project - Status Behavior Panel Options** 

• Assigned to Circuit Color - The color to display in the Backbones grid if the record is assigned to a circuit. Here we see circuit 0232 using the backbone B000003.41.

	CableType	CableType	CableNo	SrcSys	DestSys	SRCPin	DestPin	SRCLoc	SRCE	DestLoc	DestEl	SRCConn	DestConn	MultiCore	AvailableC.
														圓	
Đ	GENERIC	48 STRAND	800003.36	AD-3	CC-R54-4	036	036	AMU.BLDG		AMU.COM		FC	SCA		
Ð	GENERIC	48 STRAND	800003.37	AD-3	CC-R54-4	037	037	AMU.BLDG		AMU.COM		FC	SCA		
Ð	GENERIC	48 STRAND	800003.38	AD-3	CC-R54-4	038	038	AMU.BLDG		AMU.COM		FC	SCA		
÷	GENERIC	48 STRAND	B00003.39	AD-3	CC-R54-4	039	039	AMU.BLDG		AMU.COM		FC	SCA		
	GENERAC	10 31704140	000003.40	80-0	CCR31-1	040	0.40	AMU.0400		API0.0001		FC .	308		
0232	GENERIC	48 STRAND	B00003.41	AD-3	CC-R54-4	041	041	AMU.BLDG		AMU.COM		FC	SCA		
0222	CENERIC	10 0770-010	000000.12	10.0	66 N51 1	0.42	0.12	WW.0000		AND CON		10	001		
Œ	GENERIC	48 STRAND	B00003.43	AD-3	CC-R54-4	043	043	AMU.BLDG		AMU.COM		FC	SCA		
Ð	GENERIC	48 STRAND	B00003.44	AD-3	CC-R54-4	044	044	AMU.BLDG		AMU.COM		FC	SCA		
0242	GENERIC	48 STRAND	B00003.45	AD-3	CC-R54-4	045	045	AMU.BLDG		AMU.COM		FC	SCA		
■ 0243	GENERIC	48 STRAND	B00003.46	AD-3	CC-R54-4	046	046	AMU.BLDG		AMU.COM		FC	SCA		
œ	GENERIC	48 STRAND	B00003.47	AD-3	CC-R54-4	047	047	AMU.BLDG		AMU.COM		FC	SCA		
Œ	GENERIC	48 STRAND	800003.48	AD-3	CC-R54-4	048	048	AMU.BLDG		AMU.COM		FC	SCA		
- Cablette	Prefix: B00004	1													
Ð	GENERIC	24 STRAND	B00004.01	AD-4	AD-5	001	001	AMU.BLDG		AMU.BLDG		ST	ST		
Đ	GENERIC	24 STRAND	B00004.02	AD-4	AD-5	002	002	AMU.BLDG		AMU.BLDG		ST	ST		
Ð	GENERIC	24 STRAND	B00004.03	AD-4	AD-5	003	003	AMU.BLDG		AMU.BLDG		ST	ST		
	GENERIC	24 STRAND	800004.04	AD-4	AD-5	004	004	AMU,BLDG		AMU,BLDG		ST	ST		

- Context Backbones\_grid or Circuits\_grid.
- Display Name The name of our status.
- Background Color Self-explanatory.
- Is Blocking A blocking status is one that blocks operations from proceeding. For example: if we mark a backbone fiber as DEAD we would not want to use that in a Circuit. If the status item is set as Is Blocking = true then the New Circuit tool will not allow a circuit to involve that strand of fiber.

4.2.1.9.3.9 GPS Settings CMS

Menu: Application Menu > Settings[Project][GPS Settings]

Jser	^	GPS Map Tool		ction of the drawing form			
🕸 Basic		Location Markers	eset the Map Tool se	ction of the drawing form			
Projects List		Offset X		10	Offset Y		10 0
J Drawing		Laver Color	(0,0,255)		Radial Distance		50 0
🎤 Drawing (advanced)		Display String Format		Show Radial Projection Line			5 0
Command Line Shortcuts		Display String Pormat	{3}	Show Radial Projection Line	kadial Angle		5 v
Enterprise CMS		Panels					
🏶 Expert Mode		Offset X		10	Offset Y		10 0
		Laver Color	(0,128,0)		Radial Distance		50 0
roject	^	Display String Format		Show Radial Projection Line			5 0
🗱 Basic	:	biopidy burry romat			- House High		
Advanced		Backbones					
Locations		Offset X		10 0	Offset Y		10 0
Delete Handling		Text Height		0 0	Text Style Name	WC_GPS_BB_FLYOFF	
Project Rules		Backbone Color	(255,165,0)	~	Flyoff Text Color	(255, 165, 0)	~
Cable Text Search Window		Line Width		4 0	Flyoff Geometry	VDDIM_DEFAULT	~
Enterprise CMS		Show Backbone Nu	mber as Linetype		Flyoff Scale		10 0
Export Settings							
Status Behaviour		Remember Filter Setti					
GPS Settings		Show Display Error Me	issages				
Archive Settings							
a worke becargs							

# Location Marker Settings

Offset X, Y: Used by the Location Overlay Mode = Offset.

Layer Color: sets the color the location marker will paint.

**Radial Distance:** Used in conjunction with the **Location Overlay Mode** = Radial and the **Show Radial Project Lines** to paint a line from the radial arc center to the location marker.

**Display String Format:** Sets the variable used to display the name of the location on the marker in the drawing or map.

The following variables can be used:

- $\{0\}$  = Campus.
- $\{1\}$  = Building.
- $\{2\} = Floor.$
- {3} = Room.
- $\{4\}$  = Rack.
- {5} = Qualified Location.

**Show Radial Project Lines:** Used in conjunction with the **Location Overlay Mode** = Radial. Sets the display of a projection line from the arc center to the **Radial Distance** and location marker.

**Radial Angle:** Used in conjunction with the **Location Overlay Mode** = Radial. Sets the rotation angle of the radially displayed location markers.

### Panel (Equipment) Marker Settings

Offset X, Y: Used by the Panel Overlay Mode = Offset.

Layer Color: sets the color the panel marker will paint.

**Radial Distance:** Used in conjunction with the **Panel Overlay Mode** = Radial and the **Show Radial Project Lines** to paint a line from the radial arc center to the panel marker.

**Display String Format:** Sets the variable used to display the name of the panel on the marker in the drawing or map.

The following variables can be used:

- $\{0\} = \mathsf{AII}.$
- {1} = SysName.
- $\{2\} = Alias.$
- $\{3\}$  = Location.
- {4} = Manufacturer.
- {5} = Equipment Name/Model.

**Show Radial Project Lines:** Used in conjunction with the **Panel Overlay Mode** = Radial. Sets the display of a projection line from the arc center to the **Radial Distance** and panel marker.

**Radial Angle:** Used in conjunction with the **Panel Overlay Mode** = Radial. Sets the rotation angle of the radially displayed panel markers.

### **Backbone Marker Settings**

Offset X, Y: Used by the Backbone Show Mode not = ByGPSLocation to offset the flyoffs.

Text Height and Style: Sets the appearance of flyoff text.

Backbone Color: sets the color the backbone marker will paint.

Backbone Text Color: sets the color the backbone flyoff marker will paint.

Line Width: Sets the pen stroke width of the backbone.

Flyoff Geometry: Sets the block to use when a flyoff is created.

Flyoff Scale: Sets the scale factor of the Flyoff Geometry.

Show Backbone Number as Linetype: Creates a new linetype with the backbone text as part of the linetype.

### **General Settings**

Remember Filter Settings: Persist the filter data across forms and sessions.

Display Error Messages: Show a list of the problems found when showing Panels and Backbones.

#### 4.2.1.9.3.10 Archive Project

X. Settings		? 🗙
User Basic Projects List Drawing Drawing (advanced) Command Line Shortcuts Enterprise CMS Expert Mode	^	Archive Settings         Archive Path       {0}\Archived Projects         Show New Project Revision Dialog          Show New Project Revision Dialog          Always Ask for Archive Name
Project	^	You will <b>NOT</b> be prompted to enter the name for the new archive. Your archive name will be like: BIG DEMO PROJECT VISTADB-9-27-2019
<ul> <li>Basic</li> <li>Advanced</li> <li>Locations</li> <li>Delete Handling</li> <li>Project Rules</li> <li>Cable Text Search Window</li> <li>Enterprise CMS</li> <li>Export Settings</li> <li>Status Behaviour</li> <li>GPS Settings</li> <li>Archive Settings</li> </ul>		
		Apply Save Close Restore Defaults Help

## **Project - Archive Project Panel Options**

Settings that affect the Archive tool.

- Archive Path path to the archive root folder. The Archive Name will be used to create a folder within this root folder. Use {0} for the current project path.
- Show New Project Revision Dialog Set whether the New Project Revision dialog is shown and populated during the archive process. If the New Project Revision dialog is canceled the CurrentProjectRevision will not be incremented.
- Always Ask for Archive Name Sets whether you are asked for the archive name or whether the archive is automatically named using the Archive Name Format String.
- Archive Name Format String The name of the folder the project is contained within as well as the archived project name.

 $\{0\}$  = Current Project Name.

 $\{1\} = UTC$  short date string.

 $\{2\} = UTC$  short time string.

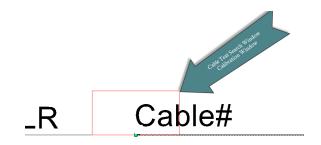
Related Topics: Archive Project 216 4.2.1.9.3.11 Cable Text Search Window

User	^	Cable Text Search Window	
<ul> <li>Basic</li> <li>Projects List</li> <li></li></ul>		Wire CAD uses standard text entities placed in a specific point near the end of reduce the Vertical Fin Spacing of your created block you may find that Wire wrong text when assigning a cable number. If that is the case reduce the size window. If you are not sure what you are doing here then leave it alone.	CAD selects the
Drawing (advanced)		Search Window in 1/100th DU	
Command Line Shortcu	its	Search Window X	50 0
Enterprise CMS		Search Window Y	50 0
			•
🍄 Expert Mode		Show Search Calibration Window	
-	^	Show Search Calibration Window Cable Text Placement Offset	
-	^	Cable Text Placement Offset Use this setting to determine the placement of text near the end of the cable.	These settings
Project	^	Cable Text Placement Offset	These settings
Project	^ 1	Cable Text Placement Offset Use this setting to determine the placement of text near the end of the cable. interact.	These settings
Project Basic	^ ::	Cable Text Placement Offset Use this setting to determine the placement of text near the end of the cable. Placement Offset in 1/100th DU	
Project Basic Advanced Locations Delete Handling	^ :	Cable Text Placement Offset Use this setting to determine the placement of text near the end of the cable. Placement Offset in 1/100th DU Placement Offset X	0.0
Project Basic Advanced Locations Delete Handling Project Rules	1	Cable Text Placement Offset Use this setting to determine the placement of text near the end of the cable. Placement Offset in 1/100th DU	
Project Basic Advanced Locations Delete Handling Project Rules	1	Cable Text Placement Offset Use this setting to determine the placement of text near the end of the cable. Placement Offset in 1/100th DU Placement Offset X	0.0
Advanced     Locations     Delete Handling     Project Rules     Cable Text Search Win     Enterprise CMS	1	Cable Text Placement Offset Use this setting to determine the placement of text near the end of the cable. Placement Offset in 1/100th DU Placement Offset X	0.0
Project Basic Advanced Locations Locations Project Rules Cable Text Search Wir Cable Text Search Wir Enterprise CMS Export Settings	1	Cable Text Placement Offset Use this setting to determine the placement of text near the end of the cable. Placement Offset in 1/100th DU Placement Offset X	0.0
Project Basic Advanced Locations Delete Handling Project Rules Cable Text Search Wir Cable Text Search Wir Cable Text Search Wir Cable Text Search Wir Cable Text Search Wir Delete Search Search Search Wir Delete Search Search Search Wir Delete Search Searc	1	Cable Text Placement Offset Use this setting to determine the placement of text near the end of the cable. Placement Offset in 1/100th DU Placement Offset X	0.0

## **Project - Cable Text Search Window Options**

WireCAD uses standard text entities placed in a specific point near the end of the cable. If you reduce the Vertical Pin Spacing of your created blocks you may find that WireCAD selects the wrong text when assigning a cable number. If that is the case reduce the size of the search window.

- Search Window X Sets the x offset from the end of the cable that we search for text.
- Search Window Y Sets the y offset from the end of the cable that we search for text.
- Show Search Calibration Window Renders a red rectangle representing the search window. Be sure to turn this off before doing actual work in the application.



Search Calibration Window

- Placement Offset X Sets the x offset of the Cable Number text placement. This setting interacts with the Search Window X. If you set the Placement Offset X outside the Search Window X you will need to modify the Search Window X to accommodate the new placement.
- Placement Offset Y Sets the y offset of the Cable Number text placement. This setting interacts with the Search Window Y. If you set the Placement Offset Y outside the Search Window Y you will need to modify the Search Window Y to accommodate the new placement.

### 4.2.2 Drawing Dialogs

The following is a set of dialogs associated with Drawing Form.

### 4.2.2.1 CAD Dialogs

### 4.2.2.1.1 New Drawing Wizard

Select a	Template Dr	awing		
(None) ANSI AH				
	.owg Landscape.DWG			
ANSI_A	Portrait.DWG			
ANSI_A				
ANSI_B. ANSI_C.				
ANSI D.				
ANSI_E				
BLANK.D				
	Landscape.dwg			
	Portrait.dwg Landscape.dwg			
	Portrait.dwg			
	Landscape.dwg			
	Portrait.dwg			
ISO_A4	Landscape.dwg			

🔀 New Draw	New Drawing					
New Dra	wing(s)					
Name	the Drawing(s)					
Names *	Drawing 1 Drawing 2 Drawing 3	~ ~				
Folder*	C: Users Public Documents WireCAD WireCAD 10 Demo Projects (Edit Suite Demo Project) Drawings					
	Next >	Cancel				

X New Drawing	? ×
New Drawing	
Use Model Space Boundaries	
	Use Model Space Boundaries Model Space Text Height 25 (*) Printed Output Text Height 4 (*) Color ByLayer *** Note: If you do not create boundaries here you can do not create boundaries here you Boundaries control
	Next > Cancel

Drawing > File > New Commandline: nd

# Explanation

Create a new drawing for the project somewhere in the project\drawings\ folder tree.

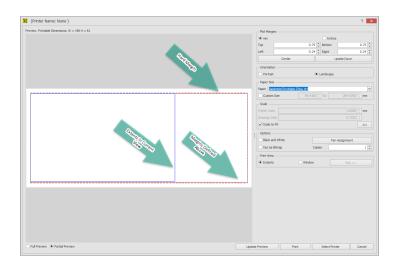
- Select a template drawing. Template drawings are drawings that are placed in the Template Drawings <u>Support Path</u> [392]. They typically contain layouts and page borders, but may also be populated with barebones systems.
- Set whether to display Model Space Boundaries. These are bounding rectangles based on a scale factor of the Model Space text height used and the desired output text height of the viewport.

Related Topics: <u>How To: Create a New Drawing</u> Model Space Boundaries

- **Template Drawings List** Drawings placed in the %TEMPLATEDRAWINGS% support path. Any drawing is a candidate for saving as a template.
- Model Space Boundaries Your selected template may already have Model Space Boundaries in which case it is unnecessary to include them.

## 422 WireCAD v10 User Manual

4.2.2.1.2 Print Preview



Drawing > File > Print Preview [Cntrl]+[P] Commandline: print

# **Dialog Options**

• Selected Printer - Make sure that you select a printer first.

💢 (Printer Name: HP2729AC (HP PageWide Pro 477dw MFP) )

- 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
- Select Printer
- Cancel

4.2.2.1.3 PDF Export

e (Printer Name: MACHINE_ROOM.pdf)	X
	Plot Margins         ● mm         ○ inches           Top:         1.0160         Bottom:         1.0160           Left:         0.0000         Right:         0.0000           Upside-Down         Center To Paper           Orientation         ○ Potrat         ● Landscape
	Number of Copies : 1 Paper Custom 89.916 by 204.97 mm Scale Printer Units: 1 mm Drawing Units: 0.653179
	Scale to Fit  Output Options Black and White III Pen Assignent Greyscale Ignore gradient background color  Print Area  Extents Window
Preview Options ○ Partial ● Full  Update  Save to file PDF  Save to file Save to file	ve to file

Drawing > File > PDF Export Commandline: pdf

# **Dialog Options**

• Selected Printer - Make sure that you select a printer first.

💢 (Printer Name: HP2729AC (HP PageWide Pro 477dw MFP) )

- **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
- Select Printer
- Cancel

4.2.2.1.4 Export to Visio

Page Size Letter W:8.5 H:11	▼ Landscape
Output File Name C:\Users\Public\Documents\just a t	test\Drawings\test1.vsd ···· Overwrite File if Exists
Scale	Cable Routing
Scale to fit Visio page Model Space Extents: 477.4800 , 129.3715 Scale Factor X: 1.0000 Y: 1.0000	<ul> <li>Allow Visio to route cables</li> <li>Attempt to keep WireCAD routes</li> </ul>
	Steps
	Process drawing layers
	Processing all non-cable geometry
	Processing cables

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.

- Page Size Set the Visio page size.
- Output File Name
- Landscape
- Overwrite File if Exists
- Scale to Fit Fit the WireCAD dwg entities onto the selected page size.
- Scale Factor Manually 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!

### 4.2.2.1.5 Layers

ocument Tree		0	New	Layer 😢 Del	ete	Layer	•	Set	Curren	t New La	ayer Name		
Main Drawing [MACHINE			Cu	Name .		Fro	L		Pen Co	olor	Line Type	Line Weight	
		9			9	۲	nf.						
		Þ	0	0	9	0	nf	۲		Foregro			
				PINNAME	9	0	- mî	۵		Foregro			
				SYSNAMES	9	0	лf,	۲		Foregro			
				CONNEC	9	0	nî.	۲		Foregro			
				LOCATION	9	0	- mî	۲		Foregro			
				ALIAS	9	0	- mî	۲		Foregro			
				CABLES	2	0	- mî	ė		Foregro			
	1			COMMEN	2	0	лf,	ä		Foregro			
				EQUIPME	7	0	- mî	ä		Foregro			
				MANUFA	7	0	Ш.	ä		Foregro			
				BOUND	7		1	Ä		253			
				BOUND	8		1	븟		253			
				CTL	X	-	1	8		4			
				CTL_PIN CTL_NO	X	~		H	-	4			
				SDI	¥.	~	-			4			
				SDI_PIN	×	-	-		-	4			
				3DI_FIN	X	-	-	8	_	-			
		0			Con	iy 袮		Copy	/==	Copy [			

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.

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.

- **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
- 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.
- Status The one and only current layer.
- Name
- 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 pen color for the layer. Only entities that have their PenColor property set to ByLayer will receive this value.
- 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
- Cancel

Reference	429
-----------	-----

#### 4.2.2.1.6 Layouts

Model	Set Current
ayout2 APER SPACE	New
NSI A 1X17	Remove
	Rename
	Сору
	Move Up
	Move Up
	Move Down

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.
- 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**

- Layout List
- Set Current Set the selected item to be the current view.
- New, Remove, Rename
- Copy Copy all entities from the selected layout to a new layout with the name of your choosing.
- Move Up/Down Reorder the list.

4.2.2.1.7 Point Styles

Point Properties	
O Dot None	+
C X Mark	Point Size: 0.2500 🗘 Units
Add Circle	<ul> <li>Relative to Screen</li> <li>Absolute Units</li> </ul>
Add Square	Absolute Units

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.

Reference	431

### 4.2.2.1.8 Text Styles

Text Styles	5 ? <mark>2</mark>
Basic Adv	anced
- Style Name	
Standard	V 🕑 New 😒 Rename 🔀 Delete
- Style Maps	to this Font
TTF Font:	Arial 🗸 Use Big Font
Height:	0 🗘 Big Font
Style Bold	Italic Underline StrikeOut OverLine
- Preview -	
H	lello World!
Hello World!	Refresh

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.

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.

- Style Name, Add, Rename, Delete
- Font Set the font family of the Text Style.
- Style Style attributes.
- Preview, Preview Text Edit Preview of Text Style applied to the 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 in degrees.
- WidthFactor Value used to stretch text by changing its width.

### 4.2.2.1.9 Dimension Styles

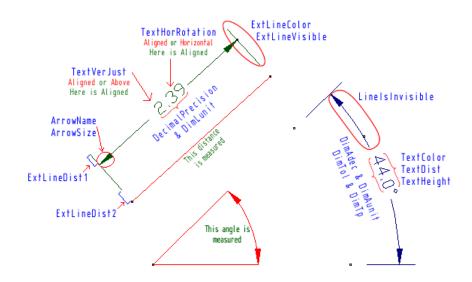
nension Styles		Preview	
O-25	🗸 🔂 New 😒 Rename 🔀	Delete	
Arrows		▲ ^	
ArrowBlock			
ArrowBlock2			
ArrowSize	2.5000		
Lines		▲	
DimLineColor	ByBlock		
EnableExtLineFixedLe	False		
ExtLineColor	ByBlock		
ExtLineDist1	1.2500	50	
ExtLineDist2	0.6250		
ExtLineFixedLength	1.0000		
ExtLineVisible	True		
LineForced	True		-
LineIsInvisible	False		$\sim$ 7
Misc		·	
Handle	141731	-	
Label			
LinearScaleFactor	1.0000		
Name	150-25		
ScaleFactor	1.0000		
XProperties	0 Items		
Text		<u> </u>	

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.

- Style Name, Add, Rename, Delete
- Preview Pane Displays the results of the current settings.
- Settings -



4.2.2.1.10 Model Space Boundaries

🔀 Model Space Boundaries		?	x
	Unit of measure 1/100 DU or Printer Unit		
	Layout	(All)	~
	Text Height that you used in the Model Space	2	5 🗘
	Height of the text that you want to print out		4 🗘
	Color	ByLayer	
	Model space boundaries provide guidelines for rectangle will be placed in the Model Space indi		
		OK Cancel	

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 and named **bound\_layout\_name** where **layout\_name** is replaced with the name of the layout.

- 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.
- Color

## 4.2.2.1.11 Groups

Groups			? ×
Ignore Groups			
Name	Description	Selectable	Item Count
b8d9482e-052b-42		~	2
Group Properties Name:b8d9482e Description:	-052b-4203-8915-c	 ies Apply Pro	perties Delete
Name: b8d9482e	-052b-4203-8915-c	 ies Apply Pro	perties Delete

Drawing > Drawing > Groups Commandline: formatgroups

## Explanation

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

	1		
Ξ	-	E	
-		==	
		Done	
Ē		Repeat Command: Fo	rmatGroups
		Modify	+
_		View	•
C	۶	Сору	
	•	Move	
	•**	Rectangular Array	
	T	Offset	
		Select All	Ctrl+A
	ŋ	Undo ZOOM	Ctrl+Z
	副	Group	
	000	UnGroup	
	$\star$	Add to Favorites	

- 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.
- **New -** New from the Group Properties.

Reference	437
-----------	-----

#### 4.2.2.1.12 Images

Image Manager Image Definitions			? ×
inage Demitions			_
	WIRE CAD	J .	
WC4.jpg	WireCAD logo.jpg	imageserver200x70.gif	- 1
			~
		Attach Edit 1	image Detach
- Properties		Attach Edit I	
Image Path:		Attach Edit I	
Image Path:	olor: No im Interpolation 1		image Detach

Drawing > Format > Images Commandline: formatimages

## Explanation

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

- Images Gallery
- Attach Browse to an image file to attach to the document.
- Edit Image Display the Image Editor 438 dialog for the selected image.
- Detach Remove the selected image if no instances exist in the drawing.
- Image Path Path to the linked file.
- Bind to Document Check this box to embed the image in the document.
- Choose Transparency Color
- Place Place an instance of the image in the drawing space.

4.2.2.1.13 Image Editor

📕 Edit Image	– 🗆 X
<b>WIR</b> CA	
Graycale Sepia Invert Colors	Export Image
Adjustments Brightness	Rotate       A       Colors
Contrast	Red 0 🗘
Gamma Red	0 ≑
Gamma Green	
Gamma Blue	OK Cancel

Double-click an Image Commandline: none

## Explanation

Image editor. You are editing the Image Definition of the document images collection not the instance. All instances will follow the definition.

### 4.2.2.1.14 Rectangular Array

Rectangular Array	X
Row/Columns:	Spacing:
Rows = : 52. ¢ Columns    : 1 ¢	Row Spacing: -1 🖨 Column Spacing: 0 🗘
	Pick >>

Drawing > Modify > Rectangular Array Commandline: ar

## Explanation

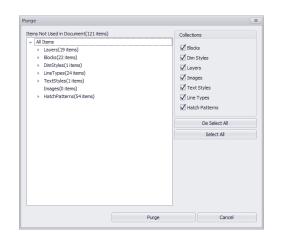
Creates multiple copies of objects in a pattern.

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.

- 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 >> Momentarily dismiss this dialog so you can pick the spacing out of the drawing.

4.2.2.1.15 Purge



Drawing > File > Purge Commandline: purge

# Explanation

Remove unused entities from the drawing. Only unused entities and object appear here. For an item to be purgable it must not appear in any drawing space or by used by another entity or object.

- Collection Tree The document collections.
- Collection to Purge The collections to purge.

### 4.2.2.1.16 Inserts Dialog

Insertion Point	Scale Specify Later	Rotation
X pos 0 0	X 1 0 y 1 0	Angle 0
Z Pos 0	Z 1 🗘	

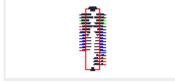
Drawing > CAD Tools > Insert Block into Drawing Commandline: insert

## 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**

- Blocks Select an existing block or browse to a dwg file and add it to the drawing.
- Preview -



The selected block

• Insertion Point, Scale, Rotation - Pick here or on the drawing.

4.2.2.1.17 XREF Manager

就 XREF Manager		?	×
Externally referenced draw	ings are those that are displayed in this drawing but maintained separate Reload Bind Unload	ly	
Reference Name	File Name		
	<b>C</b> .4		
	Exit		

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 read only. This allows base drawings to be managed separately yet display in the current drawing. Because they are linked they are not editable. You can bind a previously Externally Referenced drawing to the current document if you desire that it be editable in the current view. You can control the visibility of XREF layers from the Layers dialog.

Related Topics:

Layers Dialog 427

# **Dialog Options**

• Attach - Browse to the file. After which you will be presented with the standard Insert dialog to position the incoming file on the screen.

Redefine Existing?					
Insertion Point		Scale	later	Rotation	
X pos	0 0	x	1 🗘	Angle	0 🗘
Y pos	0 🗘	y	1 🗘		

- Detach Remove the XREF.
- Reload Get any changes to the XREF file and display them.
- **Bind** Make it a Block in this drawing file. It is no longer linked and changes in the source file will no longer reflect in the current drawing.
- Unload Get rid of it.

4.2.2.1.18 Swap Equipment

lar	ufacturer			~	Equip	ment Name		-
	Incoming Inputs		Outgoing Inputs			Outgoing Outputs	Incoming Outputs	
Þ		~	RS422 - 9D - CTL		Þ	MON-L - X - AUD		
			SDI - B - SDI			MON-R - X - AUD		
						SDI.1-B-SDI		
						SUPER - B - VID		

## **Context Menu with Equipment Insert Selected>Equipment Functions>Swap Equipment** Default command line shortcut: **none**

The Swap Equipment function allows you to swap Manufacturer, Model, and port data on an existing functional block or concept block.

### Applies To:

Functional Blocks Concept (High Detail) Blocks.

## Used For:

Switching from one make/model to another.

- Manufacturer Select the Manufacturer to replace the outgoing device with.
- Equipment Name Select the Equipment Name / Model / PN to replace the outgoing device with.
- Inputs grid, Outputs grid Select the ports to replace.
- Find Matches Matches incoming ports to outgoing ports.
- OK Do it!

### 4.2.2.1.19 Swap Pointers

Swap Pointers		×
This function will replace pointer sets in this and oth	er drawings.	
Select the _S and _D pointer to replace with.		
This function works on-sheet and off-sheet. If the other pointer is on another sheet, that drawin pointer replaced.	ng will be opened and the	
Don't forget to save all drawings when this is finishe	ed.	
Don't forget to save all drawings when this is finishe THIS CAN TAKE A WHILE. Be patient.	:d.	
	.d.	
THIS CAN TAKE A WHILE. Be patient.	.d.	Y
THIS CAN TAKE A WHILE. Be patient. Outgoing Pointer _D WC3_Pointer_D	.d.	×

# [Advanced Tools] > [Swap] > [Swap All Pointers] Default Command Line Shortcut: SwapPointers

If a pointer is displeasing to the eye, it can be changed using this tool.

See also: <u>How To: Swap Pointers</u>

4.2.2.1.20 Swap Terminals

		×
lace TERMINALS - JACKS, JBC	DXES, ROUTERS.	
bles:		
terminal. The suffix must mate	th in order to be swapped.	
all drawings when this is finish	hed.	
HILE. Be patient.		
wc3_eu_hn_d		
		~
	ables: terminal. The suffix must mate all drawings when this is finish /HILE. Be patient.	terminal. The suffix must match in order to be swapped. all drawings when this is finished. /HILE. Be patient.

# [Advanced Tools] > [Swap] > [Swap All Terminals] Default Command Line Shortcut: SwapTerminals

If a terminal is displeasing to the eye, it can be changed using this tool.

See also: How To: Swap Terminals

Reference	447
-----------	-----

### 4.2.2.1.21 Edit Attributes

ng [SONY-DVW A500v7] Attributes	
Тад	Value
INPUT-1	RS422
CP_IN-1	RS422/90/CTL
INCONN-1	9D
INPUT-2	SDI
CP_IN-2	SD1 8 SD1
INCONN-2	8
CP_OUT-1	MON-L[X]AUD
OUTPUT-1	MON-L
OUTCONN-1	х
CP_BRIDGED-1	MON-L-BRIDGED (X (AUD
CP_OUT-2	MON-R/X/AUD
OUTPUT-2	MON-R
OUTCONN-2	х
CP_BRIDGED-2	MON-R-BRIDGED (X JAUD
CP_OUT-3	SDI. 1 B SDI
OUTPUT-3	SDI. 1
OUTCONN-3	8
CP_OUT-4	SUPER  B VID
OUTPUT-4	SUPER
OUTCONN-4	В
SysName	VTR-01
Location	ROOM 110.2.20
Manufacturer	SONY
EquipmentName	DVW A500
Alas	VTR-01
Description	Digital Betacam
USER 1	
USER2	
USER3	
USER4	
IPAddress	IPAddress
SubnetMask	SubnetMask
CreatedWith	WreCAD7
Read Only EquipID	dfdd124F-c939-435c-9f23-c455815369e5

## CAD Tools > Edit Attributes

Default command line shortcut: EditAttributes

If an insert has Attributes they can be edited using this tool.

Be careful using this on WireCAD generated blocks as there is usually a tool that will update the attributes and the database concurrently.

## Applies To:

Standard CAD Blocks.

### Used For:

Editing text in a Insert entity.

- Tag Descriptive text.
- Value The data that renders as text in the insert.

4.2.2.1.22 Add Attribute Definition

<mark>x,</mark> Add Attribute				?	x
Tag:		]	- Properties		
Value:		-	Height:	1.000	\$
- Insertion Point -			Rotation:	0.000	~
X:	0 🗘		Horizontal Justify:	Left	~
Y:	0 🗘		Vertical Justify:	Baseline	~
Z:	0 🗘		Style:	Standard	~
			Invisible		
	Pick		Locked Position	ı	
				OK Cance	el

## CAD Tools > Create Attribute Definitions

Default command line shortcut: none

Used to create an Attribute Definition. Attributes exist in two states.

- 1. Before a block is created an Attribute is referred to as an Attribute Definition or AttribDef.
- 2. After a block is created with an AttribDef it becomes an Attribute.
- 3. AttribDefs are editable and easily modified. Once added to a block they are harder to change.

Blocks do not limit the number of AttribDefs.

Applies To:

Standard CAD Blocks.

### **Used For:**

Creating editable text in a Insert entity.

- Tag Descriptive text. This is what renders when not included in a block.
- Value The data that renders as text in the insert.

### 4.2.2.1.23 X Properties Grid

Ð	Add	$\Sigma$	Edit	🕄 Re	emove
	Туре		Name		Value
Þ	STRING		Entity_Type		EquipmentBlock
	STRING		DB_Ref_1		
	STRING		DB_Ref_2		
	STRING		DB_Ref_3		
	STRING		DB_Ref_4		$BodyColor \sim 5; BodyPenWidth \sim 10; BodyWidth \sim 500; BottomBulgeFactor \sim 15; Cre.ord = 10, BodyColor \sim 10, $
	STRING		Assoc		
	STRING		SRC		
	STRING		DST		
	STRING		WireCADVer	sion	WireCAD7

### Not directly callable.

Default command line shortcut: none

This dialog allows you to add edit and delete extended properties on an entity. This is generally done in code. This dialog can be shown by clicking the [...] button on the **XProperties** row of the drawing Properties Tool Panel.

Dra	wing Properties		0	щ	х
	¥2 🖉 🔍				
vd	Insert YAMAHA-O2Rv1				•
	Collections			~	*
C	XProperties	9 Items			
	Geometry			^	
	ExtrusionVector	0.0000,0.0000,	1.00	00	
	InsertionPoint	19.2826,40.49	21,0.	0	

## We recommend that you not edit any of this data.

# Applies To:

All entities.

- Type Variable type.
- Name Descriptive text.
- Value The data.
- Add, Edit Delete obvious.

4.2.2.1.24 Edit X Properties

ype: S	tring		
ame: E	ntity_Type		
Proper	ty Value		
Value:	EquipmentBlock		
X:			0 🗘
Y:			0 🗘
Z:			0 0

## Not directly callable.

Default command line shortcut: none

This dialog allows you to edit existing extended properties on an entity. This is generally done in code. This dialog can be shown by clicking the **[Edit]** button on the **Extended Properties** 49 grid.

## We recommend that you not edit any of this data.

### Applies To:

Select Extended Property of the selected item(s).

- Type Variable type.
- **Name -** Descriptive text.
- Value The data.
- X, Y, Z If the data one of the point types.

4.2.2.1.25 Singleline Text Editor

° <b>⊼</b> , ∓						Edit Text								?	×
9.	Single Line of T	ext													
Bold 1	1 <u>U</u> Italic Underline	<b>S</b> StrikeThrough	WC_CONNECTOR	V     Text Style       25     Text Height       V     Color	0	0° 🗘 Rotation	Тор	Center B	Bottom	Left	Enter	Justify			
	Font Flags			Style					Justifica	tion					^
1 ST FLOO	R														
										Accept			Cancel		

## **Double-click text entity** Default command line shortcut: **none**

This dialog allows you to edit existing single line text entities.

## Applies To:

Selected Single Line Text entity

# Related Topics:

Text Styles 431

- Bold, Italics, Underline, Strikethrough
- Text Style Text entities do not have fonts but rather document based TextStyles. The TextStyle associates the font.
- Text Height In drawing units.
- Layer The Layer on which the entity resides.
- Color The pencolor of the text entity
- Rotation Angle in degrees.
- Justification Sets the horizontal and vertical justification.

4.2.2.1.26 Multi-line Text Editor

X.	Ŧ		1	Edit Multiline Text			?	×
ĝ	jj –	Multiline Text						
			Standard 🗸 Text Style	0° 🗘 Rotation		-		
1	Ū	O Characters * Colors *	50 🗘 Text Height	0 V Layer	BaseLine Top E		≡	
			foreground ···· Pen Color	1 🗘 Line Spacing				
		Formatting Codes	St	yle	Justification			^
00	12Dec	ember 26, 2016						^
								$\sim$
					A sure t	Gran	-1	
					Accept	Cance	51	

### **Double-click MText entity**

Default command line shortcut: none

This dialog allows you to edit existing MText multi-line text entities. MText entities display multiple lines of text with the ability to format selections within the MText entity.

This part of the text is 3x bigger than the selected TextHeight This part changes color mid line More text with a different color Then a fraction:  $\frac{1}{4}$ 

**MText Preview** 

## **MTEXT Control Codes**

\0\0	Turns overline on and off
L	Turns underline on and off
$\backslash \backslash$	Inserts a backslash
$\setminus \{ \ldots \setminus \}$	Inserts an opening and closing brace
\Cindex;	Changes to the specified color
\Hvalue;	Changes to the text height specified in drawing units
\Hvaluex;	Changes the text height to a multiple of the current text height
\Tvalue;	Adjusts the space between characters, from .75 to 4 times
\Qangle;	Changes obliquing angle
\Wvalue;	Changes width factor to produce wide text
\Ffile name;	Changes to the specified font file
\A	Sets the alignment value; valid values: 0, 1, 2
\Ρ	Ends paragraph
\S^;	Stacks the subsequent text at the $\setminus$ , #, or ^ symbol

Applies To: Selected MText text entity.

Related Topics: Text Styles 431

## Layers 427

# **Dialog Options**

- Italics, Underline, Overline
- Characters Insert control codes for the selected character.
- Colors Insert control codes for the selected color. We have provided named colors but the control code \C can be followed by any of the index colors 0-127
- Text Style Text entities do not have fonts but rather document based TextStyles. The TextStyle associates the font.
- Text Height In drawing units.
- Layer The Layer on which the entity resides.
- Color The pencolor of the text entity
- Rotation Angle in degrees.
- Justification Sets the horizontal and vertical justification.

4.2.2.1.27 Sync Insert Decision

Sysname	Location	Available	Alias	Manufacturer	Equipment	IP Address	Subnet Mask	User 1	User2	User3	User4
⊡ I/F-01	109		I/F-01	AJA	KONA LH						
Jataba	ase Data										
		Available	Δlias	Manufacturer	Equipment	IP Address	Subnet Mask	Liser 1	Liser2	Liser3	Liser4
Sysname	Location 109	Available	Alias I/F-01asdf	Manufacturer AJA	Equipment KONA LH	IP Address	Subnet Mask	User1	User2	User3	User4
Databa Sysname I/F-01	Location	Available				IP Address	Subnet Mask	User1	User2	User3	User4

### **Right-click a Functional Block then Equipment > Sync with Database** Default command line shortcut: **none**

If the block information does not match the database information you are presented with this choice. Yellow background cells represent fields that do not match. You must choose which data to use.

Applies To: Selected Functional or Concept Block.

Related Topics: None

### 4.2.2.1.28 Validate Deletion

🔀 Validate Deletion		? X
	Deleting Item That Has a Database Reference You are deleting a system that also has an entry in the Equipment List. Would you like to delete the database record as well? NOTE: this system may appear in multiple drawings. Do not delete the database entry until you have deleted all references. Clicking [Yes] deletes the drawing entity and the database record as well as disabling undo. Clicking [Ne] deletes only the drawing entity leaving the database record in tact. Clicking [Cancel] cancels the deletion.	
	To All Yes no Ca	ancel

### **Delete or Erase**

Default command line shortcut: e

When deleting an entity in the **Applies To** list you will be presented with this decision. This indicates that the entity you are deleting has an matching record in one of the databases. It is your choice as to whether to keep or delete the associated database record.

### Example

Assume you have a device called SRVR-01. Further that SRVR-01 has appearances in the video drawing and the audio drawing.

When you decide to delete the instance that is in the video drawing, you will be shown this dialog and need to decide whether to delete the database entry as well.

The appropriate response in this case is not to delete the database record since we still have the instance in the audio drawing.

## Applies To:

Blocks with SysNames Terminals with SysNames Cables with Cable Numbers.

Related Topics: Delete Handling Setting 410

### 4.2.2.1.29 Zoom Scale

🛣 Zoom Scale	? ×
Relative to active view of Scale Factor:	r viewport
ОК	Cancel

## View > Zoom Scale

Default command line shortcut: ZoomScale

This function is used to numerically zoom the currently active viewport to the underlying Model Space.

## Usage

- 1. Open a drawing.
- 2. Switch to a layout with a viewport.
- 3. Double-click the viewport to activate it. You will see the crosshair is constrained to the viewport.
- 4. Click View>Zoom Scale ...
- 5. Enter a scale factor.
- 6. Click [OK].

## Applies To:

A layout with an activated Viewport.

## 4.2.2.2 Advanced Tools Dialogs

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

4.2.2.2.1 Equipment Library

8			Equipment Library(VISTA): [3	160 SYSTEMS]-[Image Server 2K]			- 8
•	B Add Manufacturer Save	Coptions a Save As Attach Document Your Library Community Library	Find Search Find		Download First Previous		
ur Manufacture	ers	Your Equipment				Stock Shapes	- Preview
Enter text to sear	ch 🗸 🛛 Find 🔹 Clear	Image         Manufacturer           ▶ ⊞ Nothing to see here. Right 360 SYSTEMS		EquipmentDescription Mpeg 2 Video Server	Type (SysName Prefix) SRVR		^ ( Auto 2
Manufacturer Na	me Manufacturer Image	B Nothing to see here. Right 360 SYSTEMS	Instant Replay	Audio Sampler	IR		
360 SYSTEMS	26 Susteur	▲ Nothing to see here. Right 360 SYSTEMS	IMAGESVR	SERVER	SERVER		
300 3131643	BROADCAST	Nothing to see here. Right 360 SYSTEMS	IMAGESVR_v1	SERVER	SERVER	····	
360SYSTEMS	No image data	Nothing to see here. Right 360 SYSTEMS	Router	Router	RTR		
3COMM	3COM					Rectangle	Display As:
ACCOM	No image data						Functional Block
ACTIVE STOR	RAGE No image data	Details - Image Server 2K has 13 inputs					Concept Block
		Full Name Name		MS - Image Server 2K	^		Signal Types Only Block
		: Description	Image Ser Mpeg 2 Vio				Mappable Terminal From File
ADC		: Type (SysName Prefix)	SRVR			·	
	AUG	Front Panel File	%BLOCKS	%\2D_ELEVATIONS\2U_2D_EL.DWG			User Defined Shape from File
		Plan View File					Front Panel from File
ADTEC DIGIT	TAL No image data	Image	Nothing to	see here. Right-dick to add image.		Rounded Rectangle	O Front Panel from Dims
AIR TOOLS		Weight	2.25				Plan View from File
AIR TOOLS	airlools	Weight Unit of Measure	Pounds		~		
AWA		Height	2	(01)	~		
		Height Unit of Measure Width	Rack Units 19	(RU)	~		Ar Add to Drawing
AJA		Width Unit of Measure	Inches		~		Add to brawing
	VIDEO SISTEMS	Depth	12				
		Depth Unit of Measure	Inches		~	$\sim$	
AKG	(A)	Power	50				Create SysName
ANG		Power Unit of Measure	Watts		×	Rounded Rectangle - Tor	
	Charles and the second	Voltage Unit of Measure	120 VAC		~ ~		
		Unit of measure	VAC		Y		<ul> <li>Exit</li> </ul>

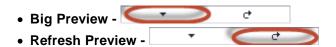
Database > Equipment Library Drawing > Advanced Tools > Equipment Library Commandline: le Several Others

# 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 piece 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.

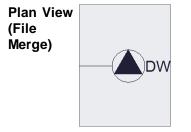


Reference	457

• **Preview** - Displays the currently selected equipment definition based on the **Display As:** setting.

• Display As:

Setting	Preview
Function al I/O	
Conceptu al I/O	ADD SYSTEMS S Systems S AES 1.2 AES AES AUD AUD ETHERNET VIO DATA HO SOI CON CNTL VGA SOI VIO AUSS
Conceptu al I/O (high detail)	
Front Panel (File Merge)	Trowne         MPG         MODEL           280         AUAS
Front Panel (From Dims)	



Plan View Not yet implemented. (From Dims)

- 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 data sheets or specification documents with the equipment definition.

4.2.2.2.1.1 Find



Database > Equipment Library Drawing > Advanced Tools > Equipment Library [Find] Commandline: le Several Others

# Explanation

The **[Find]** bar 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:

When searching the databases for items, less is more. You want to enter a value that 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.

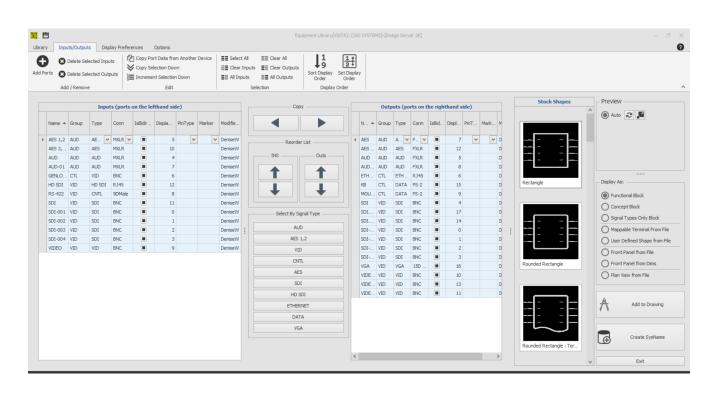
Search: SONY DVW - Result: None. There are no products with the manufacturer name and the product name in a single field.

# Find Bar Options

- 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 server.
- **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.
- Grid found items.
- Results Paging You can view the page results here:

Community Equipment - Records 1 to 10 of 244

4.2.2.2.1.2 Inputs/Outputs



Database > Equipment Library [I/O] Drawing > Advanced Tools > Equipment Library [I/O] Commandline: le 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.

If you are using connector genders be sure to enter the cable-end gender not the chassis side.

# I/O Tab Options

- Inputs Grid, Outputs Grid NOTE: Be sure to save your changes if you edit these grids manually by clicking File>Save.
- Select All, Clear Selection, All Inputs, All Outputs Manipulate the selection.
- 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 <u>Show the Add Ports dialog</u> 469.
- 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.

#### 4.2.2.2.1.3 Display Preferences

	Equi;	pment Library(VISTA): [360 SYSTEMS]-[Image Server 2K]		- 8 ×
Library Inputs/Outputs Display Preferences Options				0
Last Inserted My Settings				
Appearance Settings				*
Display Properties		Extended Body Properties	Stock Shapes	Preview
🗙 Enter text to search 🔽	Find Clear		<u>^</u>	Auto 2
4 Basic				
Pin Spacing	100			
Pin Width	200			
⊿ Body				
Auto Width	0			
Body Color	ByLayer ···			Display As:
Body Pen Width	0			Functional Block
Body Width	500 \$			O Concept Block
DescriptorLocations	SysName:13 Manufacturer:11 Equi ···			Signal Types Only Block
Image Display Mode	None			O Mappable Terminal From File
Image Position	MiddleCenter 🗸			User Defined Shape from File
Image Scale Factor	1			O Front Panel from File
Vertical Padding	100		Rounded Rectangle	O Front Panel from Dims
Vertically Center Pins	0			O Plan View from File
∡ Grouping				
Description	/@\	Description		Α
			Rounded Rectangle - Tor	Add to Drawing Create SysName Exit

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. <u>Stock Shapes</u> 467
- 2. Mappable Terminals 467
- 3. User Defined Shapes 468
- 4. Mechanical Forms 468

		Stock Shapes	Mappable Terminals	User Defined Shapes	Mechanical Forms
--	--	--------------	--------------------	---------------------	------------------

# 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 **Equipment Library** status bar:

CDA5 has 1 inputs and 4 outputs. Preview created from Project settings.

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 **Equipment Library**. These settings have priority.
- 2. **Project** settings. If you like the display of a block you can click the:

10000		
Set Current Display Properties as Project Default	Reset Project Default	Reset Device Settings

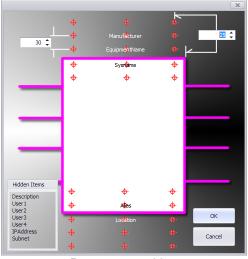
Doing so will set the current display settings as the **Project** default. All devices that do not currently have stored settings will then use the **Project** defaults.

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

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

### **Common Controls Options**

- **Body Color** Sets the color of Functional I/O and Concept block bodies. Has no effect on User Defined Shapes or Terminals. The geometry of the file determines the look.
- Creation Mode Set by the UI. Leave it alone.
- **Descriptor Locations** Shows the Descriptor Locations Map. Applies to Functional, Concept, and User Defined Shapes.



Drag to reposition

• Image Display Mode - Applies to Applies to Functional and Concept blocks.

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.

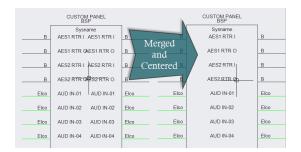
DWGIcon - insert the DWG Icon in the DWG Icon File Path of the Details tab for this device.

• Image Position, Image Scale Factor

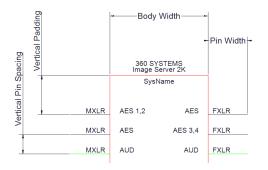
	360 SYSTEMS Image Server 2K	_
	Sysname	
MXLR	AES 1,2 AES	FXLR
MKLR	AES 3.4zdfa AES 3.4	FXLR
MXLR	AUD AUD	FXLR
MXLR	AUD-01 AUD-01	FXLR
BNC	GENLOCK ETHERNET	RJ45
RJ45	но со ка	PS-2
90100		00.0
BNC	SDI SDI	BNC
BNC	SDI-001 SDI.01	BNC
BNC	SDI-002 SDI.03	BNC
BNC	SDI-003 SDI-001	BNC
010	001004 001000	0.00
BNC	VIDEO SDI-003	BNC
DNG	VIDEO 50-003	BNG
	SDI-004	BNC
	VGA	15D HD
	VIDEO.01	BNC
	VIDEO.02	BNC
	VIDEO.03	BNC
	Alias	
	Alas	

Image inserted and scaled at

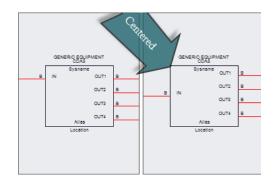
• Merge and Center - Centers identical text in the block. Applies to Functional and Concept blocks.



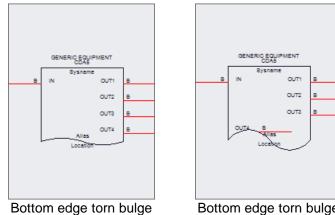
- Text Height The height of all generated text.
- Spacing and other dimensional info:



### • Vertically Center Pins



- Body Pen Width The thickness of the line that represents the block body.
- Nudge Positions Use to nudge the various text around.
- 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.



factor .15 or 15/100

Bottom edge torn bulge factor .5 or 50/100

- Set Current Display Properties as Project Default
- Reset Project Default
- Reset Device Settings

### Stock Shapes Options

	Stock Shapes	Mappable Terminals	User Defined Shapes	Mechanical Forms	
--	--------------	--------------------	---------------------	------------------	--

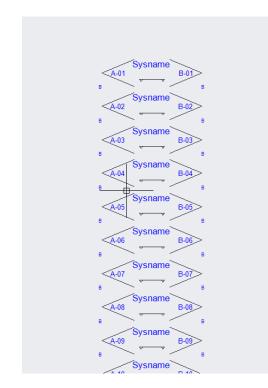
Here you choose from 18 stock shapes. We will not enumerate them here. Try clicking on them to see what they do.

# 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 than one record in the I/O tables we will continue to add terminals to accommodate the selection. If you select a terminal that has only an input port then any selected output records will be ignored.

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



# **User Defined Shapes Options**

	Stock Shapes	Mappable Terminals	User Defined Shapes	Nechanical Forms
ſ				

Any CAD file can be used as a **User Defined Shape**. It just needs to be placed in the **Shape Files** folder: **%BLOCKS%\Shapes Files** 

The **Display Properties** will then scale and stretch the object while applying port data. Example showing **User Defined Shape** with four ports applied:

PP12	ADC 232RS-MVJ-DV
	Sysname
A-01	B-02
	<b>-------------</b>
A-02	B-03 c
A-03	
	Alias
	Location

### **Mechanical Forms Options**

Stock Shapes Mappable Terminals User Defined Shape Mecha	ical Forms

Mechanical Forms are hard-coded objects that get their dimensional data from the device definition and use it to render objects.

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

### Half Rack Right

4.2.2.2.1.4 Add Ports

Consider naming patchbay ports A-# an It doesn't matter which side you place a When selecting the connector gender al	port on. You can always move it later. ways consider that WireCAD needs the CA	BLE END of the connection, not		? ×
- Add to Which List:	Port Name:	enter port name	×	Add Multiples:
	Group:			Add Multiple Ports
Inputs (Left Side)	Connector (Cable End):	select connector	× +	Count (Appends #): 1
Outputs (Right Side)	Signal Type:	select signal type	× +	Starting @: 1
🔵 Both	- Input Ports			Leading Zeros: 0
Bidirectional	Input Pin Style:	Normal	~	·
	Input Port Marker	(None)	~	
	- Output Ports			
	Output Pin Style:	Normal	V	
	Output Port Marker	(None)	V	Finally Append Characters
	Add Ports and Close	e Close	Apply	[L]

Database > Equipment Library [I/O] [Add Ports] Drawing > Advanced Tools > Equipment Library [I/O] [Add Ports] Commandline: le Several Others

**Related Topics:** 

How To: Add Some Inputs and Outputs

# 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.

- Add to Which List
- **Port Name** Enter the port name here. This may be a partial name if the Add I/O dialog is set to append either multiple records or the Finally Append field contains the remainder of the string.
- Connector (Cable End) From the global Connectors table.
- Signal Type From the Project 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 How to Add Ports topic for more info.

4.2.2.2.1.5 Copy Port Data

		? ×
✓ Model	Image Server 2K	~
Outputs	<ul> <li>Both</li> </ul>	
	ОК	ancel
	Model	<ul> <li>2K</li> <li>✓ Model Image Server 2K</li> <li>Outputs          <ul> <li>Both</li> </ul> </li> </ul>

Database > Equipment Library [Edit > Copy Port Data] Commandline: le Several Others

Related Topics: None

### Explanation

Allows you to copy port data from another device definition into the currently selected device definition.

- Select Manufacturer and Model to copy from.
- Which Ports to Copy obvious.

4.2.2.2.1.6 Incoming Signal Types Map

Changes Incoming	Signal Types		?	>
ename From This		This		
REF	REF	T		
USB	USB			
VID	VID			
AUD	AUD			
SDI	SDI			
AES	AES			
OK		Cancel		

Database > Equipment Library [Download From Community] Commandline: le Several Others

Related Topics: None

### Explanation

When downloading from the community server you will use this dialog to map from the Signal Types used in the incoming device definition to your Signal Types.

- Rename From This Incoming Signal Types.
- To This Map to your Signal Types.

4.2.2.2.1.7 Save Equipment As

🔀 Save Image Server 2K As:	? X
Manufacturer:	360 SYSTEMS
Equipment Model, Name, or Part Number	Image Server 2K
	OK Cancel

Database > Equipment Library [File > Save As] Commandline: le Several Others

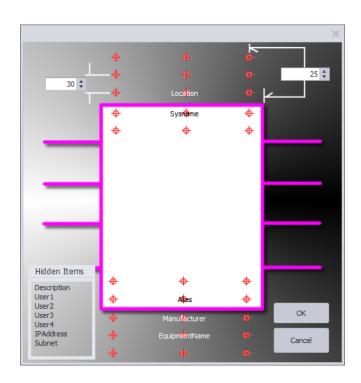
Related Topics: None

### Explanation

Allows you to copy the current device definition as a new device definition with a new **Manufacturer** and **Model**.

- Manufacturer Select Manufacturer.
- Equipment Model The new name.

#### 4.2.2.2.1.8 Descriptor Map



Database > Equipment Library [Display Preferences] Descriptor Locations Commandline: le Several Others

#### **Related Topics:**

How To: Add Equipment to Drawings

### Explanation

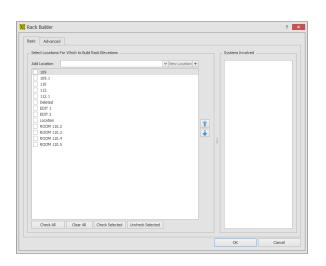
Change the locations and visibility of the various block descriptors:

- SysName
- Manufacturer
- EquipmentName
- Location
- Alias
- Description
- User1 4
- IPAddress
- Subnet Mask

# Operation

Drag the named descriptor to the target on the map. To hide a descriptor drag it to the Hidden Items frame.

4.2.2.2.2 Rack Builder Tool



Drawing > Advanced Tools > Rack Builder Commandline: rb *Explanation* 

For more information see <u>How the Rack Builder Works</u> 105.

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. 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.

# **Dialog Options**

• Advanced tab - exposes properties that control the behavior of the utility.

Basic Advanced						
Chassis Width	19 🗘 Height in RU		45	\$ Slot Count		11 🗘
Slot Delimiter -			Insertion Point	0,0,0		
Attribute Height		25 🗘	Create As	Front Panel (fi	le merge)	~
Place Text if Item Cannot B	3e Created					
Spacing (DU)		24 🗘				

- 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 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. Clicking the [...] ellipsis button will temporarily dismiss the dialog so you can pick a point from the active drawing.
- Attribute Height If view rule is not Front Panel (file merge), sets the attribute height of the displayed text.
- Create As -

Front Panel (file merge) = use the dwg file found in the equipment definition BlockRef (Front Panel File).

Front Panel (from dims) = use the dimension data from the equipment definition to create a 3D rack block.

From Dims if file not found = 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 Grid Hash Marks This will normally be checked unless you are rebuilding a drawing that already has the locator grids.
- Spacing DU Sets the location grid spacing in Drawing Units. Measures from left edge to left edge.

#### 4.2.2.2.3 Assign Sysname

Action     New Next Number					Equipment Name			
New Next Number								
Onewnextmander								
Edit Existing SysNa	me	VTR-01						
Select Existing			ne					
Vias	VTF	1-01		_				-
ocation	RO	OM 110.2		× +	Elevation	20		_
lser 1					User2			
Jser3					User4			
P Address					Subnet Mask			
ower Consumption					Power Consumption Un	nit		
Veight					Weight Unit			
endor 1				~	Vendor 2			
lags				~	BTU			

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.

#### Prerequisites

This dialog is only shown when Verbose SysName Assignment is checked.

#### **Related Topics:**

How To: Assign a SysName

- Manufacturer and Model Filled automatically in most cases.
- 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 existing 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 of the device. For more information see the Locations Grid 580. Clicking the [+] button shows the <u>New Locations</u> 424 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 [405] 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 and dialog.
- Power Consumption Pulled from the global Equipment definition or typed manually here.
- Weight Pulled from the global Equipment definition or typed manually here.
- Vendor 1 / Vendor 2 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.
- **BTU** Heat load in British Thermal Units. Pulled from the global Equipment definition or typed manually here.

#### 4.2.2.2.4 Assign Cable Number

🔀 Edit Cable	Data							? >	ĸ
	VTR-01 SUPER W 110.2.20	V-1	100	1-	В	EDMON-02 B VID.1 EDMON-02 ROOM 110.3.24			
New Next N     Edit existing		V-1001-							
	ing Available	Select an existing cable	Ad	d Multi-core	Cables	1			
CableTypeManu			~	CableType	1520A				+
SignalType NamedPath Integrator	VID		v I	Length				0	v
User 1 User 3				User2 User4					_
Sheet Pinout	MACHINE_ROOM.dwg	3							~
Vendor 1			~	Vendor 2				1	v
Calc time = 00:00	0:00.0028345				Show Me	Upda	ate C	ancel	

Double-click WireCAD Cable Commandline: ac

### Explanation

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

#### Prerequisites

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

### **Related Topics:**

How to Assign a Cable Number 102 How to Assign Multiple Cable Numbers 102

### **Dialog Options**

- 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\*, Signal Type\*
- Named Path List of <u>Named Paths</u> 581. 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.
- Vendor 1 / Vendor 2 Pulled from the global Cable Type definition or typed manually here.

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

4.2.2.2.5 Assign Terminals

ect a	a SysName:	VPB-02								~		
			e (all existing po next assignmen	rts stay the same) nt	)	0	utputs Track I	Inputs (if mate	hing)			
		Inp	outs		1 Г			Ou	tputs ——			
	Name	Туре	Conn	Source Inf			Name	Туре	Conn	Destination		
×	# A-01	VID	в	DV-10: ^		Þ	🗄 B-01	VID	в	DV-1035-		
	■ A-02	VID	В	DV-10			🖻 B-02	VID	В	DV-1036-		
	■ A-03	VID	в	DV-10:			🗄 B-03	VID	В			
	■ A-04	VID	в	DV-10:			🗄 B-04	VID	В			
	■ A-05	VID	в	DV-10:			🗄 B-05	VID	В			
	■ A-06	VID	в	DV-10:	:	1	1		🗄 B-06	VID	В	
	■ A-07	VID	в	DV-10:			🗄 B-07	VID	В			
	■ A-08	VID	в	DV-10:			🗄 B-08	VID	В			
	± A-09	VID	в	DV-10:			🗄 B-09	VID	В			
	= A-10	VID	В	DV-10:			🗄 B-10	VID	В			
	🗄 A-11	VID	В	DV-10:			🗄 B-11	VID	В			
<				>		<				>		
					' F		OK			Cancel		

Double-click Terminal or Select Terminal and Click Advanced Tools > Assign Terminal(s) Commandline: ats

# Explanation

This dialog is presented when assigning a terminal or a selection of terminals. The process is to first select the SysName to use, then select the Inputs and Outputs port.

Note that the **Inputs** or **Outputs** grid may be disabled if the terminal to which we are assigning this information does not have a CP\_IN or CP\_OUT to receive the data.

### **Record Highlighting**

Red - Port assigned to a cable. The Source Info and Destination Info contains the CableNo : SysName>Port info.

Yellow - A cable has been attached to this port somewhere in the project. The **Source Info** and **Destination Info** contains the **SysName>Port** info.

#### Prerequisites

In order to assign a terminal you must first assign a **SysName** from which you will select ports.

Related Topics: <u>Understanding Terminals</u>

- Select a SysName The SysName from which we will select ports.
- I am just changing a SysName (all existing ports stay the same) Use this if you have already assigned a SysName to a terminal but you want to switch with another SysName.
- Remember this equipment on next assignment Persist the selected SysName on next Terminal Assignment.
- Outputs Track Inputs (if matching) Select a matching record from the Outputs list if the string matches the record in the Inputs Name field. The Names must match exactly.

4.2.2.2.6 Assign Terminal No Database Reference

Sysname —	NOT ALL FIE	LDS ARE D	ISPLAYED IN AL	LTERMINALS	
Sysname	VP8-02		Manufacturer	ADC	
Alias	VPB-02		Model/PN/Name	PPI1224N	
ocation	ROOM 110.5.22		Description	Description	,
SheetRef	SheetRef				
Input			Output		
Name	A-05		Name	B-05	
Connector	В	~	Connector	В	~
Signal Type	SDI	~	Signal Type	SDI	*

[Ctrl] + Double-click Terminal Commandline: none

### Explanation

Occasionally you will need to land a cable on a device that is not your responsibility. The cable is yours but the equipment is not.

You can use a **Terminal** to do this.

Using this method the data in the **Terminal** will not have a matching entry in the **Equipment List**.

Note that the **Inputs** or **Outputs** section may be disabled if the terminal to which we are assigning this information does not have a CP\_IN or CP\_OUT to receive the data.

Prerequisites None.

Related Topics: <u>Understanding Terminals</u>

#### 4.2.2.2.7 Assign Splice

XI Splice/Ad	lapter Info				?	x
in the wire/ca Splice points a Applying a Sp new cable an Hint: Using th object from d	n WireCAD allow you to creat ble and track the location of t are not tracked in the project lice Point terminates a cable ri d have a separate record and le text ""Splice"" in SysName fi uplicate error checks. Thus all points all named ""Splice"" wit	hat junction Equipment L un. The othe number in the eld with hide owing you to	ist. er side will start he Cables table e this o have			
SysName	SPLICE					
_ Left			– Right –			
Name	Name		Name	Name		
Connector	Conn	~	Connector	Conn		~
Signnal Type	Туре					~
Location	Location		V +	Elevation Elevation	n	
				ОК	Canc	el

Double-click Splice Point Terminal Commandline: none

### Explanation

Occasionally you will need to splice a cable through a connection point of some sort such as:

- Terminal blocks.
- Punch downs.
- Butt splices.

You can use a **Splice** to do this.

Using this method the data in the **Splice** will not have a matching entry in the **Equipment List**.

Note that the **Inputs** or **Outputs** section may be disabled if the terminal to which we are assigning this information does not have a CP\_IN or CP\_OUT to receive the data.

Using the string "SPLICE" in the SysName will cause the cable assignment function to ignore duplicate port checks.

Prerequisites

None.

**Related Topics:** 

### Understanding Terminals

4.2.2.2.8 SysName Error Check

)ra	g a column header	here to group by that	: column							
	Handle	ErrorMessage	Sysname	Location	Elevation	Alias	Manufacturer	EquipmentName	DBRef	
P	n 🖸 C	n E c	n 🖸 C	n 🖬 c	n D c	n D C	n 🛛 c	#DC	*Dc	
	Q, Show Me		SG-01	ROOM 110.4	45	SG-01	TEKTRONIX	SPG422	76314d93-5884-47c	
	Q Show Me		Embedder-01	109.1	1-2	AES-SDI EMBEDDER	EVERTZ	7720AE-4	589a1926-7943-4f0	
	Q, Show Me		VPB-01	ROOM 110.4	30	VP8-01	ADC	PPI1224N	5c503d0c-3fdf-42a9	
	Q, Show Me		VDA-01	ROOM 110.4	43-1	VDA-01	GRASS VALLEY	8801	2c1412bb-70b5-44d	
	Q, Show Me		RTR-01	Location		Alias	ManufacturerName	EquipmentName	1e91423c-008b-4b3	
	Q, Show Me		VTR-01	ROOM 110.2	20	VTR-01	SONY	DVW A500	47b2a355-05b4-497	
	Q, Show Me		VTR-02	ROOM 110.3	13	VTR-02		DVW A500	4953d9fe-5d51-4b9	
	Q, Show Me		VTR-03	ROOM 110.3	20	VTR-03		DVW A500	ab04189c-2ba0-43a	
	Q, Show Me		VTR-04	ROOM 110.3	14	VTR-04		DVW A500	2b7b653a-bd71-412	
	Q, Show Me		SysName	Location		Alias	ManufacturerName	EquipmentName		
	Q, Show Me		SysName	Location		Alias	ManufacturerName	EquipmentName		
	Q, Show Me		SysName	Location		Alias	ManufacturerName	EquipmentName		
	Q Show Me		Embedder-01	109.1	1-2	AES-SDI EMBEDDER	EVERTZ	7720AE-4	589a1926-7943-4f0	
	Q, Show Me		VDA-02	ROOM 110.4	43-2	VDA-02	GRASS VALLEY	8801	d998499a-24ca-4a4	
	Q Show Me		VDA-03	ROOM 110.4	43-3	VDA-03	GRASS VALLEY	8801	6715b262-92a5-43a	

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.

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

#### 4.2.2.2.9 Add Multi-core Cable

🛃 Add Multicore	Cable (All Cores)	?	x
	cable entry for each core in the selected Cable Type appending the Pair Color ou may then choose from the available cable records on subsequent cable ass		
Number Base	Core Data		
Cable Manufacturer	V Cable Type		~
Signal Type			~
	OK Cance		

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.

- 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

#### 4.2.2.2.10 Cable Error Check

	Handle	ErrorMessage	CableNo	SrcSys	SRCPin	SRCLoc	SRCConn	DestSys	DestPin	DestLoc	DestCo
P	R B C	RBC	RBC	RBC	RBC	8 B C	RBC	RBC	RBC	RBC	явс ^
	🔍 Sho	REF-1001-	REF-1001-	SG-01	BLK-01	ROOM 110.4	в	VDA-01	In	ROOM 110.4	в
	Q, Sho	DA-1015-	DA-1015-	SG-01	AES-01	ROOM 110.4	в	Embedder-01	AES 103	109.1	в
	🔍 Sho	Not Assigned	Cable#	SG-01	D-BARS	ROOM 110.4	в	VPB-01	A-17	ROOM 110.4	в
	Q, Sho	REF-1002-	REF-1002-	VDA-01	OUT.1	ROOM 110.4	в	RTR-01	REF	Location	
	Q, Sho	V-1017-	V-1017-	VDA-01	OUT.2	ROOM 110.4	в	VTR-01	REF	ROOM 110.2	в
	🔍 Sho	V-1018-	V-1018-	VDA-01	OUT.3	ROOM 110.4	в	VTR-02	REF	ROOM 110.3	в
	🔍 Sho	V-1019-	V-1019-	VDA-01	OUT.4	ROOM 110.4	В	VTR-03	REF	ROOM 110.3	в
	🔍 Sho	V-1020-	V-1020-	VDA-01	OUT.5	ROOM 110.4	В	VTR-04	REF	ROOM 110.3	в
	Q, Sho	Not Assigned	Cable#	VDA-01	OUT.6	ROOM 110.4	В	SysName	Name	Location	Conr
	Q, Sho	Not Assigned	Cable#	VDA-01	OUT.7	ROOM 110.4	В	SysName	Name	Location	Conr
	Q, Sho	Not Assigned	Cable#	VDA-01	OUT.8	ROOM 110.4	В	SysName	Name	Location	Conr
	Q, Sho	DA-1016-	DA-1016-	SG-01	AES-02	ROOM 110.4	в	Embedder-01	AES 104	109.1	в
e	ord 1 of	39 <									>
	Source P	ointer Dest Point	Needs attention		ſ	Vindow on Top		Check Error		Close	

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.

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

Reference	487

#### 4.2.2.2.11 Auto Block

use in	the Cables table. 1	In either case y	ou will be presented	s), or showing only th with the SysNames free red SysNames. On the	
Basic	Advanced		o narrow the display	eu sysnames, on ene	
insertio	n Point 0,0				
lorizont	tal Spacing (DU)	24 🗘	Maximum Column Count		10 🗘
Use	Project Display Setting		Signal Types to	Display	
O Cor Displa Body Pin Sp Pin W	nction Concept Frincept Frincept Front Pa Pla ay Preferences (1/100 D Width	an Viev	<ul> <li>✓ AUD R</li> <li>✓ Out</li> <li>✓ ?</li> <li>✓ _null</li> <li>✓ 1394b</li> <li>✓ 310</li> <li>✓ 4fSC</li> <li>✓ AC-3</li> <li>✓ ADAT</li> <li>Clear Sele</li> </ul>	ction Select All	~

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.

#### **Related Topics:**

Auto Block tool.

# **Dialog Options**

• The [Basic] tab allows you to determine which systems to add to the drawing.

	ined in the Equi	pment Libra	ary (sho		/aiilable	ports), o	r showin	g only t	those por
	ipment List. Yo								
Basic	Advanced								
Get	All Data From Cable	s Database							
Filter									
									+ >
10	XL-01 @ ROOM 110	.2							~
	U-01 @ ROOM 110								_
	non-01 @ 109								
	non-02 @ 109								
	non-03 @ 112								
l i i co	non-04 @ 112								
l i ce									
CF CF	- 								
	4BDR-01 @ 109.1								
	4BDR-02 @ 112.1								
ED ED	MON-01 @ ROOM :	110.2							
E FD	MON-02 @ ROOM	10.3							~
	Check All	Clear	All	Check S	Selected	Unched	Selected	]	

• Filter - Filters the list by your criteria.

### The Advanced Tab

asic	Advanced	n apply filters to	narrow the displayed s	SysNames. On the	
nsertion	Point 0,0				
lorizonta	al Spacing (DU)	24 🗘	Maximum Column Count		10
Use P	roject Display Setting		- Signal Types to Disp	lay	
O Con	ction Concept Fr cept Front Pa Pla r Preferences (1/100 D	an Viev	Error please en     AUD R     Out     Out     '     '     _null_     '     1394b     310     V     45C	uer a signan ype	
Pin Spa Pin Wid	-	200	AC-3 ADAT		~
	dth	200 🗘	Clear Selection	Select All	~

- 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.

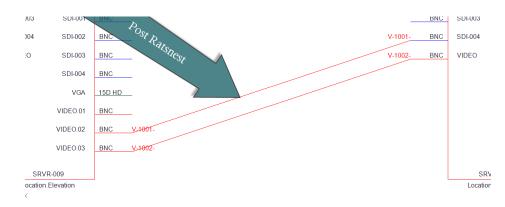
4.2.2.2.12 Ratsnest

Ratsnest This function pulls cable dai see if the source and destin between the ports. The res can tell which devices need the blocks and in so doing can use the [Cleanup] butt every cable in drawing.	ation ports exist in the d ult looks like a giant rats to be repositioned to be the cables will be rerouted	rawing; if found lest. Looking at tter display the d and cleaned u	l a cable is placed the ratsnest you data. You can move p. Alternately you
Rats Nest Ratsnest Show Cable Numbers Clear All Cables	Cleanup Cables Cleanup Avoid Other Cables	Fillet All Cables	Fillet
Info			Cancel

### 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**

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

Ratsnest This function pulls cable dat see if the source and destin between the ports. The res can tell which devices need the blocks and in so doing 1 can use the [Cleanup] butto every cable in drawing.	ation ports exist in the dr ult looks like a giant ratsn to be repositioned to bet the cables will be rerouted	awing; if found a c est. Looking at the ter display the data and cleaned up. Al	able is placed ratsnest you a. You can move ternately you
Rats Nest Ratsnest Show Cable Numbers Clear All Cables	Cleanup Cables Cleanup Avoid Other Cables	Fillet All Cables Fillet All Cables Fille Radius	et
Info			Cancel

- 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. Not just ratsnested cables. This will remove ALL.
- [Cleanup] Applies the auto-router to all cables in the drawing.
- Avoid Other Cables Auto-router avoids other cables on cleanup.
- [Fillet] Applies fillets to ALL cables in the drawing.
- Distance Fillet distance in 100/DU.

4.2.2.2.13 WireCADify Block

Your Attribute Names	Maps to WireCAD Name	Descriptor Locations	Hide All	Show Default
SysName				
EquipmentName				
ManufacturerName				
Location				
Alias				
SheetRef		Mar	nufactu	rer
Created With:				
EquipmentID		:		
WC_TYPE			VTR-01	
EquipmentDescription				
INPUT_CONN		+INPUT		
INPUT_NAME		Conn	VTR-01	
CP_IN				

Drawing > Advanced Tools > WireCADify Block Commandline: wirecadifyblock **Explanation** 

Occasionally 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.

- 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.

#### 4.2.2.2.14 Add Connection Point

🔀 Add Connection Po	int to Existing Block (Insert)	?	х
Port Name	My Port Name		
Signal Type	VID		۷
Connector (Cable End)	BNC		۷
✓ Port Is Input	Label Text Height (1/100 DU)	0	*
Show Labels	Connector Signal Type		
Include Geometry			
Oircle O Square	○ Triangle ○ X		
Geometry Size X (1/100 Dl		10	Ŷ
Line Width	1 🗘		
	ОК	Cance	el

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.

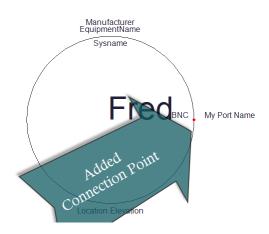
You must use this tool on blocks that have the WireCAD attribute set.

#### 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**

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



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

#### 4.2.2.2.15 Cable Connection Exists

	VTR-02 MON-L VTR-02 M 110.2.14		004-		37D2	10XL-01 2 QC SWF ROOM 110.	2
O New Next N				_			
<ul> <li>Edit existing</li> </ul>	, number	A-1004-					
O Select Exist	ing Available	S This cable number exi	sts in this pro	oject	Ŧ	Add Multi-c	ore Cables
CableTypeManu	BELDEN		<ul> <li>CableTyp</li> </ul>	e 180	1A		* +
SignalType	AUD						*
NamedPath	Select a Named Path		▼ Length				0 *
Integrator							
User1			User2				
User3			User4				
Sheet	MACHINE_ROOM.dw	g					
Pinout							Ŧ
Vendor 1			<ul> <li>Vendor 2</li> </ul>				٠
Calc time = 00:0	0:00.0027057			Show	w Me	Update	Cancel

Not directly callable Commandline: none

# Explanation

The standard cable number assignment process is a multi-step process. One of the checks that is performed is to see if the ports to which we have attached our cable are already assigned to some other cable in the database. If they are found to exist in the database this dialog is shown indicating whether it is the source or the destination that is in question. Bear in mind that multiple records might meet this criteria; hence the grid.

There are legitimate instances where this dialog will be shown and your choice requested:

- Y cable The first assignment will proceed without error. The second will show this dialog indicating that the source exists. As it should. You have a choice regarding numbering in this case. Do you duplicate the existing number with a new record in the database or request the new number.
- One-To-Many see above.
- Many-To-One Inverse of above. You will see the destination exists.
- If you land multiple cable on the same port to parallel the connection.

Pay close attention if you are presented with this dialog. It is catching a common mistake before it gets to your run sheet.

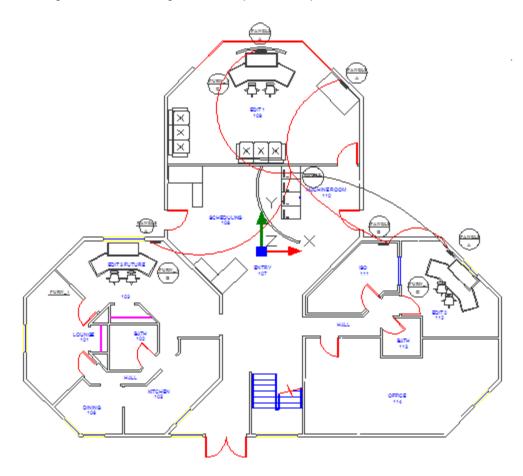
#### Prerequisites

At least one cable record in the **Cables** database.

Related Topics: <u>How To: Assign a Cable</u> <u>How To: Assign Multiple Cables</u>

### 4.2.2.3 Plan View and Layout Tools Dialogs

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



#### 4.2.2.3.1 Take Offs

l= Prin		வி Text வி XML வி XLS வி HTML		0	>	Inserts Lines Circles	Closed Polyl Points Dimensions	nes	Generate	Count	
ile	5	Export	<u>.</u>	Layer	la l	En	tity Types	ſ	S Functio	ns 🗔	
	Item	Handle		Block Name or Entity Type	IgnoreInC	ount					
Þ	422		ø	SONY-4X4 MONIv0			1	•			
	478		ø	GRASS VA-10 XLv0							
	48F		ø	WOHLER-AMP 1Av0							
	4A6		ø	SONY-PVM 14F1v0							
	4BF		ø	POINTER_D							
	11B-	4	ø	POINTER_D							
	11B	5	ø	POINTER_D							
	11B(	6	ø	POINTER_D							
	127	7	ø	WC3_NN_JACK_S							
	127	В	ø	WC3_NN_JACK_S							
	127	с	ø	WC3_NN_JACK_S							
	11A	nC Record 1 of 25 ▶		SONY-DVW A500v3			~	1			

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.

Related Topics: How to Pull a Take-off 155

- **Print -** Print the grid.
- **Export -** Export the grid.
- Layer What layer are we searching for the selected entity type(s).
- 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.
- Item Handle ShowMe Zooms to show the item in the drawing.
- IgnoreInCount Ignore me when counting.

4.2.2.3.1.1 Spare Cable

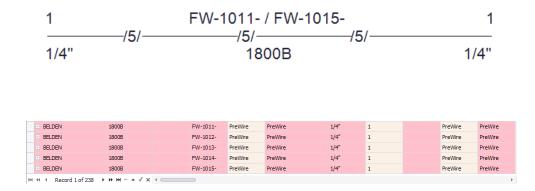
able Type:	BELDEN-1189A	× +	Signal Type: 1394	)	 ~
- Left Side —			– Right Side ––––		 
Location:	109.1	¥ +	Location: 109	9.1	× +
Connector:	1/4"	× +	Connector: 1/4	-	× +
ount:					1
ount: Geometry –					1
	cation		Show Connector	r	1
Geometry -			<ul> <li>✓ Show Connector</li> <li>✓ Show Cable Nun</li> </ul>		1
Geometry – Show Lo					1

Advanced Tools > Add Spare Cable(s) Commandline: AddSpareCables

# Explanation

Place geometry in the drawing and cable(s) in the Cables database that represent spare cables.

The following images represent the above settings in both drawing and the Cables database.



Reference	499

### Prerequisites

At least one drawing

Related Topics: How To: Add a Spare Cable 143

4.2.2.3.2 Location Boundary

Location Boundary Pro	perties			?
ame:				
ocation Kind	Ad	Ivanced		
		Misc		
None		Automatically Nest Locations	True	
		Boundary Entity	Rectangle	
		Show Name In LineType	True	
Campus				
Building				
Floor				
	1			
Room				
🔾 Rack				
Elevation				
🔾 Slot				

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.

#### **Related Topics:**

How To: Place a Location Boundary

#### 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: None

- Name The location name. Either from the selected entity or entered directly or selected.
- Location Kind Select the level of the location that you are drawing a boundary for.
- Automatically Nest Locations Searches the drawing for containing boundaries and formats a nested location string. The creates an entry in the Locations table if not found.
- Boundary Entity Boundaries must be a closed polyline of some sort.
- Show Name in LineType Creates a new LineType with the name of the location and renders boundary entity with the new LineType.

4.2.2.3.3 Draw Backbone (ENT Only)

Int	erconnect											
M	ode											
		one Backb	one ID	1001 🗘 B01	.001	O Use Existing Available				oone Startin		lect a
	om			•		Cable Type		- T				
	ation Filter				~	Cable Type Info	т		ation Filter			
						cable Type into						
		VTR-02 @	ROOM 110	0.2 4 +	C)					VTR-02 @ F	ROOM 110.2	✓ + <
٩Va	ilable Ports Name	Туре	Conn	From/To				AV	ailable Ports Name	Туре	Conn	From/To
	AES	DGA	XLR	From/To	^			H.	AES	DGA	XLR	From/To
ľ		DGA	XLR						· ALS	DGA	XLR	
			XLR						. AUD.1	AUD	XLR	
	. AUD.2		XLR							AUD	XLR	
	B AUD.3		XLR						· AUD.3	AUD	XLR	
	B AUD.4		XLR			:	-		· AUD.4	AUD	XLR	
	⊞ B	YRB	в						🖽 B	YRB	в	
	MON-L	AUD	XLR	A-1003					· COMP	VID	в	A-1003
	MON-R	AUD	XLR	A-1004					🗉 R	YRB	в	A-1004
	🗄 R	YRB	в						🗉 REF	SYNC	В	
	* SDI.1	SDI	В	DV-1042					🗉 RS422	CTL	9D	DV-1042
	🗉 SDI.2	SDI	В						🗉 SDI	SDI	В	DV-1038.
	🗄 SDI.3	SDI	В						🗄 TC	TIMECO	XLR	
	🗄 SDI.4	SDI	В						± U	YUV	BNC	
	SUPER	VID	В	V-1002					⊕ V	YUV	BNC	V-1002
	🗄 TC	TIMECO	XLR		$\mathbf{v}$	OK Cancel			🕀 Y	YUV	BNC	

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

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: How To: Create a New Backbone 2307

- **New Backbone** Select whether we are creating a new number or assigning existing unused core.
- Backbone ID The Backbone number. This will be formatted based on the **Project Backbone Format** setting.
- Use Existing Available Pick a Backbone that has available cores.
- Location Filter Filter the list by location if the list is long and noisy.
- From Panel Info, To Panel Info Select the panel. The ports will be shown in the list.
- Cable Type Select the Cable Type.

4.2.2.3.4 Draw Cable

able Type Manu	1	~	Cable Type		
Source Informa	tion		Destination Inf	formation	
SRC Sys	Sysname	¥ +	Dest Sys	Sysname	v +
SRC Pin		~	Dest Pin		~
SRC Loc	Location		Dest Loc	Location	
SRC Conn			Dest Conn		
SRC Alias			DST Alias		
ntegrator			Sheet		
ignal Type		~	Length		
ser 1			User2		
ser3			User4		
able No					-

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:**

Draw Cables 73

# **Dialog Options**

• Cable No - Click the [...] button to generate a cable number.

	Reference	505
4.2.2.3.5 Populate Cables		

💀 Populate Cables		?	x
	(to same location into a single lir kisting equipment in the drawing		
✓ Ignore cables that	come and go to the same locat	ion	
Flag if other end is	not found		
Polyline Bulge Factor		0.3	2 🗘
	ОК	Car	ncel

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 options.
- 3. Click [OK] to run.

### **Related Topics:**

How To: Populate Cables in Plan View 163

- **Group Cables** Collapse cables that go from the same source and destination SysName or Location into a single polyline with hash marks to indicate how many cables are represented by the one polyline.
- Must connect to equipment in the drawing Only connect to plan view SysNamed equipment.
- Ignore cables that come and go to the same location
- Flag if other is not found Draw a pointer out to the un-found equipment.
- Polyline Bulge Factor Non zero for arced cables.

#### 4.2.2.3.6 Draw Prewire

🔀 Prewire Info				? ×
added location boundaries to your plan view drawing. If you have added	Cable Type: Signal Type:	Select a Cable Type Select a Signal Type		×
SysNames you can use them as well but the locations are not optional.	How Many?			
	Count:	as one		1 🗘
	Length Divisor: — Add Path to Nam	ned Paths Table		12 🗘
	Make Named			
			ОК	Cancel

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 <u>Automatically</u> <u>Consume Prewire</u> 400 setting is checked.

#### Prerequisites

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

### Operation

- 1. Start the tool.
- 2. Fill in the form.
- 3. Draw the cable path.

Related Topics: How To: Draw a Prewire Cable in PlanView 1657

- 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.

4.2.2.3.7 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.

Find Detail I/O Display Preferences	
EquipmentName	Image Server 2K
Abbreviation	
Front Panel File	%BLOCKS%\ZD_ELEVATIONS\ZU_ZD_EL.DWG ·
Plan View File	%BLOCKS% plan view\av lv\pushbutton station.dwg
Accessory Of	[FditValue is null
Equipment Description	Mpeg 2 Video Server
Manufacturer ID	360 SYST
Equipment Type (SysName Prefix)	SRVR
Equipment Weight	2.25
Equipment Weight Unit of Measure (UOM)	Pounds
Equipment Height	2
Equipment Height UOM	Rack Units(RU)
Equipment Width	19
Equipment Width UOM	Inches
Equipment Depth	12

DULLING Boundary Boundary

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:

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

Default Plan View Block File:	%BLOCKS%\Plan View\equipment12x12.dwg	

### 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: None

# 4.2.3 Data Dialogs

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

### 4.2.3.1 New Location

🔀 Add Location(s)			? 🗙
Campus	~	Count	1 🗘
Building	~	Count	1 🗘
Floor	~	Count	1 🗘
Room	~	Count	1 🗘
Rack		Count	1 🗘
Description		-	
Qualified Location			
Qualified Location		Add	Cancel
Status			
Status			

### Database > Locations [New] Commandline: none

# Explanation

This tool is used to create entries in the project Locations look-up table.

#### Prerequisites

1. None

### Operation

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

#### **Related Topics:**

Locations Look-up table Locations form reference Defining Locations 92

# **Dialog Options**

- **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 achieve the same result. • Enter the data across all fields:

<mark>ೱ</mark> Add Lo	cation(s)			?	x
Campus	LA	~	Count	1	* ×
Building	THE FACTORY	~	Count	1	~ ~
Floor	MAIN	~	Count	1	Ŷ
Room	MR	~	Count	1	* *
Rack	RK-10		Count	1	<b>*</b>
Description					
Qualified	Location				
LA.THE FAC	CTORY.MAIN.MR.RK-10		Add	Cancel	
Status					

### • Enter the data in a single field:

<mark>x ,</mark> Add Lo	ocation(s)	 		?	X
Campus	LA	¥	Count		1 0
Building	THE FACTORY	~	Count		1 🗘
Floor	MAIN	~	Count		1 🗘
Room	MR	~	Count		1 🗘
Rack	RK-10		Count		1 🗘
Description	1				
Qualified	Location				
LA.THE FA	CTORY.MAIN.MR.RK-10		Add	Cancel	
Status					

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

### 4.2.3.2 New Cable

Cable Type Manu		~	Cable Type		· · · · · · · · · · · · · · · · · · ·
- Source Informa	ation		- Destination Inf	formation	
SRC Sys	Sysname	¥ +	Dest Sys	Sysname	<b>v</b> +
SRC Pin		~	Dest Pin		~
SRC Loc	Location		Dest Loc	Location	
SRC Conn			Dest Conn		
SRC Alias			DST Alias		
ntegrator			Sheet		
ignal Type		~	Length		
lser 1			User2		
lser3			User4		
Cable No					•

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.

- Cable Type
- Source Information Set the source info.
- Destination Information Set the destination info.
- Cable No Click the [...] button to generate a cable number.

### 4.2.3.3 Save Cable Type As

?	x
	~
OK Cancel	
OK	-

Database > Cable Type - File > Save As Commandline: showcabletypesgrid

# Explanation

Create another entry in the **CableTypes** database record by copying the source record into a new destination record with a new **Manufacturer** and **Cable Type**.

### **Controls**

- Manufacturer Select a Manufacturer.
- New Cable Type Name the new Cable Type.

### 4.2.3.4 New Manufacturer

° <del>X</del> † ∓	Add Manufacturer	?	×
9 File			
8			
Save			
File 🖬			^
ManufacturerName			
ManufacturerID			
DisplayInEquipment			
DisplayInCableTypes			
ManfacturerWebSite			
ManufacturerImage	No image data		
- anaractar crimage			_
* C			
Information:			.:

Database > Manufacturers [File > New] Commandline: none

# Explanation

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

- Manufacturer Name
- ManufacturerID Should match the Manufacturer Name field.
- **DisplayInEquipment** Show this Manufacturer in the **Equipment Library**.
- DisplayInCableTypes Show this Manufacturer in the Cable Types grid.
- Website
- Image Right-click and select Load from the context menu to add a Manufacturer logo.

### 4.2.3.5 New Equipment Wizard

ew Equipment		? 🗙
New Equipment		
Who Makes It and V	/hat's it Called	
Manufacturer*	Select a Manufacturer	<b>v</b> +
EquipmentName/Model/Pa	t Number*	
Description*		
SysName Prefix*		
* = Required		
		Next > Cancel
		Next > Cancel

Database > Equipment [File > New] Commandline: none

# Explanation

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

# Related Topics:

How to Add Equipment 🗗

- Manufacturer Select the Manufacturer. Clicking the [...] button opens the New Manufacturer (517) dialog.
- EquipmentName/Model/Part Number Name it.
- Description Describe it.
- SysName Prefix Be brief.
- Front Panel File Pointer to the front panel file. Must reside in the %BLOCKS% support path.
- Plan View File Pointer to the Plan View file. Must reside in the %BLOCKS% support path.
- Image Right-click and select Load from the context menu to add a image.
- Categories, Synonyms This is for you. Create categories and synonyms.
- Abbreviation, Accessory Of Not really used yet.

### 4.2.3.6 New Cable Type

New				
	v Cable Type		?	
lect Manufacturer	✓ Cable Type or P/N			
	Cable OD			٦
	Cable Rating			
	Standard Length			
guration				
✓ Is Multi Core	Core Count			0
	1 Conductor Count I	Including Shield(s)	1	•
	Default Core/Fibe	r Mode		v
То:				
○ Cores		None		
				~
	guration Is Multi Core To:	Cable OD Cable Ating Cable Rating Cable Rating Standard Length guration V Is Multi Core Count Core Count 1 Core Count Default Core/Fibe To:	Cable OD Cable Rating Cable Rating Cable Rating Cable Rating Cable Rating Cable Rating Care Count Conductor Count Induding Shield(s) Conductor Count Induding Shield(s) Default Core/Fiber Mode To:	Cable OD Cable Rating Cable Count Ca

Database > Cable Types [File > New] Commandline: showcabletypesgrid

# Explanation

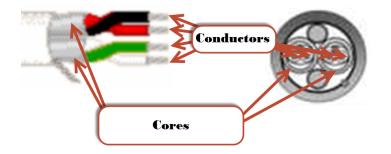
This tool adds a new **Cable Type** to the **Global Equipment** database. **Cable Types** may be either single or multi-core and have different shielding configurations. WireCAD projects use the multi-core core color code if any as the descriptor when identifying multi-core cables. The **Cable Type** 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.



### Prerequisites

1. None

Related Topics: Create a New Cable Type 52

# **Dialog Options**

- Save
- 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.
- Cable Weight, Standard Length Standard put up length and weight.

### **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 based on the core/conductor counts and the Shielding configuration.
- Default Core/Fiber Mode SM/MM.
- Color Code Applies To Apply a color code to the conductors, cores or not.

### 4.2.3.7 Synchronize Global Databases

nchroni	ize with an external e	quipment database			
Basic	Advanced				
	e <mark>nt Global D</mark> a ote database ty	tabase: (VISTAL pe and location —	DB)		
	tabase is server based	ł			
Host:			- Authenticatio	on	
Catalog	g: WireCADGlobalEqu	ipment	Use Windows A	uthentication	
	Test Con	nection	User Name:		
			Password:		
) Im	port	) Export	C	Bidirectional	
	mber Settings			Sync	Cancel

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 194

# **Dialog Options**

- External Database Location
- Database is Server Based Enter the host information and login. Otherwise 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 collections.

### 4.2.3.8 Combine Circuits (CMS Only)

Menu: Database > Circuits Default command line shortcut: cmscg Related Project Settings: Circuit Status Items Product Level: CMS

Click Tools > Combine 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.

<mark>x </mark> Combine Circu	ilts	? 🗙
LabelsimpleLabelIten This Circuit	0010 Circuit: 0010 Strand Count: 4 - FIBER CIRCUIT	<b>v</b>
Appends to	0013 Circuit: 0013 Strand Count: 4 - FIBER CIRCUIT	v
🔿 Insert Into	Info	V
☑ Insert Jumpers if	Before     After     FNecessary	∨   ∨
	After	
		╾┶ <u>┶</u> ┶╼┶ <u>┶</u>
	Commit	Cancel

- 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.
- 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

Combine Circu	uits	?
abelsimpleLabelIter	m1	
'his Circuit	0010	
	Circuit: 0010 Strand Count: 4 - FIBER CIRCUIT	
<ul> <li>Appends to</li> </ul>	0013	
	Circuit: 0013 Strand Count: 4 - FIBER CIRCUIT	
) Insert Into		
	Info	
	Before	
	O After	
Insert Jumpers i	if Necessary	
	<u>⊨₽₽₽₽₽₽₽₽₽₽₽₽</u>	
		Ī
		\$

### 4.2.3.9 Expression Builder

Expression Test Object		
Prototypes		I
	Name = value else propertyName = other\	/alue /
Clear		Appy to Test Object
Conditional Execution Logic Operators Field List Wild Cards		

Database > Any Commandline: varies

# Explanation

This tool allows you to manipulate data using the Expression Engine.

For more information on Expression Syntax 218.

# **Expression Tab**

- Prototypes Select from a number of pre-formatted expressions. Then replace the variables as appropriate.
- Expression Enter your expression to evaluate here.
- [Clear] Clears the Expression.
- [Apply to Test Object] A prototype collection object is loaded into the property window of the Test Object tab. Clicking this button applies the Expression to the test object data. You will want to edit the Test Object data before executing this command so that you have a meaningful test.
- Left List Variables, operators and fields to apply to the expression.
- **Right List** Detail variables, operators and fields. Double-clicking a item here will insert it into the **Expression** window at the caret.
- [OK] Do it to the data in the grid.

# Test Object Tab

• **Property Window** - Displays a prototype of the grid collection item. Edit this to have test data on which to apply your **Expression** when the **[Apply to Test Object]** button is clicked.

### 4.2.3.10 Find and Replace

<mark>ೱ</mark> Find and Re	place				?	x
Find and Replace						
Find and Repl	ace tool will s	searchs	the curre	nt selectio	n (if a	iny).
Find:						
Find Options	Contains	~	Ignor	e Read Or	nly Co	lumns
Replace With:						
Find Nex	t Replace	Fir	nd and Rep	lace All	Ca	ancel

Database > Any Commandline: varies

# Explanation

This tool allows you to find and replace string within the open grid. Searches the current selection if any. If not, searches the whole grid.

### **Related Topics:**

Grid Basics 37

# **Controls**

- Find Search Text.
- Find Options -

**Contains** - Any or whole Find string exists. **MatchCase** - Any or whole Find string matches case sensitive. **Exact** - Whole string matches exactly.

- Ignore Read Only Columns Searches only columns that can be edited.
- **Replace With -** Replace the found part with this.
- Find Search and highlight the first found instance.
- Replace Do the replace the found instance.
- Find and Replace All Do it to all found instances.

### 4.2.3.11 New Next Number

🔀 New Next Number			? 🗙
Sequence Key	Next Number	1 🛟 Context	All
		OK	Cancel

Database > Next Numbers - File > New Commandline: nn

# Explanation

Add a new Next Number item. Next Numbers are normally added automatically but if you need to take control and add your own.

Next Numbers use a Sequence Key and an integer within a context.

### Example

Say our cable number is V-1001. V is the **Sequence Key** and 1001 is the integer **Next Number** in the **Context** of Cables.

or:

Our SysName is SRVR-101. SRVR becomes the **Sequence Key** and 101 the **Next Number** in the **Context** of SysNames.

### **Related Topics:**

Grid Basics

# **Controls**

- Sequence Key What is the part we are sequencing on.
- Next Number Integer next number.
- Context -
  - All Backbones Circuits Cables SysNames

### 4.2.3.12 Attach Document

🔀 Attach Document	? 🗙
File Description	•••
	OK Cancel

Database > Most Commandline: varies

## Explanation

Many of the grids in WireCAD support Attached Documents. The document can be of any file type. The document is stored in the database as a Binary Large Object (BLOB). Attached document can be launched from the grid by clicking the hyperlink. The document will be opened by the system reader of the stored file type.

۲	🗆 AD-01			Location		Elevation	MSTCAM 1	BLACKMAGIC		TERRANEX		
		Documents Collection										
		۹ File Name		Description	CreatedBy			Crea	tedOn N	IodifiedOn		
		• winwin.jpg		Some Descriptive Text	112 KB		chris_000	12		6/2016 1	2/16/2016	
_	FF /	<sup>02</sup> -02		Location		Flevation	MSTCAM 0	BLACKMAGIC		TEDDANIEY		

#### **Related Topics:**

Grid Basics

## **Controls**

- File Browse to the file to attach by clicking the [...] button.
- **Description -** More words.

### 4.2.3.13 Database Host Settings

	Database server responded with: A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: SQL Network Interfaces, error: 26 - Error Locating Server/Instance Specified)								
Host Name	localhost\sqlexpress								
Schema Name									
Use Window	ws Security								
User Name	wirecad_user								
Password	******								
	nection OK Cancel								

Project > Open Project Fails Commandline: op

# Explanation

The only reason you will see this dialog is that you have attempted to open a SQL project where the database server is unreachable or has actively refused our connection. Here you have a chance to fix **Host** and **User** login Info.

• [Test Connection] - make sure that this returns that you can successfully connect to the database before clicking [OK].

### 4.2.3.14 Filter Editor

Various Commandline: none

# Explanation

The filter editor allows you to create filter criteria base on the collection fields combined with a logical operator and a value.

Click the [+] button to add another complex condition.

Related Topic BOM Generator AutoBlock [117] How To: Filter Reports [177]

### 4.2.3.15 New Todo

🔀 New Todo List Item		? X
Item		
Description		<u></u>
Assigned To		×
Priority		~
Status		~
Expected Completion Date		~
Completed Date		~
	OK	Cancel

Database > Project > Todo - File > New Database > Project > Equipment List - Todo Database > Project > Cables - Todo Database > Project > Drawings - Todo Commandline: varies

## Explanation

Create a new Todo List item. When launched from the following grids it will associate the Todo List item with the selected record(s):

- Equipment List.
- Cables.
- Drawings.

Related Topics: <u>Todo List</u> 398 Settings <u>Todo List Grid</u> 682 <u>Grid Basics</u> 37

# **Controls**

- Item Words.
- Description More words.
- Assigned To Who is to do it.
- **Priority** Set the urgency.
- Status Where are we at in the process.
- Expected Completion Date When are we expecting this done by.
- Completed Date When did we get it done.

You can see the Todo List items in the Todo List grid and in the associated grids:

Sy	sname 🔺	Available	Location		Elevat	ion Alias		Manufact	urer	EquipmentName		Flags	SysNam	ieUs
☐ 11:07:51 PM			sdfad		999	11:07:	51 PM	360 SYST	EMS	Image Server 2K			user 1	
Assigned Cables Todo List Items by Equipment														
	۹ Item	Description	AssignedTo Prior	ty Expe	ctedCo	CompletedDate	Status	s	CreatedBy	CreatedOn	Modif	iedBy M	1odifiedOn	
	Do Something	Do Something	Fred Flins 🔻	▼ 12/26	5/2016 🔻	•		-	chris 000	12/01/2016	r chris	000 1	2/16/2016	,

### 4.2.3.16 Ripple Choice

Ripple Type	? 🗙
You have made changes that likely impact other drawings and databases. WireCAD can now ripple t the drawing set and affected databases.	he changes across
O Full Ripple. Searches all drawings. This is the safest but takes more time.	
Quick Ripple is not an option if any of the items to ripple are missing drawing indexes. To be sure that the indexes are up to date Re-index function on the Equipment and Cables grids.	e you can use the
Quick Ripple. Searches only the indexed drawings for each item.	
You can tell if an item has indexes by looking at its row in the grid if the $[+]$ is enabled there is an index.	
Yes No Cancel	

Post Save - Rackbuilder Drawings, Equipment List, Cables table, Locations table Commandline: varies

## Explanation

Something has changed that potentially effects data in other drawings and databases. This is your chance to update those other entities in other places.

## **Controls**

- Full Ripple Search all drawings for the changed items and update.
- Quick Ripple Search only indexed drawings. If the indexes are up to date this can significantly reduce ripple time.
- Yes Do it!
- No Don't Do It!
- Cancel Do nothing.

### 4.2.3.17 Add/Edit Via (CMS Only)

🔀 Adding	vias to 5 cable(s) ?	×
Idx		\$
Name		
Description		
Type		
Location	V + Elevation	
Ports		
	OK Cancel	

Database > Backbones then Tools > New Via Commandline: none

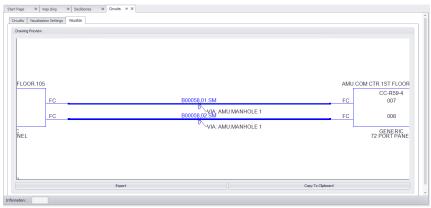
## Explanation

WireCAD ENT supports the concept of **VIAS**. Vias are waypoints or appearances of **Backbones** as they make their way from starting point to ending point. **VIAS** can be used to list all of the pullboxes or manholes that a backbone appears in. They can also be used to indicate splice points.

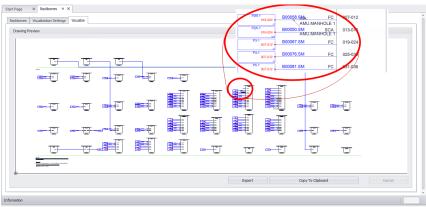
VIAS are an ordered list that is attached to the **Backbone**. The **Idx** field determines list order.

Ŧ		GENERIC	24 STRAN	D SM FIBER	B000	065.01	P2B-09	ACM2-16	;	0	73	025	AMU.ANNE	AMU.BLDG 122.ROOM 1060	SCA
Ξ		GENERIC	24 STRAN	O SM FIBER	B000	065.02	P2B-09	ACM2-16	;	0	)74	026	AMU.ANNE	AMU.BLDG 122.ROOM 1060	SCA
	Via	as Collection B	y FK Cables												
	۹Ι	ldx 🔺	Name	Description	Гуре	GPS L	Lat (	GPS Lon	GPSEI	Locatio	n				
	۴														
		0								AMU.M	IANHOLE 1				
	•	1								AMU.M	IANHOLE 2				

VIAS can be shown in the the following visualizations:



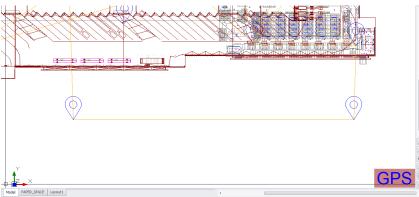
VIAS shown in the Circuits visualizer



VIAS shown in the Riser visualization



VIAS shown in Ladder Visualization



Backbone from panel to panel Via Manhole 1 and Manhole 2

### Prerequisites

1. At least one Backbone in the database.

### Related Topics:

New Backbones230Backbones Visualization Settings235Circuits Visualization Settings248Backbone Display358in Calibrated Drawing

# **Dialog Options**

All of the following are optional except the Idx field.

- **Idx** the position in the list of VIAS.
- Name Optional name of the VIA.
- Description Optional description of the VIA.
- Type Optional type of the VIA.
- Location Optional location of the VIA.
- Elevation Optional elevation of the VIA.
- **Ports** Optional ports of the VIA.

### 4.2.3.18 New Blind Patch

X New Blind Patch		? ×
Named Equipment (SysName)		<b>v</b>
Customer Furnished Equipment (CFE) Manufacturer	V Model	<b>v</b>
	OK	Cancel

File > New from the Blind Patches Tool Commandline: none

## Explanation

Used to select the FromSys value in the Blind Patches tool. Select either a named piece of equipment or create a new CFE piece of equipment with a Manufacturer and Model name.

**NOTE:** CFE equipment will not appear in the Equipment List.

#### Prerequisites

- 1. At least two Backbones in the database.
- 2. You must first select a ToSys from the dropdown.
- 3. Select the row to add a Blind Patch to or if **Duplex Jumper** is selected click the top row.

#### **Related Topics:**

Blind Patch Tool Explanation 242 How To: Create a Blind Patch 243 How To: Discover Circuits from Blind Patches 244 How To: Make a Real Circuit from Blind Patches 245 Blind Patch form

### 4.2.3.19 Title Block Manager

# Menu: [Project] > [Title Block Manager]

Default command line shortcut: tbm

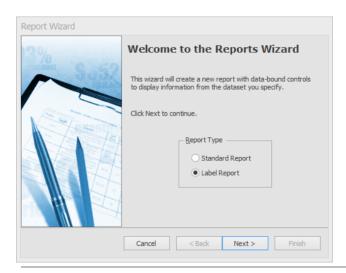
Titleblock Manager										
Add Remove	Edit Company Edit Client Info	All Manua		Update Active Drawing Now						
			₀₀₀ \ttribut	Update						
Page Borders			Tag Stri		Attribute Value	String Constant	Update Mode			
			<ul> <li>Title 1</li> </ul>	<u>لا</u>	None	String Constant	Manual			
			Title 2		None		Manual			
			Title 3		None		Manual			
			Title 4		None		Manual			
			REV		None		Manual			
			Drawing	#	None		Manual			
			Sheet		None		Manual			
			Drawn B	y:	None		Manual			
				By:	None		Manual			
					None		Manual			
			ISSUED	1	None		Manual			
		:	DATE 1		None		Manual			
			2		None		Manual			
			ISSUED	2	None		Manual			
			DATE 2		None		Manual			
			3		None		Manual			
			ISSUED	3	None		Manual			
			DATE 3		None		Manual			
			4		None		Manual			
			ISSUED	4	None		Manual			
			DATE 4		None		Manual			
			5		None		Manual			
			ISSUED	5	None		Manual			
			DATE 5		None		Manual			
			Scale		None		Manual			

The Title Block Manager allows you to edit Attributes in your drawings to reflect across your project.

## 4.2.4 Report Dialogs

Dialogs associated with report designer.

#### 4.2.4.1 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 176

Reference	541

# 4.2.4.2 Scan for Discrepancies

See the section on Index Grids 584

## 542 WireCAD v10 User Manual

#### 4.2.4.3 Report Manifest Editor

Project Vew Database Plugins Reports Print Preview HTML View Report Designer	Report - WreCAD10 - PRO - Current Project: [Edit Suite Demo Project] Cable Data Selector	⊡ – ♂ × ?⊕⊡ ፆ i
C New with Waard     Cable Labels       C Generate Bit of Materials     Cable Labels       C Scan Project for Discrepancies     with Labels	Reports	
Report Manifest creator tool. Create one per report. To be effective you will need two screen grabs - one small 32x32 and one large 128x128. Then caption and describe your	? ×	
report. Place the xml manifest file in the same folder as the repx file.  File Name Caption Description Tooltp Header Tooltp Body Tooltp Footer Small Image Right-click to load image	Info from manifest file         Image: Compare to the total state           Image: Compare total state         Image: Compare total state <th></th>	
Large Image Right-click to load image	V7D_M_Cables ByDestination BySource IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	
New Open Save Cancel		

Report > Smart Tag Commandline: none

## Explanation

If your Report Show Mode = Gallery the gallery items will display:

- Preview bitmap.
- Large bitmap when hovering over the gallery item.
- Caption text.
- Descriptive text.
- Tooltip text.

When the gallery loads it searches for a manifest file with the same name as the report file.

**Example**: MyReport.repx - report file. MyReport.xml - manifest file.

Make sure that the manifest file name matches the report name and that they are in the same directory.

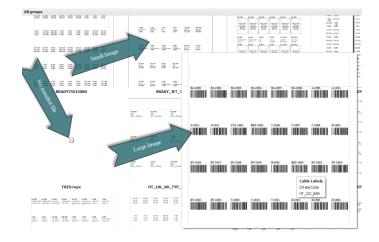
If the manifest file does not exist the stock bitmap is shown and the file name is used as a caption.

### Prerequisites

A custom report.

Related Topics: Report Show Mode = Gallery

- File Name the name of the report repx file.
- Caption gallery item caption.
- **Description** gallery item description.
- Tooltip text when hovering over the gallery item.
- Small Image -
- Large Image displayed when the gallery is expanded and the item is hovered.



## 4.2.5 Plugins Dialogs

The following sections relate to plugins that register dialogs for editing. These are plugins included with WireCAD. Other plugins may register dialogs that do not appear here.

### 4.2.5.1 Plugin Manager

	- Lo	aded Plugins (these p	olugins have all registe	ered at least	one but	ton on the gui):		Loa	d
2		Name	Description	Copyright		Website	Author	Unlo	ad
0								Rescan and	Reload A
								- Plugin Creation	:
								Add/Edit PI Inf	o (*.wpi
								Edit Plugi	n Code
	-								
	- ^	Unloaded Plugins:							
		Name	Description	Author		Website	Copyright		
	Þ	All Block Extractor	Extracts All Block	Holbrook En	terpr	www.wirecad.com	Copyright 2009-2	^	
		Batch Plotter	Batch Plotter Util	WireCAD		www.wirecad.com	Copyright 2009-2		
		Block File Fixer	Changes entities	Holbrook En	terpr	www.wirecad.com	Copyright 2009-2		
		BrotherPTouch	Brother P-Touch	Holbrook En	terpr	www.wirecad.com	Copyright 2009 H	~	
	_ A	uto Discovered Plugir	ns (Silent load - may c	 or may not ha	ive gui e	lements)			
		AssemblyNameAnd	IPath		NameSp	paceDotClass1			

## Plugins>Plugin Manager

Commandline: pim

# Explanation

The WireCAD Plugin Manager shows:

- Loaded plugins.
- Unloaded plugins.
- Automatically Discovered plugins.

				e plogino nove an region	crea arreast or	ne button on the gui):		Load
Plugin Creation:     Add/Edit P1 Info (*.wp     Edit Plugin Code        Unloaded Plugins:      Al Block Extractor Extracts All Block     All Block Extractor Extracts All Block     Auto Discovered Plugins (Silent load - may or may not have gui elements)	2		Name	Description	Copyright	Website	Author	Unload
Auto Discovered Plugins (Silent load - may or may not have gui elements)	0							Rescan and Reload
All Block Extractor       Extracts All Block Hobrook Enterpr       www.wirecad.com       Copyright 2009-2          Batch Plotter       Batch Plotter Utl, WireCAD       www.wirecad.com       Copyright 2009-2          Block File Fiser       Changes enttiles       Holbrook Enterpr       www.wirecad.com       Copyright 2009-2          BrotherPTouch       Brother P-Touch       Holbrook Enterpr       www.wirecad.com       Copyright 2009-2          WorkerPTouch       Brother P-Touch       Holbrook Enterpr       www.wirecad.com       Copyright 2009 H								Plugin Creation:
								Add/Edit PI Info (*.wp
Unloaded Plugins:     Name Description Author Website Copyright     All Block Extractor Extracts All Block Holbrook Enterpr www.wirecad.com Copyright 2009-2     Batch Plotter Batch Plotter Util WireCAD www.wirecad.com Copyright 2009-2     Block File Fixer Changes entities Holbrook Enterpr www.wirecad.com Copyright 2009-2     BrotherPTouch Brother P-Touch Holbrook Enterpr www.wirecad.com Copyright 2009-2     rotherPTouch Brother P-Touch Holbrook Enterpr     Auto Discovered Plugins (Silent load - may or may not have gui elements)								Edit Plugin Code
Name         Description         Author         Website         Copyright <ul> <li>All Block Extractor</li> <li>Extracts All Block</li> <li>Holbrook Enterpr</li> <li>www.wirecad.com</li> <li>Copyright 2009-2</li> <li>Block File Fixer</li> <li>Changes entities</li> <li>Holbrook Enterpr</li> <li>www.wirecad.com</li> <li>Copyright 2009-2</li> <li>BrotherPTouch</li> <li>BrotherPTouch</li> <li>Brother P-Touch</li> <li>Holbrook Enterpr</li> <li>www.wirecad.com</li> <li>Copyright 2009-2</li> <li>www.wirecad.com</li> <li>Copyright 2009-1</li> <li>www.wirecad.com</li></ul>								
All Block Extractor       Extracts All Block.       Holbrook Enterpr       www.wirecad.com       Copyright 2009-2 <ul> <li>Batch Plotter</li> <li>Bidch File Fixer</li> <li>Changes entities</li> <li>Holbrook Enterpr</li> <li>www.wirecad.com</li> <li>Copyright 2009 H</li> <li>www.wirecad.com</li> <li>Copyright 2009 H</li> </ul> <li>Auto Discovered Plugins (Silent load - may or may not have gui elements)</li>		-	<ul> <li>Unloaded Plugin</li> </ul>	s:				
Batch Plotter       Batch Plotter Utli       WireCAD       www.wirecad.com       Copyright 2009-2         Block File Fixer       Changes entities       Holbrook Enterpr       www.wirecad.com       Copyright 2009-2         BrotherPTouch       Brother P-Touch       Holbrook Enterpr       www.wirecad.com       Copyright 2009-4         Auto Discovered Plugins (Silent load - may or may not have gui elements)			Name	Description	Author	Website	Copyright	
Block File Fixer       Changes entities       Holbrook Enterpr       www.wirecad.com       Copyright 2009-2         BrotherPTouch       Brother P-Touch       Holbrook Enterpr       www.wirecad.com       Copyright 2009-H         Auto Discovered Plugins (Sient load - may or may not have gui elements)			All Block Extract	Extracts All Block	Holbrook Ente	rpr www.wirecad.com	Copyright 2009-2	•
BrotherPTouch Brother P-Touch Holbrook Enterpr www.wirecad.com Copyright 2009 H v Auto Discovered Plugins (Silent load - may or may not have gui elements)			Batch Plotter	Batch Plotter Util	WireCAD	www.wirecad.com	Copyright 2009-2	
Auto Discovered Plugins (Silent load - may or may not have gui elements)			Block File Fixer	Changes entities	Holbrook Ente	rpr www.wirecad.com	Copyright 2009-2	
Auto Discovered Plugins (Silent load - may or may not have gui elements)			BrotherPTouch	Brother P-Touch	Holbrook Ente	rpr www.wirecad.com	Copyright 2009 H	
			uto Discovered Di-	ning (Silent load - may		a qui elements)		
		F						
			AbbenbryHamer			ancopaccoorciassa		

Only Enabled plugins are eligible to load/unload. Disabled plugins will not show here.

### 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.
- Registered plugins. These plugins register themselves via a plugin manifest file located in the C: \users\public\documents\WireCAD\WireCAD9\Plugins\Active Plugins\\*.wpi. Registered plugins may place a button somewhere in the WireCAD workspace, register a corresponding Commandline shortcut, and may respond to WireCAD events.

Related Topics: Included Plugins ହାମ WireCAD Software Development Kit (SDK) ସେମ Enable/Disable Plugins ଜଣ

# **Dialog Options**

- Load Loads the selected plugin from the Unloaded Plugins grid. This function does not apply to the Automatically Discovered plugins.
- **Unload** Unloads the selected plugin from the **Loaded Plugins** grid. This function does not apply to the Automatically Discovered plugins.
- Rescan and Reload All Unloads then rescans and reloads all plugins. Applies to all plugins.

#### Plugin Creation

• Add/Edit PI info (\*.wpi) - Show the Add or Edit Plugins dialog to work with WireCAD Plugin Info files (wpi).

₹ File		Add Or Edit Plugins		? X
New Open Save	Exit			~
lame		Description		
Author	Holbrook Enterprises, Inc.	Website	www.wirecad.com	
Copyright	Copyright 2000-2016 Holbrook Ente	erprises, Inc. All Rights Reserved		
Button Info				
Tool Tip		Caption		
Ribbon Page		V Ribbon Page Group		~
Button Bitmap		No image data		
- Command Line and Asse	mbly Info			
Command Line Long Nar	ne	Command Line Short Name		
-				
Command Line Alt		Assembly Name And Path		

• Edit Plugin Code - Open your IDE to edit code. You will be prompted to enter a path to the IDE exe file.

#### 4.2.5.2 Script Editor/Runner

🔀 Script 📃 🗖 🔨
File Edit Format 🗸
🗋 🧭 🔚   🕉 🤹 🏡   🤊 🗸    👒 🧠 🚍 🖅    🖢 🗸    Window on Top
<pre>1 2 E using System; 1 using System.Data; 4 using System.Text; 5 using System.Windows.Forms; 6 using System.Reflection; 8 using WireCAD; 9 using WireCAD.Interfaces; 10 11 E public class Script 12 { 13 E public static void Run(Workspace ws) 14 { 15 //do your stuff here 16 //do your stuff here 16 //do your stuff here 17 } 18 } 19 20 </pre>
Error List Compiler Output
Line Description
WireCAD Script.cs Column: 375

## Explanation

Often times there are operations that you find yourself repeating some thing or process endlessly. Scripts are a good way to automate those processes. There are many example scripts to browse through and see how they work. Example scripts can be found at:

c:\users\public\documents\WireCAD\WireCAD9\scripts\\*.cs

#### 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
ł
       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\documents\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**

- New Creates a new script with the necessary method 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, Out dent
- Run If the Error List is empty then Do It. If it 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 syntax errors.
- Compiler Output Run time compiler and script execution errors, as well as Trace messages.

## 4.2.6 PDF Viewer Dialogs

The following is dialogs associated with PDF Viewer.

## 4.2.6.1 PDF Print Preview

(Printer Name: MACHINE_ROOM.pdf)	×
	Plot Margins         ● mm ○ inches         Top:       1.0160         Bottom:       1.0160         Left:       0.0000         Upside-Down       Center To Paper         Orientation       ○ Portrait       ● Landscape         Number of Copies :       1 ◆         Paper       ✓         ✓       Custom       89.916         by       204.97       mm         Scale       ✓       ✓         Printer Units:       1       mm         Drawing Units:       0.653179       ✓         Scale to Fit       ✓       ✓         Output Options       ■       Black and White         □ Ignore gradient background color       ✓         Print Area       ●       Etents         ● Extents       Window       ♥ Pick
Preview Options ○ Partial ● Full  Update Save to file PDF → E Save to file Save to file	ve to file

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.

## 4.2.7 Map Tool Dialogs

For information on the Map tool see this topic [609].

### 4.2.7.1 ID GPS Locations

$\tilde{9}$	File						
C( Net	Save	Close Cop	y Selection Down	Pick > Show Me Leave Location Marker	Y		
	File	Fa	Edit rs	Tools 🕞 Behavior			
	Campus	-	Floor	Room	Rack	Qualified Location	
q	n 🛛 c	# <b>1</b> 0	R C	n 🗖 c	ROC	a 🗖 c	
Þ	LA	THE FACTO	MAIN	MR	RK-10	LA.THE FACTORY.MAIN.MR.RK-10	
	109					109	
	109	1	5	507		109.1.5.507	
	109	1				109.1	
		d1of4 ⊧ ⊮ ⊮					3

Mapping Tools > Tools > ID GPS Locations Commandline: none

Alternately from the **Map** tool: **Tools > ID GPS Locations** 

## **Explanation**

This form is used to pick points from a drawing or map and associate them with the select Location record. This tool only works with DWG drawings that have been calibrated to the GPS coordinate system or with the Map tool [60].

# **Controls**

**New:** Open the <u>New Locations</u> 512 dialog.

Save: Commit your changes to the Locations so table of the project database.

**Close:** Close this form without saving.

Copy Selected Down: Copy the data from the top cell(s) down overwriting any data in the cell(s) below.

**Pick >:** Dismiss this dialog and select a point from the drawing or map. The GPS coordinate will be entered in each of the selected rows.

**Zoom Show Selected Text:** (drawings only) text entities in the drawing that match the text of the currently focused cell.

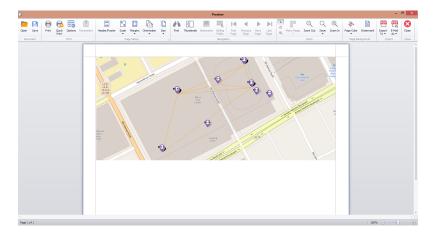
**Show Me:** Finds the GPS coordinate in the drawing and places a Location Marker. Then zooms the marker into view.

Leave Location Marker: Sets whether a location marker as determined by the settings is placed at the pick point.

### **Related Topics:**

How To: Show Location Markers in the Map Tool 2981 How To: Associate GPS LAT, LON with your Locations 2841

#### 4.2.7.2 Print Preview



#### Menu: File > Print

#### Explanation

The print preview dialog can be used to send the current map view to the printer or exported to several file formats.

## Controls

### **Document Section**

**Open** - Open a saved \*.prnx file for printing. **Save** - Save a \*.prnx file for printing later.

#### Print Section

Print - Open the Printer dialog to set the current printer, page size, number of copies, etc.

Quick Print - Do it now.

**Options** - Open a dialog to set the image fit properties and what visual elements to include in the printed output.

Header / Footer - Open a dialog to set the document header and footer.

### Page Setup Section

Scale - Set the scale of the document or fit it to a number of pages.
Margins - Set the document margins. Alternately you can drag a margin indicator line to resize it.
Orientation - Set portrait or landscape mode.
Size - Set the page size. Sizes are based on the current printer.

### Navigation Section

Find - Find text within the document.Thumbnails - Show the Thumbnails tool panel.Page Navigation - First, Previous, Next, Last. Move around the pages.

## Zoom Section

**Mouse Pointer Tool** - Enable the mouse pointer. **Pan Hand Tool** - Enable the panning tool. **Magnifier Tool** - Enable the magnifier tool.

Many Page Selector - Set the number of pages in the viewer.
Zoom Out - Zoom the display out.
Zoom Numeric - Zoom to a specific numeric percentage value.
Zoom In - Zoom the display in.

## Page Background Section

**Page Color** - Set the color of the background. **Watermark** - Open a dialog to set a watermark for the document. The watermark can be text, image, or both.

## **Export Section**

Both the [Export To] function and the [Email As] functions support the following formats:



# 4.3 Forms

Forms differ from dialogs in that they occupy the full client docking area of the main window. Only one form may be active at a time. That form may host other dialogs.

## 4.3.1 Application Menu Forms

The forms in this section are specific to the **Application Menu**.

## 4.3.1.1 **Project Information**

Comming         Comming <t< th=""><th>ime Vi</th><th>/ireCAD Edit Suite Project</th><th>Description</th><th></th><th></th><th></th><th></th><th></th></t<>	ime Vi	/ireCAD Edit Suite Project	Description					
Abdeb Velocity     One do A Project     One do A Project     Project Mode       Specific Mode     Project Mode     Specific Mode       Specific Mode     Specific Mode     Specific Mode       Project Mode     Specific Mode     Specific Mode       Specific Mode     Specific Mode     Specific Mode       Project Mode     Specific Mode     Specific Mode       Specific Mode     Specific Mode     Specific Mode	rrentProjectRevision		✓ DateCreated			DateModified	11/2/2016 12:00:00 AM	
gedinfolder 1         Projectinfolder 2           gedinfolder 3         Projectinfolder 4           gedinfolder 4         Projectinfolder 4           gedinfolder 5         Projectinfolder 4           gedinfolder 6         Projectinfolder 4           gedinfolder 7         Projectinfolder 4           gedinfolder 7         Projectinfolder 4           Gelanstrauf 1         Projectinfolder 4           Projectinfolder 7         Projectinfolder 4           Gelanstrauf 1         Classriphäle/Documental/WrecADD	stModifiedBy			TotalEditTime	52.12:42:44.0470114			
Name         Name         Class Name         Nam         Nam         Nam	eckedOut	Check Out Proje	ct CheckedOutBy		✓ ExpectedReturnDate			
jęchłkać         jecyci k raj	jectInfoUser1		ProjectInfoUser2					
NeteR feature         Neter Flag         Neter Flag           Flag         51/32 Deam Project.net/jife         ñ/i Neme         Clibers/Plak/Documents/WreCAD/Viee/ADV/Deam Project/EdS.Sub. Deam Project.Sub.	ectInfoUser3		ProjectInfoUser4					
Neter Hands         Neter Hands           File Instructure         File State Demo Project Hands         File Instructure         File State Demo Project Hands         File Instructure         File State Demo Project Hands         File State	ectInfoUser5		Project Lead Person					
Ngkcham         Cit/kam/båk/Davanstry/insc/Or/jinsc/	roject Revisions Re	elated Projects Project File Info						
Angle Charama Page Ch								
Ownerginal         Image: Constraint of the State Decempendence of the								
ADD     ADD LING AND 4-ACL ASLE STAD XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX								
Ballsbare Name         Edit Suite Demo Project         Image: Comparison of the Suite Demo Project (Project Databases)           Database Name         C. Sues (Pack Documents (WeGAD) WeGAD) Pemo Project (Project Databases)         Image: Comparison of the Suite Demo Project (Project Databases)           Database Name         Micro Ontories (WeGAD) WeGAD) Pemo Project (Project Databases)         Image: Comparison of the Suite Demo Project (Project Databases)           Database Name         Micro Ontories (WeGAD) Pemo Project (Project Databases)         Image: Comparison of the Suite Demo Project (Project Databases)           Database Name         Micro Ontories (WeGAD) Project (Project Databases)         Image: Comparison of the Suite Demo Project (Project Databases)           Database Name         Micro Ontories (WeGAD) Project (Project Databases)         Provider Meda Data Name           Database Name         Database Name         Provider Meda Data Name           Database Name         Micro Micro Ontories (WeGAD)         Provider Meda Data Name           Database Name         Micro Micro Ontories (WeGAD)         Provider Meda Data Name								
Database Palm     C_VarenPublic/Documents/WireCMD/Verce Project/Edit Safe Demo Project/Project Databases       Database Heat     C_VarenPublic/Documents/WireCMD/Verce Project/Edit Safe Demo Project/Project Databases       Database Heat     C_VarenPublic/Documents/WireCMD/Verce Project/Project Databases       Q/Ure He Based Database     Provider Heat Database								
Database Host         Schema         E           Database Host         Wire/CAD/or         Database Host         Exercise           Database Host         Batabase Host         Database Host         Exercise           Database Host         Edit Scate Demo Project.vdb3         Provider Meta Data Key         Exercise           If the File Stand Database         Provider Meta Data Key         Exercise         Exercise								
Database Liser WireCADUser Database Passional Detabase Passional Deta								
Database File Name Edit Suite Demo Project Judo3 Provider Meta Data Key ☑ Une File Board Database								
✓ Use File Stared Database								
	Use File Based Da	tabase		Provider Meta Data Ke				

Application Menu > Project Information Commandline: Project Info

## Explanation

This form contains the basic project information and status. Project name and description here will show up in the reporting engine and can be used elsewhere. The CurrentProjectRevision field populates the Cables and SysNames grid when an edit is made or a new record added the value here will populate there.

The Project Checked-out status can be shown modified here.

## **Project File Info Tab**

Read only look at the PROJECT\_NAME.wc6plf file.

## **Related Projects Tab**

Here you can Add/Edit/Remove related projects. Related projects show in the Project Explorer (read-only) and can warn if duplicate SysNames and Cable Numbers are about to be used.

### 4.3.1.2 Permissions Grid

sg a column header here to group by that colum	in				
Name	AllowEdit	AllowDelete	AllowAddNew	GroupName	
CableTypes	V	×	×	Administrators	
ColorCodes	×	×	×	Administrators	
Connectors	×	×	×	Administrators	
Kits		×	×	Administrators	
Manufacturers	V	×	×	Administrators	
Equipment	V	×	×	Administrators	
Inputs	V	×	×	Administrators	
Outputs	×	×	×	Administrators	
PinOutProfiles	×	×	×	Administrators	
Pins	V	×	×	Administrators	
Preferences	V	×	×	Administrators	
SignalTypes	V	×	×	Administrators	
AccountInfo	¥	×	×	Administrators	
BOMMaster	2	×	×	Administrators	
BOMDetai	V	×	×	Administrators	
CableNoFormatMaster	×	×	×	Administrators	
Cables	V	×	×	Administrators	
Chases	×	×	×	Administrators	
Circuits	×	×	×	Administrators	
DefaultDisplaySettings	¥	×	×	Administrators	
DiscrepancyReport	V	×	×	Administrators	
DrawingRevisions	V	×	×	Administrators	
Drawings	¥	×	×	Administrators	
NamedPaths	V	×	×	Administrators	
ProjectInfo	V	×	×	Administrators	
ProjectRevisions	×	×	v	Administrators	
ProjectSettings	V	×	×	Administrators	
RelatedProjects	V	×	×	Administrators	
RelatedProjectsSettings	V	V	V	Administrators	
SalesMasterData	×	×	×	Administrators	

Application Menu > Security Tools > Permissions Viewer Commandline: none

## Explanation

This grid shows the different permissions groups and collection permissions. This grid is read only and only visible if you are a member of a group with administrator privileges.

## 4.3.2 Global Data Forms

The forms in this section are specific to the Global Equipment Database.

### 4.3.2.1 Manufacturers Grid

							1
ManufacturerID	<ul> <li>ManufacturerName</li> </ul>		Ma	ManufacturerImage	Mo	Mo	Crea
		<u> </u>		No image data			
⊞ 0000	0000	<u>E</u>		No image data		11/	11/2.
⊞ 360 SYST	360 SYSTEMS	×	<u>ww</u>	36 Sustems		7/1	11/2.
360SYSTE	360SYSTEMS	1		No image data		10/	10/1.
⊞ ЗСОИМ	3COMM	×		Ger %. 3COM		2/1	11/2.
e aa	AUDIO AUTHORITY	×		No image data		11/	11/2.
H ACCOM	ACCOM	×		No image data		2/1	11/2
ACTIVE STORAGE	ACTIVE STORAGE	<b>E</b>		No image data		11/	11/2
⊕ ADC	ADC	×				2/1	11/2.
ADTEC DIGITAL	ADTEC DIGITAL	1	<u>htt</u>	No image data		8/1	8/14.
H AIR TOOLS	AIR TOOLS	$\checkmark$		diclogie		8/1	8/27.

#### 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:**

<u>Grid Basics</u> अने <u>How To: Add Manufacturers</u> विगे

## Form Options

- New Show the New Manufacturers dialog 517
- 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.

### 4.3.2.2 Equipment Grid

Equipment	FKManufac	ManufacturerID	EquipmentName	<ul> <li>Accessory Of</li> </ul>	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment
⊞ 854081	7a0279ac	BLON	ZCM-48-550		RF Distribu	RF Amp	0		0		0		
⊞ b09220c	b76c09bb	THOMSON	XtenDD		Production	Production	75		15	Inches	19		
⊞ 8c5cf05	7df89ef4	APPL	XRAID 5_6		DRIVE	DRIVE	0		0		0		
⊞ 6ded25	7df89ef4	APPL	XRAID 2-8TB		DRIVE RAID 5	DRIVE	0		0		0		
⊞ 492adb	a16a5015	AVID	XPress DV		NLE	Avid	0		0		0		
⊞ 1048eb	b4efdc5f-5	LEIT	XPR 12VA2		ROUTING S	SWITCHER	0		0		0		
⊞ 851def7	Sb208bce	3COMM	XP 490		Router	RTR	0		0		0		
E 56cb879	29029658	AMP	XL-1		AES Patch	Patch	0		0		0		
⊞ c1bb385	e711e9bb	EVERTZ	X-9504		4X1 ROUTER	ROUTER	0		1	Rack Units(	0		
⊞ 1e0ac41	0aaf1726	PANA	WV-52038		3 UP Mono	MON							
H 87308e	6346bcb8	CISCO	WS-C2950T		ETHERNET	DATA SW	0		0		0		
⊞ fefa969	9a354944	TEK	WFM1740		Waveform	WFM	0		0		0		
⊞ c6fc4e0	2354b4d5	HARRIS	WESTRONICS		INTERFACE	INT	0		0		0		
⊞ 23ba99	99770629	WAVETECH	WAVE 1000		12X1 RF R	RTR	0		0		0		
E 020decc	2354b4d5	HARRIS	Watchdog		Transport	DTV	0		0		5	Rack Units(	
⊞ 8b8a4b	e0fa2923	CUSTOM P	WALL PANNEL		WALL PAN	TERM	0		0		0		
⊞ 38d1f7f	8a8a56d6	GNRC	VU METER		AUDIO ME	AUD	0		0		0		
El 3cf1b0f	8a8a56d6	GNRC	VTR SPARE		VTR	VTR	0		0		0		
⊞ 92cc551	e44b8613	GENERIC	VTR		VTR	VTR	0		0		0		
⊞ ee1701f	b35be399	VTEK	VTM-440		Scope	VTM	0		0		0		
H I Rem	d 1 of 684	H HI - ▲ √ X 4			-								

#### 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

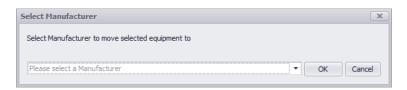
- 1. There is at least one **Manufacturer** added to the **Global Equipment** database.
- 2. There is at least one **Equipment** definition added to the **Equipment** table.

Related Topics: <u>Grid Basics</u> How To: Add Equipment

© 2019 Holbrook Enterprises, Inc. dba WireCAD

# Form Options

- New Show the <u>New Equipment Wizard</u> 518.
- 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.



#### 4.3.2.3 Default Signal Types Grid

Type	Color	SignalType	OnLayer	CableManu	CableType	CableNoPrefix
			Click here to add a r	ew row		
AUD R	2	AUD R				A
Out	3	Out				OUT
?	4	?				нин
_nul	5	_nul_				
1394b	Foreground	1394b				PW
310	7	310				310
4fSC	8	4fSC				v
AC-3	1	AC-3		BELDEN	1505A 003 ORG	DA
ADAT	ByLayer	ADAT		BELDEN	1505A 003 ORG	DA
AES	ByLayer	AES		BELDEN	1505A 003 ORG	DA
AES 1,2	Foreground	AES 1,2		BELDEN	1506A-002 Red	DA
AES 3,4	Foreground	AES 3,4		BELDEN	1506A-002 Red	DA
AREF	2	AREF				DA
ASI	Foreground	ASI		BELDEN	1505A 003 ORG	DA
AUD	2	AUD		BELDEN	1801A	AA
AUD L	2	AUD L		BELDEN	1801A	AA
AUD M	2	AUD M		BELDEN	1801A	AA
AUD R	19					AA
AUDIO AES	Foreground	AUDIO AES		BELDEN	1506A-002 Red	AA
AUDIO ANALOG	3	AUDIO ANALOG		BELDEN	1503A - Black	AA
++ + Record 1 of 105	F H H = A √ X ≤					

#### Database > Default Signal Types Commandline: st

## Explanation

This tool provides access to the Default 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.

These values are preempted by the <u>Project Signal Types</u> or grid which has priority. If signal type information is required by the application it first looks to the project, then to the default.

#### Prerequisites

1. None

Related Topics: Signal Types 50 Grid Basics 37

## Form Options

• New - There is no New button on this grid. The New Record Row appears at the top of the grid:

 Type
 Color
 SignalType
 OnLayer
 CableManu
 CableType
 CableNoPrefix

 Olick here to add a new row
 Olick here to add a new row

 Olick here to add a new row
 Olick here to add a new row

 Olick here to add a new row

 Olick here to add a new row

 Olick here to add a new row

- Rename I/O Signal Types Rename the Signal Type in this grid and all I/O in the global 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.

### 4.3.2.4 Connectors Grid

Connector ·	<ul> <li>Description</li> </ul>	DefaultPinOut	Manufacturer	PartNumber	TerminationMet	ConnVendor 1	ConnVendor2	ConnCost1	ConnCost2	ModifiedBy	ModifiedOn	CreatedOn
					d	ick here to add a r	iew row					
e ?	Not Sure	[?] To [?] - 234							)	0	11/23/2008 10	11/23/2008 10:01
1.5MM	Audio Connector								)	0	1/30/2010 1:3	11/23/2008 10:01
1/4*	UNBALANCED										8/9/2013 12:1	8/9/2013 12:16:2
⊞ 1/4*	BALANCED										8/9/2013 12:1	8/9/2013 12:13:4
⊞ 1/4°	MONO										8/9/2013 12:1	8/9/2013 12:13:5
1/4"	BAL/UNBAL										8/9/2013 12:1	8/9/2013 12:17:2.
1/4" TRS	Stereo or balan										7/26/2012 11:	7/26/2012 11:45:
1/4" TS	Instrument Level										7/26/2012 11:	7/26/2012 11:41:
⊡ 1/4"M	Mono 1/4" Phone								)	0	11/23/2008 10	11/23/2008 10:01.
⊞ 1/4"S	Stereo 1/4" Ph								)	0	11/23/2008 10	11/23/2008 10:01.
1/8" mini	1/8" mini headp								)	0	2/14/2012 11:	11/23/2008 10:01.
🗉 1/8" Mini St	Audio Connector								)	0	9/24/2012 7:0	11/23/2008 10:01.
1394	Firewire								)	0	7/7/2012 12:1	11/23/2008 10:01.
15D	15 PIN D SUB								)	0	11/23/2008 10	11/23/2008 10:01
150 HD	15 PIN D SUB H								)	0	11/23/2008 10	11/23/2008 10:01.
25D	25 Pin Dim								)	0	11/23/2008 10	11/23/2008 10:01.
3.5mm	Standard 3.5m										7/7/2012 12:0	7/7/2012 12:07:4.
36 ELCO	36 Pin Elco								)	0	11/23/2008 10	11/23/2008 10:01.
1 36D	36 Pin D Sub								)	0	11/23/2008 10	11/23/2008 10:01.
⊞ 37D	37-Pin D-Sub C										1/24/2013 1:3	1/24/2013 1:38:1
3mPHX	3Pin Mini Phoenix								0	0	11/23/2008 10	11/23/2008 10:01.

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 37

# Form Options

• New - There is no New button on this grid. The New Record Row appears at the top of the grid:

 Type
 Color
 SignalType
 OxLayer
 CableManu
 CableType
 CableMonets

 Image: Color
 Citle here to add a new row
 Citle here to add a new row

• Rename I/O Connector Types - Rename the Connector in this grid and all I/O in the database.

#### 4.3.2.5 Cable Types Grid

Manufactu CableType		CableType	CableDescr		CableCore	CableCore	CableRating	CableCond	CableStand	CableWeight	CableOD	CableCharZ	CableGuage	CableVendor 1	CableVendor2	CableCost1	Cable
٢				E													
• 8	GENERIC	48 STRAND	48 STRAND	×		Numbered		48									
	Conduc	tors Collection															
		uctor Color			Conductor Number			Pair Number			Pair Color Code			Fiber Mode			
	17			17	17			17			17			MM			-
	15			15	15			15			15			MM			
	23										23			MM			
28					28			28						SM			
	5				5 43			5						MM			
	43							43			-			SM			
	13							13						NM			
	45			45							45			SM			
	19			15							19			MM			
	25			25							25			SM			
	31			31							31			SM			
	22			22							22			MM			
	47			43				47 47						SM			
	1			1						1	1			nini.			-
B	GENERIC	72 STRAND	72 STRAND			Numbered		72									
		36 STRAND				Numbered		36									
		rd 1 of 21 +		N IN		th and occurd		A.									

Database > Cable Types Commandline: ShowCableTypesGrid

## Explanation

This tool provides access to the **Cable Types** table of the **Global Equipment** database. The grid is hierarchical. Clicking the [+] button will display a child grid of the **ConductorsCollection** for that record if any.

### Prerequisites

1. None

### **Related Topics:**

Grid Basics How to Add a New Cable Type 52

## Form Options

• New - Shows the <u>New Cable Type</u> 519 dialog.

## 4.3.2.6 Color Codes Grid

-	ColorCode	Notes	ModifiedBy	ModifiedOn	CreatedOn
		Click here	to add a new row		
me:	Belden Charl	15			
CDe	scription: Bel	den Standi	ard Color Code 1	5	
1	Black			11/23/200	11/23/2008
2	Red			11/23/200	11/23/2008
3	White			11/23/200	11/23/2008
4	Green			11/23/200	11/23/2008
5	Brown			11/23/200	11/23/2008
5	Blue			11/23/200	11/23/2 •
7	Orange			11/23/200	11/23/2008
3	Yellow			11/23/200	11/23/2008
9	Purple			11/23/200	11/23/2008
)	Gray			11/23/200	11/23/2008
1	Pink			11/23/200	11/23/2008
2	Tan			11/23/200	11/23/2008
3	White/Black			11/23/200	11/23/2008
4	White/Red			11/23/200	11/23/2008
5	White/Green			11/23/200	11/23/2008
5	White/Ora			11/23/200	11/23/2008
7	White/Blue			11/23/200	11/23/2008
3	White/Brown			11/23/200	11/23/2008
э	White/Yellow			11/23/200	11/23/2008
)	White/Purple			11/23/200	11/23/2008
	rd 6 of 216			++122/200	**/102/10000

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 37

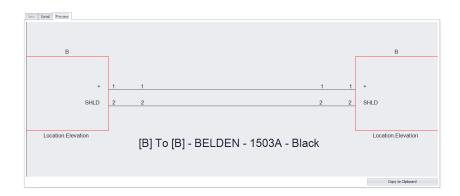
### 4.3.2.7 Pinouts

			Signal Types (Global) 🛛 🗶	Connectors ×	Cable Typ	es X Color Codes X Pinouts X			
New Detail									
		e [B] To [B] - I	ELDEN - 1503A - Black						- ×
Show More De						n Order When Creating Preview	C Ort	no Conductors	
Lefthand Con			Cable Type	Righthand Cor				more	
LH Connector			Conductor Number	RH Connector		RH Function			
▶ ⊞ B		+	1	в	1	+			
E B	2	SHLD	2	В	2	SHLD			
Int A Record 1	of 2 🔸	HI + - +	/ x <						
formation									

#### 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.



Prerequisites 1. None

.....

Related Topics: Grid Basics 37

# Form Detail Tab Options

- Select Existing Pinout Profile Select a named pinout to fill the grid and subsequent preview.
- Show More Detail
- Preserve Pin Order When Creating Preview, Ortho Conductors How is the Preview created.
- Pinout Grid

Clicking the **File > New** button enables the **New** tab. From here you enter the overall data for the pinout. The Left-hand and Right-hand connectors conductor counts, etc. Once the pinout is created you can edit the detail in the **Detail** tab.

# Form New Tab Options

- Left hand 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.
- Right hand Connector Info Enter the connector type, pin profile (if any) and count.

Click **File > Save** to commit your changes and switch back to the grid view.

### 4.3.3 Project Data Forms

The forms in this section are specific to the **Project Database**.

### 4.3.3.1 Backbone Grid (CMS ONLY)

ack	bones Visu	alization Settin	gs Visualize													
lter	by SysName	Select a SysN	ame													
add	bones															
	OktNo	CableType	CableType	CableNo	Src SysName	DestSys	SRCPin	DestPin	SRCLoc	SRCE	DestLoc	DestEl	SRCConn	DestConn	MultiCore	AvailableC
,															•	
۱.	<ul> <li>CableNol</li> </ul>	Prefix: B0000	1													U
		GENERIC	6 STRAND	B00001.01	AD-1	CC-R59-5	001	067	AMU.BLDG		AMU.COM		SCA	SCB		
	œ	GENERIC	6 STRAND	800001.02	AD-1	CC-R59-5	002	068	AMU.BLDG		AMU.COM		SCA	SCB		
	Ŧ	GENERIC	6 STRAND	B00001.03	AD-1	CC-R59-5	003	069	AMU.BLDG		AMU.COM		SCA	SCB		
	æ	GENERIC	6 STRAND	B00001.04	AD-1	CC-R59-5	004	070	AMU.BLDG		AMU.COM		SCA	SCB		
	÷	GENERIC	6 STRAND	B00001.05	AD-1	CC-R59-5	005	071	AMU.BLDG		AMU.COM		SCA	SCB		
	÷	GENERIC	6 STRAND	B00001.06	AD-1	CC-R59-5	006	072	AMU.BLDG		AMU.COM		SCA	SCB		
	<ul> <li>CableNol</li> </ul>	Prefix: B0000	2													
	0474	GENERIC	6 STRAND	B00002.01	AD-1	CC-R59-4	007	067	AMU.BLDG		AMU.COM		SCA	SCA		
	0474	GENERIC	6 STRAND	800002.02	AD-1	CC-R59-4	008	068	AMU.BLDG		AMU.COM		SCA	SCA		
	Œ	GENERIC	6 STRAND	800002.03	AD-1	CC-R59-4	009	069	AMU.BLDG		AMU.COM		SCA	SCA		
	Ð	GENERIC	6 STRAND	800002.04	AD-1	CC-R59-4	010	070	AMU.BLDG		AMU.COM		SCA	SCA		
	Ð	GENERIC	6 STRAND	800002.05	AD-1	CC-R59-4	011	071	AMU.BLDG		AMU.COM		SCA	SCA		
	Ð	GENERIC	6 STRAND	800002.06	AD-1	CC-R59-4	012	072	AMU.BLDG		AMU.COM		SCA	SCA		
	<ul> <li>CableNol</li> </ul>	Prefix: B0000	3													
	Œ	GENERIC	48 STRAND	B00003.01	AD-3	CC-R54-4	001	001	AMU.BLDG		AMU.COM		FC	SCA		
	Œ	GENERIC	48 STRAND	800003.02	AD-3	CC-R54-4	002	002	AMU.BLDG		AMU.COM		FC	SCA		
	Œ	GENERIC	48 STRAND	B00003.03	AD-3	CC-R54-4	003	003	AMU.BLDG		AMU.COM		FC	SCA		Ξ.
44	44 4 Rec	ord 1 of 10786	. н н н				_									+

#### 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 230 Backbone Preview Settings 235 Backbones 224 Grid Basics 37

### 4.3.3.2 Blind Patch Form (CMS ONLY)

k	ect Patch Pa	nel (SysName	)			ACM2-1	@ AMU.BLD	G 122.ROOM 1060-[GENERIC-	24 PORT PANEL]	
,	Simplex Jun	ioer	Duplex Ju	mper						
	lect the	Full Sysna	ame for exi	isting devices or ente	r a Mar	nufactur	er and M	lodel for customer fu	mished or non listed devices.	
			From Conn				To Conn		Strand Number	
	ACM2-14	001	SCA	AMU.BLDG 122.ROOM 2047	ACM2-1	001	SCA	AMU.BLDG 122.ROOM 1060	0	
	ACM2-14	002	SCA	AMU.BLDG 122.ROOM 2047	ACM2-1	002	SCA	AMU.BLDG 122.ROOM 1060	1	
					ACM2-1	003	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	004	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	005	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	006	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	007	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	008	SCA	AMU-BLDG 122-ROOM 1060	0	
					ACM2-1	009	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	010	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	011	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	012	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	019	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	020	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	021	SCA	AMU-BLDG 122-ROOM 1060	0	
					ACM2-1	022	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	023	SCA	AMU.BLDG 122.ROOM 1060	0	
					ACM2-1	024	SCA	AMU.BLDG 122.ROOM 1060	0	

Project Explorer > Project Databases > Blind Patches Commandline: ShowBlindPatchTool

# Explanation

This is the **Blind Patch** tool that allows you to document your patches without knowing the whole circuit. Once the patches (jumpers) are documented you can use the **Discover** tool to find what is patched to what. If you find a discovered circuit to be complete you can use the **Make Circuit** command to create a real circuit and remove the **Blind Patches** from this list.

The form is tabbed. The **[Blind Patch]** tab (shown above) provides a data entry grid where you can add/edit/delete **Blind Patches**. The second tab (shown below) is used to Discover/Preview/Make Circuit(s) from your Blind Patches.

1997, September 28, 2019 overed Bind Patched Crouts section header here to group by that column Cott NO Cht Sec Cht Dat Column Cht Secription Cht Strand Count P Address Sub Net Mask Cht Sec Location Cht Dat Location	40/1-2 019 SCA		AI 	AD/1-3	ELIND JANTER	sc. 03	ADII1-1 003 SCA		AMU BLOG 12 ACM BCA DH1
14y, September 26, 2019 Sovered Bind Pathed Grauts set a column header here to group by flat column GK NO Kit Ser OKD Bat Okt Description Kit Strand Count P Address Sub Net Mask Kit Sec Location Kit Dia Location GU Unfrown ACM1-2 AON3-10 2 A AN3-10 A			2000 50				ADIH1		
weed Bind Patched Circuits g a column header here to group by that column CKN Mo Ksrc CKI Det Column CKI Strand Count IP Address Sub Net Nask CKI Src Location CKI Det Location Bi Unknown ACNI-22 ACN3-10 2 0 0 0 ANU.BCG 123.1ST	144 PORT PANEL			41 PORT PANEL			SEVERIC PARE		SEN 144 POID
Verter Bild Patched Crouts           a colume header here to group by tha colume           Sk NO         Ok Syc         Okt Description         Okt Strand Count         IP Address         Sub Net Mask         Okt Syc Location         Okt Dist Location           U Wrinom         AOH - 2         ACMS-10         2         AD4LEDG 121.1ST FLOO…         AMU.RDG 121.1ST FLO	, copromoti 20, 20								
Verter Bild Patched Orculs           a column header here to group by tha column           Skt NO         Okt Syc         Okt Description         Okt Strand Count         IP Address         Sub Net Mask         Okt Syc Location         Okt Dist Location           Universion         ACM1-2         ACM3-10         2         2         APVL/EUG 512.1ST FL00         APVL/EUG 512.1ST FL00.									
Verter Bild Patched Crouts           a colume header here to group by tha colume           Sk NO         Ok Syc         Okt Description         Okt Strand Count         IP Address         Sub Net Mask         Okt Syc Location         Okt Dist Location           U Wrinom         AOH - 2         ACMS-10         2         AD4LEDG 121.1ST FLOO…         AMU.RDG 121.1ST FLO									
ered Bland Patched Crosts a column header here to group by tacklum et NO Cit Sec Cit Description Cit Description Cit Strand Count IP Address Sub Net Mask Cit Sec Location Cit Dist Location Unforom A CH1-2 ACM-10 2 AMU.R.DG 121. IST FLOO…									
Verter Billing Patched Crouts           Colspan="4         Verter Signal Patched Crouts           NO         Okt Sir         Okt Sir Colspan="4">Okt Sir									
Verter Billing Patched Crouts           Colspan="4         Verter Signal Patched Crouts           NO         Okt Sir         Okt Sir Colspan="4">Okt Sir									
ered Black Patched Cross I column Haader here to group by ter Column IND <u>Cit Sec</u> <u>Okt Dat</u> <u>Cit Decorption</u> <u>Cit Strand Count</u> <u>IP Address</u> <u>Sub Net Mask</u> <u>Cit Sec Location</u> <u>Cit Dist Location</u> Uniformin <u>ACM1-2</u> <u>ACM2-10</u> <u>2</u> <u>ACM2-10</u> <u>AMU.BLOG 121. IST FLOO</u> <u>AMU.BLOG 121. IST FLOO</u> <u>AMU.BLOG 121. IST FLOO</u> <u>AMU.BLOG 121. IST FLOO</u>									
Verter Billing Patched Crouts           Colspan="4         Verter Signal Patched Crouts           NO         Okt Sir         Okt Sir Colspan="4">Okt Sir									
ered Black Patched Cross I column Haader here to group by ter Column IND <u>Cit Sec</u> <u>Okt Dat</u> <u>Cit Decorption</u> <u>Cit Strand Count</u> <u>IP Address</u> <u>Sub Net Mask</u> <u>Cit Sec Location</u> <u>Cit Dist Location</u> Uniformin <u>ACM1-2</u> <u>ACM2-10</u> <u>2</u> <u>ACM2-10</u> <u>AMU.BLOG 121. IST FLOO</u> <u>AMU.BLOG 121. IST FLOO</u> <u>AMU.BLOG 121. IST FLOO</u> <u>AMU.BLOG 121. IST FLOO</u>									
ered Bind Patched Orcuts a column header here to group by the column kt NO GK Src GAL Det GK Description GK Strand Count IP Address Sub Net Mask GK Src Location GK Dist Location Uniform ACM1-2 ACM3-10 2 AMULEDG 121. IST FLOO…									
a column header here to group by that column Stk NO Ckt Src Ckt Dist Ckt Description Ckt Strand Count IP Address Sub Net Mask Ckt Src Location Ckt Dist Location B Unknown ACM1-2 ACK3-10 2 AKK3-10									
a column header here to group by that column StRNO <u>Okt Src</u> <u>Okt Dat</u> <u>Okt Description</u> <u>Okt Strand Count</u> <u>IP Address</u> <u>Sub Net Mask</u> <u>Okt Src to cation</u> <u>Okt Dat Location</u> B Unknown ACM1-2 ACM3-10 <u>2</u> AMU.8LDG 121.1ST FLOO… AMU.8LDG 123.1ST		<b>a</b> 11							
a column header here to group by that column Stk NO Ckt Src Ckt Dist Ckt Description Ckt Strand Count IP Address Sub Net Mask Ckt Src Location Ckt Dist Location B Unknown ACM1-2 ACK3-10 2 AKK3-10	vered Blind Patched C	Circuits							
Oct Svc         Oct Dst         Oct Spront         Oct Sprand Count         IP Address         Sub Net Mask         Oct Spr Location         Oct Spr Location           B Uninnown         ACM1-2         ACM3-10         2         AMU.8LDG 121.1ST FLOOL         AMU.8LDG 123.1ST									
Skt NO         Ckt Src         Ckt Dst         Ckt Dscription         Ckt Strand Count         IP Address         Sub Net Mask         Ckt Src Location         Ckt Dst Location           8 Uninown         ACM1-2         ACM3-10         2         Address         Addres         Address         Address									
8 Uninewn ACM1-2 ACM3-10 2 AMJ.eLCG 121.15T PLCO AMJ.eLCG 123.15T									
8 Uninewn ACM1-2 ACM3-10 2 AMJ.eLCG 121.15T PLCO AMJ.eLCG 123.15T									
8 Uninown ACM1-2 ACM3-19 2 AM3-19 2 AM4.BLG 123.15T							Sub Net Mark	Ckt Src Location	Ckt Dst Location
			Ckt Dst	Ckt Descrip	tion Ckt Strand Count				
ACM1-2         ACM3-10         2         AMURUDG 121.15T FLOO         AMURUDG 122.15T	Ckt NO	Ckt Src		Ckt Descrip		IP Address	Subfreehlusk		
	Ckt NO	Ckt Src		Ckt Descrip		IP Address	oub net huse		AMU.BLDG 123.1ST FL
	Ckt NO El Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	Subtraction	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	Jub Huchuak	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	Jub Hechiuak	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	Jub Hut Musk	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	Jub Hut Musk	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	UUD TTEE PRUAR	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	out the Product	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address		AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	Jub Herman	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address		AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address		AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	Juli Hechildak	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address	Juli Hechildak	AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address		AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address		AMU.BLDG 121.1ST FLOO	
	t NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	LP Address		AMU.BLDG 121.1ST FLOO	
	ikt NO 3 Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	L <sup>2</sup> Address		AMU.BLDG 121.1ST FLOO	
	t NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	L <sup>P</sup> Address		AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	L <sup>P</sup> Address		AMU.BLDG 121.1ST FLOO	
	kt NO ] Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	L <sup>P</sup> Address		AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	L <sup>P</sup> Address		AMU.BLDG 121.1ST FLOO	
	kt NO ] Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	L <sup>P</sup> Address		AMU.BLDG 121.1ST FLOO	
	kt NO Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	L <sup>P</sup> Address		AMU.BLDG 121.1ST FLOO	
	Ckt NO 8 Unknown	Ckt Src ACM1-2	ACM3-10	Okt Descrip	2	I <sup>µ</sup> Address		AMU.BLDG 121.1ST FLOO	
	Ckt NO 8 Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	IP Address		AMU.BLDG 121.1ST FLOO	
	Ckt NO El Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	µ² A07'55		AMU.BLDG 121.1ST FLOO	
	Ckt NO 8 Unknown	Ckt Src ACM1-2	ACM3-10	Ckt Descrip	2	µ² A07'55		AMU.BLDG 121.1ST FLOO	
ts: Blind Patch Count = 2, Circuits Found From Blind Patches = 2	Ckt NO El Unknown Cht NO Unknown	Ckt Src ACM1-2 ACM1-2	ACM3-10 ACM3-10		2	µ² A07'55		AMU.BLDG 121.1ST FLOO	

#### Prerequisites

At least two Backbones

#### **Related Topics:**

Blind Patch Tool Explanation 242 <u>How To: Create a Blind Patch</u> 243 <u>How To: Discover Circuits from Blind Patches</u> 244 <u>How To: Make a Real Circuit from Blind Patches</u> 245

#### Form Options: Menus

New: Create a new From SysName for the selected record based on the Simplex/Duplex option and the selected ToSys.

Save: Commit the changes to the database.

**Delete:** Delete the selected record(s). This function will delete single records for Simplex patches and two records for Duplex patches.

Discover Circuits: Search the blind patches and find all possible connections to make a circuit.

**Preview Selected:** When checked will cause a preview to be generated whenever the discovered circuit grid record is changed.

Make Circuit: Creates a real circuit from the data of the selected record.

#### Blind Patch tab

Select Patch Panel (SysName): Select the patch panel that you will jumper to. Simplex/Duplex Jumper: Select whether the jumper needs one record or two. Data Grid: Use this grid to select/add/edit/delete Blind Patches

#### Discover Circuits from Blind Patches tab

**Preview:** Shows the circuit preview of the selected circuit. **Discovered Blind Patch Circuits Grid:** Shows the found circuits. **Status:** Shows the counts of Blind Patches and found circuits.

dobnes ×	Circuits X											
Circuits Vis	ualization Settings	Visualize										
CktNo	CktSrc	CktDst	IT System	CktStrandC	IPAddress	SubnetMask	CktSrcLoca	CktDstLoca	Owner	Status	InServiceDate	
P		1 mm										n l
► ① 0001	ACMB-2		FIBER CIR						ASHLEE	PROPOSED	4/26/2013	U
⊕ 0002	ACMB-2		FIBER CIR						ASHLEE	PROPOSED	4/26/2013	
E 0003	ACMB-2		FIBER CIR						ASHLEE	PROPOSED	4/26/2013	
E 0004		[CFE~IT E							ASHLEE	PROPOSED	4/26/2013	
E 0005		[CFE~IT E							ASHLEE	PROPOSED	4/26/2013	
⊞ 0010		[CFE~IT E							ASHLEE	PROPOSED	4/26/2013	
⊞ 0012		[CFE~EQU							ASHLEE	PROPOSED	4/26/2013	
E 0013		[CFE~EQU							ASHLEE	PROPOSED	4/26/2013	
⊕ 0015		[CFE~EQU							ASHLEE	PROPOSED	4/26/2013	
⊕ 0017     ⊕ 0020		[CFE~CCT							ASHLEE	PROPOSED	4/26/2013	
E 0020		[CFE~EQU							ASHLEE	PROPOSED	4/26/2013	
E 0022		[CFE~EQU							ASHLEE ASHLEE	PROPOSED	4/26/2013 4/26/2013	
E 0024		[CFE~IT E [CFE~EOU							TARA	PROPOSED	4/26/2013	
E 0027		[CFE+EQU							TARA	PROPOSED	4/26/2013	
€ 0028		[CFE+EQU							TARA	PROPOSED	4/26/2013	
€ 0030 € 0031		[CFE~IT E							TARA	PROPOSED	4/26/2013	
E 0031		[CFE~EQU							ASHLEE	PROPOSED	4/26/2013	-
	Lecord 1 of 299		croch / In						TABA	nnonocen	1/12/10/19	

### 4.3.3.3 Circuits Grid (CMS 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: <u>Circuits</u> 245 <u>Circuits Preview Settings</u> 248 <u>Combine Circuits</u> 266 <u>Grid Basics</u> 37

### 4.3.3.4 New Circuit (CMS ONLY)

Len	* + ¢	C Final Destina	7/6/2015 tion" (named equipment) tion" CFE Jumper to Equipment To Ports	[EditValu		ning From Gor	• • • • •
Len	Ŧ	C Final Destina	Jumper to Equipment	[EditValue	e is nul[]	ning From Gor	* + (
Leng			Jumper to Equipment To Ports			ning From Goir	
Len	gth 0 🗘		To Ports			ning From Goir	
Len	gth 0		To Ports			ning From Goir	
			Name				
a de la dela dela dela dela dela dela de			The second se				
gment	Ado	d Jumper	Add Virtual Seg	ment	Add Backbone Segme	nt Next	Last

Database > Circuits [File > New] Commandline: none

### Explanation

This tool provides a means by which to create a new circuit. **Circuits** can either be assembled manually or automatically. Creating circuits manually involves selecting each jumper and backbone segment. To create a circuit automatically you define the first and last jumper and hand it off to the **Path Finder** tool which will find and present candidate routes.

#### Prerequisites

1. Backbones added.

Related Topics: <u>New Circuit</u> 257

### 4.3.3.5 New Backbone (CMS ONLY)

Mode									
New Backbone	Backbor	ne ID	1001 🗘 B01001	O Use Existing Available	Sele	ect Existing Backbone	Starting Number Se	elect an available cable	
From				Cable Type	- +	То			
ocation Filter			•	Cable Type Info Label		Location Filter			
atch Panel ID			- + e			Patch Panel ID			- +
vailable Ports						Available Ports			
Name	Туре	Conn	From/To			Name	Type	Conn	From/To
				Add and Close Apply	Cancel				

Database > Backbones [File > New] Commandline: none

# Explanation

Create a new Backbone.

### Prerequisites

1. None

### **Related Topics:**

Backbones Grid Backbones 224 Grid Basics 37

### 4.3.3.6 Project Signal Types Grid

Type	Color	SignalType	OnLayer	CableManu	CableType	CableNoPrefix
			Click here to add a r	ew row		
AUD R	2	AUD R				A
Out	3	Out				OUT
?	4	2				HUH
_nul	5	_nul_				
1394b	Foreground	1394b				FW
310	7	310				310
4fSC	8	4fSC				v
AC-3	1	AC-3		BELDEN	1505A 003 ORG	DA
ADAT	ByLayer	ADAT		BELDEN	1505A 003 ORG	DA
AES	ByLayer	AES		BELDEN	1505A 003 ORG	DA
AES 1,2	Foreground	AES 1,2		BELDEN	1506A-002 Red	DA
AES 3,4	Foreground	AES 3,4		BELDEN	1506A-002 Red	DA
AREF	2	AREF				DA
ASI	Foreground	ASI		BELDEN	1505A 003 ORG	DA
AUD	2	AUD		BELDEN	1801A	AA
AUD L	2	AUD L		BELDEN	1801A	AA
AUD M	2	AUD M		BELDEN	1801A	AA
AUD R	19					AA
AUDIO AES	Foreground	AUDIO AES		BELDEN	1506A-002 Red	AA
AUDIO ANALOG	3	AUDIO ANALOG		BELDEN	1503A - Black	AA
++ + Record 1 of 105	F H H = A √ X ≤					

#### Database > Project Signal Types Commandline: st

# Explanation

This tool provides access to the Project Signal Types table of the Project 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.

These values preempt the <u>Default Signal Types</u> grid. This grid has priority. If signal type information is required by the application it first looks to the project, then to the default.

#### Prerequisites

1. None

### Related Topics: Signal Types

Grid Basics 37

# Form Options

• 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 global 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.

### 4.3.3.7 Equipment List

Output clum         Output clum         Section	Det         Caladio         Sr System         Persign         Station         Station         Station         Station         Destion         Station         Station <ths< th=""><th>rch</th><th></th><th></th><th></th><th></th><th></th><th></th><th>Search</th><th>Find Al</th><th></th><th></th></ths<>	rch							Search	Find Al		
P         O	P         O         O         O         O         O         O         O         O         O           B CDTALD.dog         AlD1         PAG         SKG         R         N         IDA10         IDA00         K         SKG           B CDTALD.dog         AlD12         PAG         SKG         R         N         IDA11         IDA00         K         SKG           B CDTALD.dog         AlD12         PAG         SKG         R         N         ID112         IDA00         K         SKG           B CDTALD.dog         AlD15         PAG         SKG         R         N         ID112         IDA00         K         SKG           B CDTALD.dog         Cl_1001         PAG         SKG         R         N         ID112         IDA00         K         SKG           B CDT_ALD.dog         Cl_1001         PAG         SKG											Changes to Ripple Across Project
B EDT_1_AB.de/ge         A1011-         P4 (1)         9K-01         N         05.112         109.00-FT         N         05.112         100.00-FT         N         05.112         100.00-FT         N         05.112         100.00-FT         100.00-FT         0	B EDT_1_AB.de/ge         A1011-         P4 (1)         9K-01         N         05.112         109.00-FT         N         05.112         100.00-FT         N         05.112         100.00-FT         N         05.112         100.00-FT         100.00-FT         0	Sheet	CableNo	<ul> <li>Src SysName</li> </ul>	DestSys *	SRCPin	DestPin	SRCLoc	DestLoc	SRCConn	DestConn	
BIEDT	BIEDT_JALDAGy         FAIDIS         PAIDIS         PAIDIS <thp< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thp<>											
BIOTIT_AULOAGY         A-1014-         PA-20         PK-40         R         N         11.1.12         11.20PT         K         Ben           BIOTIT_AULOAGY         A-1014-         PK-20         PK-31         N         11.1.12         11.20PT         K         Ben           BIOTIT_AULOAGY         C1-1001-         LF-61         PK-31         N         15.1.12         11.20PT         K         Ben           BIOTIT_AULOAGY         C1-1001-         LF-61         PK-31         N         54.22         15.2.0.0.0         DITI NALL         DI         0         0           BIOTIT_AULOAGY         C1-1002-         LF-62         PK-22         LIZEPK         DITI NALL         DI         0         0         0           BIOTIT_AULOAGY         C1-1002-         LF-62         SCRTIN         DITI NALL         B         0 </td <td>BIOTIT_AULOAGY         A-1014-         PA-20         PK-40         R         N         11.1.12         11.20PT         K         Ben           BIOTIT_AULOAGY         A-1014-         PK-20         PK-31         N         11.1.12         11.20PT         K         Ben           BIOTIT_AULOAGY         C1-1001-         LF-61         PK-31         N         15.1.12         11.20PT         K         Ben           BIOTIT_AULOAGY         C1-1001-         LF-61         PK-31         N         54.22         15.2.0.0.0         DITI NALL         DI         0         0           BIOTIT_AULOAGY         C1-1002-         LF-62         PK-22         LIZEPK         DITI NALL         DI         0         0         0           BIOTIT_AULOAGY         C1-1002-         LF-62         SCRTIN         DITI NALL         B         0<!--</td--><td>EDIT_1_AUD.dwg</td><td>A-1011-</td><td>PA-01</td><td>SPK-02</td><td>R</td><td>IN</td><td>109-1-12</td><td>109.RIGHT</td><td>x</td><td>Ban</td><td></td></td>	BIOTIT_AULOAGY         A-1014-         PA-20         PK-40         R         N         11.1.12         11.20PT         K         Ben           BIOTIT_AULOAGY         A-1014-         PK-20         PK-31         N         11.1.12         11.20PT         K         Ben           BIOTIT_AULOAGY         C1-1001-         LF-61         PK-31         N         15.1.12         11.20PT         K         Ben           BIOTIT_AULOAGY         C1-1001-         LF-61         PK-31         N         54.22         15.2.0.0.0         DITI NALL         DI         0         0           BIOTIT_AULOAGY         C1-1002-         LF-62         PK-22         LIZEPK         DITI NALL         DI         0         0         0           BIOTIT_AULOAGY         C1-1002-         LF-62         SCRTIN         DITI NALL         B         0 </td <td>EDIT_1_AUD.dwg</td> <td>A-1011-</td> <td>PA-01</td> <td>SPK-02</td> <td>R</td> <td>IN</td> <td>109-1-12</td> <td>109.RIGHT</td> <td>x</td> <td>Ban</td> <td></td>	EDIT_1_AUD.dwg	A-1011-	PA-01	SPK-02	R	IN	109-1-12	109.RIGHT	x	Ban	
BI EDIT_3_LAD.dwg         A1354         P4-2         9K-30         L         N         12.1.12         12LLPT         12LLPT         K         Ben           BI DIT_1_CIL.dwg         CIL-100:         UF41         9-41         85.42         85422         190.2BX         DIT INUL         0         90         90           BI DIT_1_CIL.dwg         CIL-100:         UF40         9-42         85422         190.2BX         DIT INUL         0         90         90           BI DIT_2_CIL.dwg         CIL-100:         UF40         9-42         85422         190.2BX         DIT INUL         0         90         90           BI DIT_1_CIL.dwg         CIL-100:         UF40         9-42         8542         190.2BX         DIT INUL         0         90         90           BI DIT_1_CIL.dwg         D1404:         9-61         9-10         SIG11X         SIG11X         DIT INUL         8         8           BI DIT_1_CIL.dwg         D1404:         9-61         SIG11X         SIG11X         SIG11X         DIT INUL         8         8	BI EDIT_3_LAD.dwg         A1354         P4-2         9K-30         L         N         12.1.12         12LLPT         12LLPT         K         Ben           BI DIT_1_CIL.dwg         CIL-100:         UF41         9-41         85.42         85422         190.2BX         DIT INUL         0         90         90           BI DIT_1_CIL.dwg         CIL-100:         UF40         9-42         85422         190.2BX         DIT INUL         0         90         90           BI DIT_2_CIL.dwg         CIL-100:         UF40         9-42         85422         190.2BX         DIT INUL         0         90         90           BI DIT_1_CIL.dwg         CIL-100:         UF40         9-42         8542         190.2BX         DIT INUL         0         90         90           BI DIT_1_CIL.dwg         D1404:         9-61         9-10         SIG11X         SIG11X         DIT INUL         8         8           BI DIT_1_CIL.dwg         D1404:         9-61         SIG11X         SIG11X         SIG11X         DIT INUL         8         8	EDIT_1_AUD.dwg	A-1012-	PA-01	SPK-01	L	IN	109.1	109	x	Ban	
BEDT_LICA.dwg         Ch1.001-         (P41)         941         842         5822         100.255         EDT LICA.dwg         941         941         842         8542         100.255         EDT LICA.dwg         941         941         8432         150.255         EDT LICA.dwg         011.04.3         950         90           B CRUTE.dwg         Ch1.002-         VP614         V961         842         8542         15025K         EDT LIVAL         8         8           B CRUTE.dwg         Ch1.002-         VP164-         V961         942         82         ROOM 10.04.30         EDT LIVAL         8         8           B CRUTE.dwg         Ch1.002-         VP164-         V961         942         80         8         8           B CRUTE.dwg         Ch1.002-         VP164-         840         8         8         8	BEDT_LICA.dwg         Ch1.001-         (P41)         941         842         5822         100.255         EDT LICA.dwg         941         941         842         8542         100.255         EDT LICA.dwg         941         941         8432         150.255         EDT LICA.dwg         011.04.3         950         90           B CRUTE.dwg         Ch1.002-         VP614         V961         842         8542         15025K         EDT LIVAL         8         8           B CRUTE.dwg         Ch1.002-         VP164-         V961         942         82         ROOM 10.04.30         EDT LIVAL         8         8           B CRUTE.dwg         Ch1.002-         VP164-         V961         942         80         8         8           B CRUTE.dwg         Ch1.002-         VP164-         840         8         8         8	EDIT_2_AUD.dwg	A-1015-	PA-02	SPK-04	R	IN	112.1.12	112.RIGHT	x	Ban	
B EDT_2_CTL.dwg         CTL:1002         IF42         SP42         RS422         112,2EEK         EDT 2.VIALL         D9         90           B R0.TEX.dwg         Ov1491-         VF61         SP41         S1         SIXTR R         OCOM 110.4.30         EDT 2.VIALL         B         B           B R0.TEX.dwg         Ov1491-         VF61         SP42         SIXTR R         OCM 110.4.30         EDT 2.VIALL         B         B           B R0.TEX.dwg         Ov1490-         VF601         SP42         SIXTR R         OCM 110.4.30         EDT 2.VIALL         B         B	B EDT_2_CTL.dwg         CTL:1002         IF42         SP42         RS422         112,2EEK         EDT 2.VIALL         D9         90           B R0.TEX.dwg         Ov1491-         VF61         SP41         S1         SIXTR R         OCOM 110.4.30         EDT 2.VIALL         B         B           B R0.TEX.dwg         Ov1491-         VF61         SP42         SIXTR R         OCM 110.4.30         EDT 2.VIALL         B         B           B R0.TEX.dwg         Ov1490-         VF601         SP42         SIXTR R         OCM 110.4.30         EDT 2.VIALL         B         B	EDIT_2_AUD.dwg	A-1016-	PA-02	SPK-03	L	IN	112.1.12	112.LEFT	x	Ban	
B 0.0TH2A-bg         0P1494-         VP61         SP-10         E01         ODM 110.43/3         EDIT 1.VMAL         B         B           B 0.0TH2A-bg         0P1494-         VP610         SP-2         8 02         SD 07H 10.43/3         EDIT 1.VMAL         B         B           B 0.0TH2A-bg         0P1494-         SP-40         SD 07H 10.43/3         EDIT 1.VMAL         B         B           B 0.0TH2A-bg         0P1494-         SP-40         SD 07H 10.43/3         EDIT 1.VMAL         B         B	B 0.0TH2A-bg         0P1494-         VP61         SP-10         E01         ODM 110.43/3         EDIT 1.VMAL         B         B           B 0.0TH2A-bg         0P1494-         VP610         SP-2         8 02         SD 07H 10.43/3         EDIT 1.VMAL         B         B           B 0.0TH2A-bg         0P1494-         SP-40         SD 07H 10.43/3         EDIT 1.VMAL         B         B           B 0.0TH2A-bg         0P1494-         SP-40         SD 07H 10.43/3         EDIT 1.VMAL         B         B	EDIT_1_CTL.dwg	CTL-1001-	I/F-01	SP-01	RS 422	RS422-2	109.DESK	EDIT 1.WALL	D9	9D	
B R0UTBL.dug         0V1092         VM00         SP42         S02         S02 RT R.0         ROOM 10.4.33         EDT 2.WALL         B         B         B           B EDT_1_VD0.dug         DV1094         Entocder-01         S01 W1.Aud         S01 W1.Aud         S01 W1.Aud         S01 W1.Aud         B         B	B R0UTBL.dug         0V1092         VM00         SP42         S02         S02 RT R.0         ROOM 10.4.33         EDT 2.WALL         B         B         B           B EDT_1_VD0.dug         DV1094         Entocder-01         S01 W1.Aud         S01 W1.Aud         S01 W1.Aud         S01 W1.Aud         B         B	EDIT_2_CTL.dwg	CTL-1002-	I/F-02	SP-02	RS 422	RS422-2	112.DESK	EDIT 2.WALL	D9	9D	
IE EDIT_1_VID.dwg DV-1049- Embedder-01 SP-01 SDI W/Audo SDI RTR I 109.1.1-2 EDIT 1.WALL B 8	IE EDIT_1_VID.dwg DV-1049- Embedder-01 SP-01 SDI W/Audo SDI RTR I 109.1.1-2 EDIT 1.WALL B 8	E ROUTER.dwg	DV-1041-	VPB-01	SP-01	8-01	SDI RTR O	ROOM 110.4.30	EDIT 1.WALL	В	в	
		E ROUTER.dwg	DV-1042-	VPB-01	SP-02	B-02	SDI RTR O	ROOM 110.4.30	EDIT 2.WALL	В	в	
Efficiency_2/2023-dwg         DV-1055-         Brebedder-62         SP-42         SOI W/Audo         SOI K/R I         112.11-2         EDIT 2.WALL         B         B	III         EDIT_2_VED_dwg         DV-1055-         Beloeder +02         SP-42         SOI W/Audo         SOI K/R I         112.11-2         EDIT_2.WALL         B         B	EDIT_1_VID.dwg	DV-1049-	Embedder-01	SP-01	SDI W/Audio	SDI RTR I	109.1.1-2	EDIT 1.WALL	В	в	
		EDIT_2_VID.dwg	DV-1055-	Embedder-02	SP-02	SDI W/Audio	SDI RTR I	112.1.1-2	EDIT 2.WALL	В	8	
н и к Recotisf 10 • и и - + / х к		≪i 4 Record 1of 10 →	P HI - ▲ ✓ X <=								4	

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**.

	GENERIC 24 PORT PAN	EL	_			
	ACM1-1					
SCA	001	001	SCA	B00118.01	B00118.01gr	L ACUES
SCA	002	002	SCA	B00118.02	B00118.02	ACM62
SCA	003	003	SCA	B00118.03	B00118.03	ACM62
SCA	004	004	SCA	B00118.04	B00118.04ge	acuso
SCA	005	005	SCA	B00118.05	B00118.05	ACM62
SCA	006	006	SCA	B00118.06	B00118.06pt2	Lacusa .
						r -

Prerequisites Assigned SysNames

Related Topics: <u>Assign SysName</u> <u>Grid Basics</u> How To: Use the Equipment List Visualizer

# Data Tab Options

- 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.

### Tools

- Attach Document Any document can be attached to any record. This is useful for storing data sheets, test data, and images.
- Slurp Locations Collect all location data from the Equipment List and populate the Locations table with it.

Data Visualization Settings	Visualization			
Appearance				
Terminal		w Mar	rtical Pin Spacing 1/100 DU	100 🗘
Use Last Display Order			dy Width	500 \$
Use Last Saved Appear			ny watern	500 -
M Use Last Saved Appear	ince		I From Equipment Lib	
Title Block			Prom Equipment Lio	
Enable				
Text Height 1/100 DU	25	* Title	Your Title Goes Here. It Can Be Multiline.	
Show Time Stamp		•		
Title Location	BottomLeft	•		
Title Offset		-		
Misc				
MISC				

# Visualization Tab Options

- 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 -
- 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.

	GENERIC 24 PORT PANE	L				
	ACM1-1		]			
SCA	001	001	SCA	B00118.01	B00118.01gr	ACU62
SCA	002	002	SCA	B00118.02	B00118.02	ACME2
SCA	003	003	SCA	B00118.03	B00118.03	ACM62
SCA	004	004	SCA	B00118.04	B00118.04geo	Acusa
SCA	005	005	SCA	B00118.05	B00118.05	L AGNES
SCA	006	006	SCA	B00118.06	B00118.06	, Leansa
						Υ

### 4.3.3.8 Cables

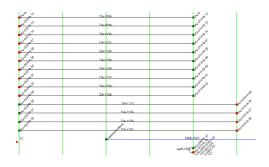
							Search	Find All		
										Changes to Ripple Across Project
Sheet	CableNo	<ul> <li>Src SysName</li> </ul>	DestSys	* SRCPin	DestPin	SRCLoc	DestLoc	SRCCo	nn DestConn	
E EDIT_1_AUD.dwg	A-1011-	PA-01	SPK-02	R	IN	109.1.12	109-RIGHT	x	Ban	
E EDIT_1_AUD.dwg	A-1012-	PA-01	SPK-01	L	IN	109.1	109	x	Ban	
E EDIT_2_AUD.dwg	A-1015-	PA-02	SPK-04	R	IN	112.1.12	112.RIGHT	x	Ban	
E EDIT_2_AUD.dwg	A-1016-	PA-02	SPK-03	L	IN	112.1.12	112.LEFT	x	Ban	
E EDIT_1_CTL.dwg	CTL-1001-	I/F-01	SP-01	RS 422	RS422-2	109.DESK	EDIT 1.WALL	D9	9D	
EDIT_2_CTL.dwg	CTL-1002-	I/F-02	SP-02	RS 422	RS422-2	112-DESK	EDIT 2.WALL	D9	9D	
E ROUTER.dwg	DV-1041-	VPB-01	SP-01	8-01	SDI RTR O	ROOM 110.4.30	EDIT 1.WALL	В	в	
E ROUTER.dwg	DV-1042-	VPB-01	SP-02	B-02	SDI RTR O	ROOM 110.4.30	EDIT 2.WALL	В	в	
EDIT_1_VID.dwg	DV-1049-	Embedder-01	SP-01	SDI W/Audio	SDI RTR I	109.1.1-2	EDIT 1.WALL	В	в	
E EDIT_2_VID.dwg	DV-1055-	Embedder-02	SP-02	SDI W/Audio	SDI RTR I	112.1.1-2	EDIT 2.WALL	в	в	

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.



#### **Prerequisites** Cable numbers assigned in a drawing.

#### **Related Topics:**

New Cable 515

Grid Basics 37

### **Data Tab Options**

- 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.
- 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 data sheets, test data, and images.

Terminal			Location Marker Spacing				500 \$
Cable Number Text Ht		25	Location Marker Text Ht				25 🗘
Vertical Spacing 1/100 DU		1	Location Marker Color	(144,238,144)			
Center Label Offset	HE 0,0,0	-	Location Marker Pen Width				10 🗘
SysName Label Offset	HE 0,0,0	-	SysName Rotation Angle	O 45			
SysName Text Ht		25	Show Dot Direction Cold	or	Junction Dot Radius		12
Port Info Format String	{0}>{1}		Show SysNames		Ignore Cables Betwee	en Same Location	
Cable Text Format String	{0}		Color By Signal Type		Cable Color (0,0		
Show All Locations			Collapse Multicore Cable	es to Single Line			
109.1.1-2 109.DESK 109.DESK LEFT 110.DESK LEFT 112.1.1-1 112.1.2 TITLE Block ✓ Enable Text Height 1/100 DU		Down	18e Title Block Goes HereAn	d Here			
Show Time Stamp		30 <b>•</b>					
Title Location	BottomLeft	•					
Title Offset	HI -1,-1,0	•					

# Visualization Tab Options

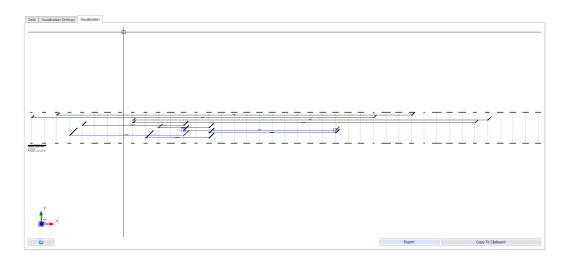
- Terminal Not yet implemented.
- Cable Number Text Height
- Vertical Spacing 1/100 DU How far apart vertically are the cables.
- Center Label Offset Where is the center label positioned with reference to the center of the polyline that represents the cable.
- SysName Label Offset Where is the SysName label positioned with reference to the end points of the polyline that represents the cable.
- SysName Text Height The text height of the SysName label.

- 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, 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
- 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.



### 4.3.3.9 Locations

									Changes to Ripple Across	Project
С	ampus	▲ Building	+ Floor	Room +	Rack 🔺	Description	Qualified Location (	FigureHandle		
					ab		ab			
A	MU				ab		AMU.ab			
A	MU		BLDG 121	ROOM 312			AMU.BLDG 121.RO			
A	MU	ANNEX 1	1ST FLOOR	101			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	102			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	102			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	103			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	111			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	121			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	122			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	123			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	124			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	135			AMU.ANNEX 1.1ST			
A	MU	ANNEX 1	1ST FLOOR	150			AMU.ANNEX 1.1ST			
A	MU	ANNEX 2	1ST FLOOR	104			AMU.ANNEX 2.1ST			
A	MU	ANNEX 2	1ST FLOOR	105			AMU.ANNEX 2.1ST			
A	MU	ANNEX 2A	1ST FLOOR	111			AMU.ANNEX 2A.1S			
A	MU	ANNEX 2A	1ST FLOOR	112			AMU.ANNEX 2A.1S			
A	MU	ANNEX 2A	1ST FLOOR	113			AMU.ANNEX 2A.1S			
A	MU	ANNEX 2A	1ST FLOOR	114			AMU.ANNEX 2A.1S			

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: <u>New Location Dialog</u> (512) <u>Grid Basics</u> (37)

### 4.3.3.10 Named Paths

NamedPath  Rack 1 to Edit 1	PathLength	75 Feet	ngthV SlopFac	0.2 None			L End1RackSpa o add a new row 3	End2RackSpa Rep0	GUID NamedPathU	. NamedPathU I	NamedPathU Na	amedPathUser
	1	75 Feet		0.2 None	e None	Click here to						
B Rack 1 to Edit 1	1	75 Feet		0.2 None	e None		3					

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 480 Grid Basics 37

### 4.3.3.11 ToDo

Item	Description	AssignedTo	Status	ExpectedCompletionDate	CompletedDate	Priority
			Click here to add a n	ew row		
Some Task	That needs to get done	Wilma Flintstone	In Progress	7/7/2015 12:00:00 AM	7/6/2015 12:00:00 AM	<ul> <li>Like Now Man</li> </ul>

Databases > Todo List Commandline: tdl

# Explanation

A To Do list. You can define the data that fills the following drop downs in the <u>Todo List Settings</u> anel:

- Assignees
- Statuses
- Priorities

**Prerequisites** An active project.

Related Topics: <u>Todo List Settings</u> 30

### 4.3.3.12 Drawings

DrawingName	CreatedOn	ModifiedOn	ModifiedDate	DrawingPath	<ul> <li>DrawingUser1</li> </ul>	Status	CheckedOut	Pr
erawingrame		5/28/2015 12:48:25 PM	Houneabate	\Drawings\asdf.dwg	Drawingosci 1	50003		6f
E FP3.dwg		7/2/2015 4:11:48 PM		Drawings/EP3.dwg				6f
		7/6/2015 1:20:43 AM		\Drawings\fp3w_locations.dwg				61
plan view.dwg		7/3/2015 10:29:42 AM		\Drawings\plan view.dwg				61
-								61
racks too.dwg     racks too.dwg		6/23/2015 4:35:16 PM		\Drawings\racks too.dwg				
racks.dwg		6/20/2015 2:10:39 PM		\Drawings\racks.dwg				6
test1.dwg		7/6/2015 1:16:53 PM		\Drawings\test1.dwg				6
test1.pdf		7/4/2015 12:02:33 PM		\Drawings\test1.pdf				6
Test2.dwg		7/6/2015 1:16:53 PM		\Drawings\Test2.dwg				6
WireCAD Drawing.dwg	5/31/2015	6/30/2015 8:15:48 AM		\Drawings\WireCAD Drawing.dwg				6

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 and forward:

- The DrawingsPath has changed from absolute to relative.
- The tool now scans for and lists pdf files.
- If the project database is SQLAzure the dwg and pdf files are 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: Grid Basics 37

### 4.3.3.13 Index Grids

More Information Understanding Indexes

4.3.3.13.1 Unassigned Cables

wing Name 🔺									
andle	SRC Sys 🔺	Src Sys Loc 🔹	SRC Pin	SRC Conn	Dest Sys	Dest Sys Loc	Dest Pin	Dest Conn	Signal Type
Drawing Name: B	UILDING 102 RISER.dw	g							
Show Me 🔍 23	ACM6-2	AMU.BLDG 126	049-054	SCA	GP5-1	AMU.BLDG 102.9TH	001-006	SCA	FIBER
Show Me 🔍 23	AD-1	AMU.BLDG 102.BASE	001-005	SCA	CC-R59-5	AMU.COM CTR. 1ST F	067-072	SCB	FIBER
Show Me 🔍 23	AD-1	AMU.BLDG 102.BASE	013-018	SCA	AD-17	AMU.BLDG 103.BASE	001-006	SCA	FIBER
Show Me 🔍 23	AD-1	AMU.BLDG 102.BASE	019-024	SCA	AD-17	AMU.BLDG 103.BASE	007-012	SCA	FIBER.
Show Me 🔍 23	AD-1	AMU.BLDG 102.BASE	007-012	SCA	CC-R59-4	AMU.COM CTR. 1ST F	067-072	SCA	FIBER.
Show Me 🔍 23	AD-4	AMU.BLDG 103	025-036	ST	AD-5	AMU.BLDG 102.BASE	025-036	ST	FIBER.
Show Me 🔍 23	AD-4	AMU.BLDG 103	037-048	ST	AD-5	AMU.BLDG 102.BASE	037-048	ST	FIBER
Show Me 🔍 23	AD-4	AMU.BLDG 103	013-024	ST	AD-5	AMU.BLDG 102.BASE	013-024	ST	FIBER
Show Me 🔍 23	AD-4	AMU.BLDG 103	001-012	ST	AD-5	AMU.BLDG 102.BASE	001-012	ST	FIBER
Show Me 🔍 23	AD-5	AMU.BLDG 102.BASE	049-060	ST	AD-6	AMU.BLDG 102.BASE	001-012	ST	FIBER
Show Me 🔍 23	AD-5	AMU.BLDG 102.BASE	061-072	ST	AD-6	AMU.BLDG 102.BASE	013-024	ST	FIBER.
Show Me 🔍 23	AD-12	AMU.BLDG 103.BASE	115-120	SCA	AD-24	AMU.BLDG 102.1ST F	031-036	SCA	FIBER
Show Me 🔍 23	AD-12	AMU.BLDG 103.BASE	109-114	SCA	AD-24	AMU.BLDG 102.1ST F	025-030	SCA	FIBER
Show Me 🔍 22	AD-15	AMU.BLDG 103.BASE	001-048	SC	AD-16	AMU.BLDG 102.12TH	001-048	SC	FIBER
Show Me 🔍 23	AD-18	AMU.BLDG 103	049-072	SCA	AD-24	AMU.BLDG 102.1ST F	001-024	SCA	FIBER
Show Me 🔍 23	AD-19	AMU.BLDG 103	001-144	sc	AD-21	AMU.BLDG 102.BASE	001-144	SC	FIBER
Show Me Q, 23	AD-22	AMU.BLDG 102.BASE	001-048	SC	AD-23	AMU.BLDG 102.2ND	001-048	SC	FIBER

Database > Index Grids > Unassigned Cables Commandline: ShowUnassignedCablesGrid

# Explanation

Any **Cable** that does not yet have a number to this index by drawing. As you approach the end of a project this grid should be empty.

4.3.3.13.2 Unassigned SysNames

rawing Name 🔺			
Figure Handle	Manufacturer	<ul> <li>Equipment Name</li> </ul>	<ul> <li>Entity Type</li> </ul>
<ul> <li>Drawing Name: sdcxvzxc.dwg</li> </ul>			
Show Me 🔍 17A48	360 SYSTEMS	Image Server 2K	EquipmentBlock
Show Me 🔍 17988	360 SYSTEMS	Image Server 2K	EquipmentBlock
Show Me 🔍 17776	CUSTOM PANEL	BSP	EquipmentBlock
Show Me 🔍 17871	CUSTOM PANEL	BSP	EquipmentBlock
Show Me 🔍 17AEA	CUSTOM PANEL	BSP	EquipmentBlock
Show Me 🔍 181C0	ManufacturerName	EquipmentName	Pointer
Show Me 🔍 1819F	ManufacturerName	EquipmentName	Pointer

Database > Index Grids > Unassigned SysNames Commandline: ShowUnassignedSysNamedGrid

# Explanation

Any equipment that does not yet have a **SysName** and add it to this index by drawing. As you approach the end of a project this grid should be empty.

4.3.3.13.3 Cables by Drawing

Dr	rawing Name 🔺											
þ	Figure Handle	Full Cable Type	Cable No	<ul> <li>Src Sys</li> </ul>	Qualified Src Loc	Src Pin	SRC Conn	Dest Sys	Qualified Dest Lo	Dest Pin	Dest Conn	Signal Type
	+ Drawing Name	EDIT_1_ALL.dv	vg									
	Show Me 🔍		A-1009-	O2R-01	109.DESK LEFT	CR L	1/4	PA-01	109.1.12	L	x	AUD
	Show Me 🔍		A-1010-	O2R-01	109.DESK LEFT	CR R	1/4	PA-01	109.1.12	R	x	AUD
	Show Me 🔍		A-1011-	PA-01	109.1.12	R	x	SPK-02	109.RIGHT	IN	Ban	BAN
	Show Me 🔍		A-1012-	PA-01	109.1.12	L	x	SPK-01	109.LEFT	IN	Ban	BAN
	Show Me 🔍		CTL-1001-	I/F-01	109.DESK	RS 422	D9	SP-01	EDIT 1.WALL	R5422-2	9D	RS422
	Show Me 🔍		D-1001-	CPU-01	109.DESK	FIREWIRE	IEEE	I/F-01	109.DESK	1394	1394	DATA
	Show Me 🔍		D-1002-	CPU-01	109.DESK	MON-01	HD 15	Cmon-01	109.DESK RIGHT	VGA	15D HD	VGA
	Show Me 🔍		D-1003-	CPU-01	109.DESK	MON-02	HD 15	Cmon-02	109.DESK RIGHT	VGA	15D HD	VGA
	Show Me 🔍		DA-1003-	I/F-01	109.DESK	CH1/2	XLR	02R-01	109.DESK LEFT	AES 5,6	x	AES
	Show Me 🔍		DA-1004-	O2R-01	109.DESK LEFT	AES 5,6	x	I/F-01	109.DESK	CH1/2	XLR	AES
	Show Me 🔍		DA-1005-	DMBDR-01	109.1.1-1	AES01	в	O2R-01	109.DESK LEFT	AES 1,2	x	AES
	Show Me 🔍		DA-1006-	DMBDR-01	109.1.1-1	AES02	в	O2R-01	109.DESK LEFT	AES 3,4	x	AES
	Show Me 🔍		DA-1007-	O2R-01	109.DESK LEFT	AES 1,2	x	Embedder-01	109.1.1-2	AES 101	в	AES
	Show Me 🔍		DA-1008-	02R-01	109-DESK LEFT	AES 3,4	x	Embedder-01	109.1.1-2	AES 102	в	AES
	Show Me 🔍		DV-1046-	SP-01	EDIT 1.WALL	SDI RTR O	в	DMBDR-01	109.1.1-1	SDI Input	в	SDI
	Show Me 🔍		DV-1047-	I/₽-01	109.DESK	SDI OUT	BNC	Embedder-01	109.1.1-2	SDI	8	SDI
	Show Me 🔍		DV-1048-	DMBDR-01	109.1.1-1	SDI 01	в	I/F-01	109.DESK	SDI IN	BNC	DGV

Database > Index Grids > Cables by Drawing Commandline: ShowCablesbyDrawingGrid

## Explanation

Any **Cable** that has a number and corresponding entry in the **Cables** database is added to this index by drawing.

4.3.3.13.4 SysNames by Drawing

D	rawing Name 🔺											
	Figure Handle	Sys Name	<ul> <li>Alas</li> </ul>	Qualified Loca +	Manufacturer	Equipment Name	IP Address	Subnet Mask	User1	User2	User3	User4
P												
۶ĺ	+ Drawing Nam	e: EDIT_1_ALL.du	wg									
	Show Me 🔍 .	Cmon-01										
	Show Me 🔍 .	Cmon-02										
	Show Me 🔍 .	CPU-01										
	Show Me 🔍 .	DMBDR-01										
	Show Me 🔍 .	. Embedder-01										
	Show Me 🔍	. I/F-01										
	Show Me 🔍 .	MONT-01										
	Show Me 🔍 .	02R-01										
	Show Me 🔍 .	. PA-01										
	Show Me 🔍 .	SP-01										
	Show Me 🔍 .	. SPK-01										
	Show Me 🔍 .	. SPK-02										
	<ul> <li>Drawing Nam</li> </ul>	e: EDIT_1_AUD.d	wg									
	Show Me 🔍 .	DMBDR-01										
	Show Me 🔍 .	. Embedder-01										
	Show Me 🔍 .	. I/F-01										
	Show Me 🔍 .	02R-01										

Database > Index Grids > SysNames by Drawing Commandline: ShowSysNamesbyDrawingGrid

# Explanation

Any equipment that has a **SysName** and corresponding entry in the **Equipment List** is added to this index by drawing.

4.3.3.13.5 Cables by SysName

he S	ys Name 🔺												
Figu	re Handle	Cable Number	Full Cable Type	Src Sys	<ul> <li>Qualified Src Lo</li> </ul>	Src Pin	SRC Conn	Dest Sys	Qualified Dest	Dest Pin	Dest Conn	Signal Type	Drawing Name
÷	The Sys Nan	ne:											
	Show Me 🔍	A-1017-		1001-01		L		AMU-01		CH A			MACHINE_ROOM
	Show Me 🔍	A-1017-		10001		L		AMU-01		CH A			MACHINE_ROOM
	Show Me 🔍	A-1018-		1001-01		R		AMU-01		CH B			MACHINE_ROOM
	Show Me 🔍	A-1018-		1001-01		R		AMU-01		CH B			MACHINE_ROOM
	Show Me 🔍	A-1017-		1001-01		L		AMU-01		CH A			MACHINE_ROOM
	Show Me 🔍	A-1017-		1001-01		L		AMU-01		CHA			MACHINE_ROOM
	Show Me 🔍	A-1018-		1001-01		R		AMU-01		CHB			MACHINE_ROOM
	Show Me 🔍	A-1018-		1001-01		R		AMU-01		CH B			MACHINE_ROOM
	Show Me 🔍	A-1017-		1001-01		L		AMU-01		CHA			MACHINE_ROOM
	Show Me 🔍	A-1017-		1001-01		L		AMU-01		CH A			MACHINE_ROOM
	Show Me 🔍	A-1018-		1001-01		R		AMU-01		CHB			MACHINE_ROOM
	Show Me 🔍	A-1018-		1001-01		R		AMU-01		CHB			MACHINE_ROOM
	Show Me 🔍	A-1017-		100001		L.		AMU-01		CHA			MACHINE_ROOM
	Show Me 🔍	A-1017-		1001-01		L		AMU-01		CHA			MACHINE_ROOM
	Show Me 🔍	A-1018-		1001-01		R		AMU-01		CH B			MACHINE_ROOM
	Show Me 🔍	A-1018-		1001-01		R		AMU-01		CHB			MACHENE_ROOM
	Show Me 🔍	A-1017-		1001-01		L		AMU-01		CHA			MACHINE_ROOM

Database > Index Grids > Cables by SysName Commandline: ShowCablesbySysNameGrid

# Explanation

Any **Cable** that has a number and corresponding entry in the **Cables** database and where both ends of the **Cable** have valid entries in the **Equipment List** will be added to this index.

4.3.3.13.6 Orphaned Cables

Drav	wing Name 🔺													
Ha	andle	Cable No -	SRC Sys	Qualified Src	SRC Pin	SRC Conn	Dest Sys	Qualified Des	Dest Pin	Dest Conn	Signal Type	Created By	Orphaned At	Error Messag
÷	Drawing Name:													
	Show Me 🔍 25581	REF-1004-	SP-02	EDIT 2WALL	REF	в	I/F-02	112DESK	REF IN	BNC	REF	chris_000	DRAWING	
	Show Me Q, 25599	V-1008-	I/F-01	109DESK	в	BNC	MONT-01	109DESK FA	в	в	YRB	chris_000	DRAWING	

Database > Index Grids > Orphaned Cables Commandline: ShowOrphanedCablesGrid

# Explanation

Any **Cable** with a number but no corresponding entry in the **Cables** database will be added to this index by drawing.

As you approach the end of a project this grid should be empty.

4.3.3.13.7 Orphaned SysNames

awing Name 🔺							
Figure Handle	Manufacturer	Equipment Name	<ul> <li>Entity Type</li> </ul>	Sys Name	Qualified Location	Orphaned At	Error Message
<ul> <li>Drawing Name:</li> </ul>							
Show Me 🔍 501CF	360 SYSTEMS	Instant Replay	EquipmentBlock	IR-01	ROOM 110.5.18	DRAWING	
Show Me 🔍 4FEC6	ADC	PPI1224N	EquipmentBlock	VPB-03	ROOM 110.4.25	DRAWING	
Show Me 🔍 50 IEC	ADC	PPI2232RS-MVJ	EquipmentBlock	JF-05	ROOM 110-5-38	DRAWING	
Show Me 🔍 501FD	ADC	PPI2232RS-MVJ	EquipmentBlock	JF-06	ROOM 110.5.37	DRAWING	
Show Me 🔍 4FE63	EVERTZ	HD9084	EquipmentBlock	CC-01	ROOM 110.4.39	DRAWING	
Show Me 🔍 4FD62	GENERIC EQUIPMENT	Rack 45	EquipmentBlock	RCK-02	ROOM 110.2.1	DRAWING	
Show Me 🔍 4FDD3	GENERIC EQUIPMENT	Rack 45	EquipmentBlock	RCK-03	ROOM 110.3.1	DRAWING	
Show Me 🔍 4FE38	GENERIC EQUIPMENT	Rack 45	EquipmentBlock	RCK-04	ROOM 110.4.1	DRAWING	
Show Me 🔍 501E1	GENERIC EQUIPMENT	Rack 45	EquipmentBlock	RCK-05	ROOM 110.5.1	DRAWING	
Show Me 🔍 5020E	GENERIC EQUIPMENT	Traffic Computer	EquipmentBlock	TC-01	ROOM 110.5.21	DRAWING	
Show Me 🔍 4FE20	GRASS VALLEY	8900 Frame	EquipmentBlock	FRM-01	ROOM 110.4.41	DRAWING	
Show Me 🔍 4FEF5	GRASS VALLEY	8900 Frame	EquipmentBlock	FRM-02	ROOM 110.4.43	DRAWING	
Show Me 🔍 4FE46	GRASS VALLEY	8941	EquipmentBlock	MDA-01	ROOM 110.4.41-1	DRAWING	
Show Me 🔍 4FDEE	KRAMER	1058	EquipmentBlock	Video-01	ROOM 110.3.25	DRAWING	
Show Me 🔍 48F	ManufacturerName	EquipmentName	Pointer	VPB-02	Location	DRAWING	
Show Me 🔍 1184	ManufacturerName	EquipmentName	Pointer	VPB-02	Location	DRAWING	
Show Me 🔍 1185	ManufacturerName	EquipmentName	Pointer	VPB-02	Location	DRAWING	

Database > Index Grids > Orphaned SysNames Commandline: ShowOrphanedSysNamesGrid

# Explanation

Any equipment with a **SysName** but no corresponding entry in the **Equipment List** will be added to this index by drawing.

As you approach the end of a project this grid should be empty.

### 4.3.3.14 Import Project Data

elcome to the Import Wizard		
his import tool can perform three levels Import Project Data	of import depending on what you need.	
	ase. Missing Global Database Manufactuer and Equipmentivame infomation will be added. fissing SysNames will be added but you will need to manually edit some info.	
	al Equipment databases. Making all necessary relationships.	
	Project Systems	
		Click [Next >] to select a file to in

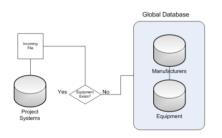
Database > Import Tool Commandline: it

# Explanation

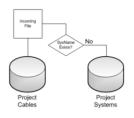
This tool imports data from a text delimited file into the various databases based on your initial selection.

There are three modes available for selection in this form:

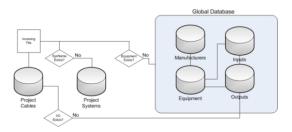
1. Import SysName data. This tool attempts to import data into the project Equipment List and the Global Equipment Library.



2. Import Cables data. This tool attempts to import data into the Cables table and the Equipment List.



3. Hybrid import. This tool attempts to import data into the Cables, Equipment List and Global Equipment Library.



The process leads you through file selection Column Mapping Data validation Import.

#### Prerequisites

One of the import templates with your incoming data.

Related Topics: None

### 4.3.3.15 Discrepancies

DravingName  add sadf.dwg  FP3.dwg  fp3.w_jocations.dwg  plan view.dwg  rads too.dwg  rads.dwg	5/7/2012 1 6/23/2015 7/2/2015 3 6/15/2015	ModifiedOn 5/28/2015 12:48:25 PM 7/2/2015 4:11:48 PM 7/6/2015 1:20:43 AM	ModifiedDate	DrawingPath Vprawings\asdf.dwg Vprawings\FP3.dwg	DrawingUser1	Status	CheckedOut	Pro
FP3.dwg     Fp3w_locations.dwg     plan view.dwg     racks too.dwg     racks.dwg	6/23/2015 7/2/2015 3 6/15/2015	7/2/2015 4:11:48 PM 7/6/2015 1:20:43 AM						
fp3w_locations.dwg     plan view.dwg     racks too.dwg     racks.dwg	7/2/2015 3 6/15/2015	7/6/2015 1:20:43 AM		VDrawings\EP3 dwg				61
<ul> <li></li></ul>	6/15/2015			promingovironang				6
<ul> <li>racks too.dwg</li> <li>racks.dwg</li> </ul>				\Drawings\fp3w_locations.dwg				6
⊡ racks.dwg	6/15/2015	7/3/2015 10:29:42 AM		\Drawings\plan view.dwg				6
		6/23/2015 4:35:16 PM		\Drawings\racks too.dwg				6
The second secon	5/30/2015	6/20/2015 2:10:39 PM		\Drawings\racks.dwg				6
test1.dwg     test1.d	5/28/2015	7/6/2015 1:16:53 PM		\Drawings\test1.dwg				6
🗄 test1.pdf	6/23/2015	7/4/2015 12:02:33 PM		\Drawings\test1.pdf				6
⊞ Test2.dwg	7/1/2015 8	7/6/2015 1:16:53 PM		\Drawings\Test2.dwg				6
WireCAD Drawing.dwg     ■	5/31/2015	6/30/2015 8:15:48 AM		\Drawings\WireCAD Drawing.dwg				6

Project Explorer > Project > Discrepancies Commandline: dr

# Explanation

This function is provided for legacy purposes. These functions have been replaced by the index grids.

There is one instance where the discrepancy report is used.

If a ripple is initiated in a multi-user install and another user has the drawing open. The ripple cannot update the drawing.

A record is added to the discrepancy report. Use the **Sync Equipment** function.

### Prerequisites

Related Topics: Sync Equipment with Database

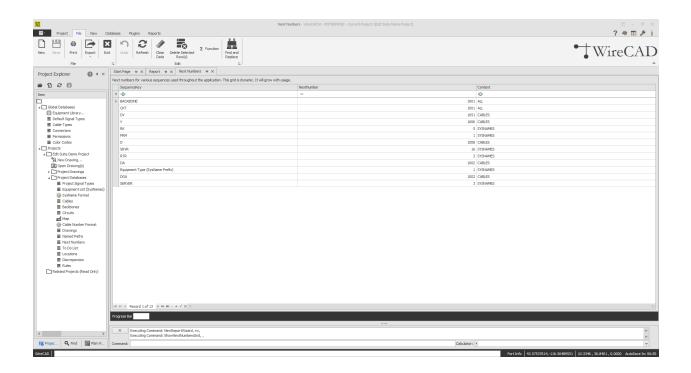
#### 4.3.3.16 Next Numbers Grid

Menu: Database > Next Numbers Default command line shortcut: NN Related Project Settings: None Product Level: ALL

The **Next Numbers** Grid will show you the next available Cable number based on your <u>Cable Number</u> Format 123. 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.

### 4.3.3.17 Project Rules

	ination				
C	Context	Expression	Description	Execution Order	
		Click here	to add a new row		
A	AssignCableNoAssignAfterEdit	( SignalType = 'SDI' &&Length > 100 ) then set CableType -	·		
A	AssignSysNameAssignBeforeEdit	( 1=1 ) set User1 = 'SomeValuerdefsgsdwrfgr'	Some Testing		
A	AssignSysNameAssidnAfterEdit	(1=1) set User1 = "Fred"	Some Testing		

#### Menu: Project Explorer - Project **Databases > Rules** Default command line shortcut: **ShowProjectRules Related Project Settings:**

Project>Settings[Project Rules] Enable Project Rules Product Level: ALL

WireCAD 10 allows you to define project specific rules. There are four contexts in which rules will be evaluated. Rules are contained in the **Project Rules** grid.

A Rule consists of:

- 1. The **Expression** to evaluate.
- 2. The **Context** in which to evaluate the expression.
- 3. The **ExecutionOrder**. If multiple rules are defined to evaluate within the same **Context** they will be evaluated in the **ExecutionOrder** order.
- 4. A **Description** of the rule.

### Rule Contexts:

- 1. **AssignCableNoAssignBeforeEdit** executed during a new Cable Number Assignment or existing Cable Number Edit before the dialog is shown.
- AssignCableNoAssignAfterEdit as above but after the user has clicked Save on the dialog or if Verbose Cable No Assignment = false then during the Cable save process.
- 3. AssignSysNameAssignBeforeEdit executed during a new SysName Assignment or existing SysName Edit before the dialog is shown.
- 4. AssignSysNameAssidnAfterEdit as above but after the user has clicked Save on the dialog or if Verbose SysName Assignment = false then during the SysName save process.

Related Topics: Project Rules 217 Rule Syntax 218

## 4.3.4 Report Forms

The forms in this section are specific to the **Reporting Engine**.

#### 4.3.4.1 Print Preview

Visible only when the active environment is a report.

12-2_SH0_JOG0.repx - WireCAD10 - RR0 - Current Project (Edit Suite Deno Project) Project Vew Database Plugins Reports Print Preview HTML View Report Designer Cable Data Selector	I – ∂ × ?⊕I ⊅ i
Image: Protect State       Image: State	• WireCAD
scum Print Page Setup IS Nevigation Zoom Page Bedgmund Export Close	<u>^</u>
StartPage X Report X Report X Discrepancies X Schuljcostonucking X kd_SR0_L0000.repr X	
The DA-1001. The DA-1002. The DA-1003. The DA-1004 And DA-1005.	
DA-1006 WHE DA-1007. WHE DA-1008 WHE DA-1009 THE DA-1010	
· · · · · · · · · · · · · · · · · · ·	
Page 1 of 43	

## 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

• 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.

The remainder of the controls are obvious.

### 4.3.4.2 HTML View

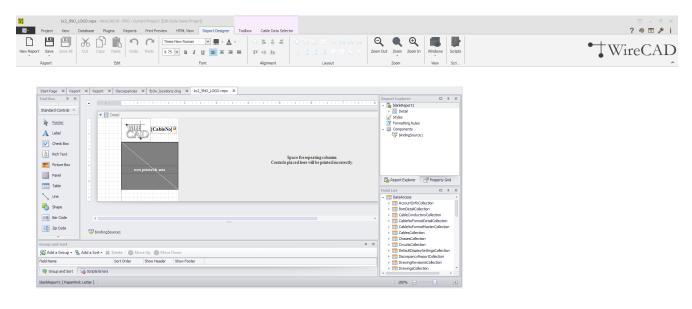
Visible only when the active environment is a report.

# Explanation

This is the report rendered to html. The controls are self-explanatory.

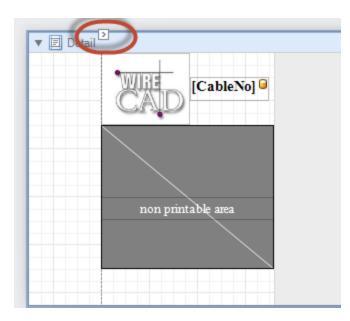
#### 4.3.4.3 Report Designer

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 Banded Report design and the Smart Tag. Smart Tags will be displayed on entities that are selected (if available) like so:



Reference	599
-----------	-----

Smart tags can be expanded to show entity specify settings. Here we see properties specific to the Detail Band:

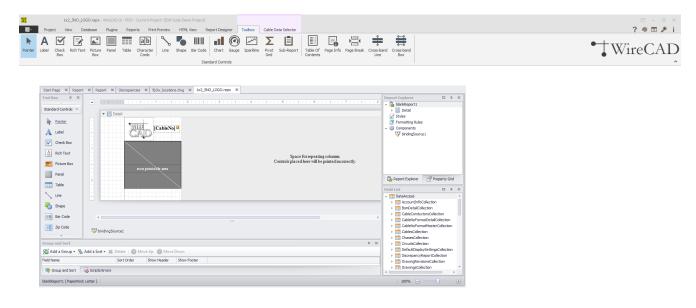
🔻 🗐 Detail <	Detail Tasks		
	Edit and Reorder Ba	nds	
	Sort Fields	(Collection)	
	Multi-Column Mode	Use Column Width	-
	Multi-Column Layout	First Across, then Down	-
	Column Count	1	\$
	Column Width	180	
	Column Spacing	0	
	Formatting Rules	(Collection)	
	Page Break	None	-
	Keep Together		

### **Related Topics:**

A discussion on report design can be found here

### 4.3.4.4 Toolbox

Visible only when the Report Designer Tab is active.



Any of these tools can be added to the report under design.

### **Controls**

- Pointer Stop drawing and revert the mouse to a 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.
- **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.

• Shape - The reporting engine provides you with the capability to embed shapes into your reports. You can simply add any 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

• Bar Code - A Bar Code object. The supported bar code types are:

1D Barcode Types	2D Barcode Types
Codabar	ECC200 - Data Matrix
Code 11 (USD-8)	GS1- Data Matrix
Code 39 (USD-3)	Intelligent Mail
Code 39 Extended	PDF417
Code 93	QR Code
Code 93 Extended	
Code 128	
EAN 8	
EAN 13	
GS1-128 - EAN-128 (UCC)	
GS1 - DataBar	
Industrial 2 of 5	
Interleaved 2 of 5	
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**.
- Gauge 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.
- 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.

#### 4.3.4.5 Cable Data Selector

Visible only when the active environment is a report.

Proj	ect V		ise Plugins			W HTML V	ew Repor	t Designer	Cable Data S	elector											? 🖷 🗖 🎤
III 0	ear Al	Copies 1	<>																	•+n	VireCA
🗸 Si	ect All	Pad with Empl	ty Records 0	Apph	r																/ireCA
		Actions			5															•	
							-														
			Report × 1															_			
	ect This	CableType		CableNoPr		CableNo	CableNoSu	Src SysName		SRCPin	DestPin	SRCLoc	SRCEI	DestLoc	DestEl	SRCConn		onn			
•	<ul> <li>✓</li> </ul>	BELDEN	1505A 003		\w{1,6}-\d			DAJ-001	DAJ-002	8-01	A-01	Location	Elevation	Location	Elevation	8	В	- î			
	1	BELDEN	1505A 003		\w{1,6}-\d \w{1,6}-\d			DAJ-001	DAJ-002	8-02	A-02	Location	Elevation	Location	Elevation	B	B				
	1	BELDEN	1505A 003 1505A 003		\w{1,6}-\d			DAJ-001 DAJ-001	DAJ-002 DAJ-002	8-05	A-05	Location	Elevation	Location	Elevation	8	B	- 11			
	1	BELDEN	1505A 003		\w{1,6}-\d			DA3-001	DAJ-002	8-04	A-04	Location	Elevation	Location	Elevation	B	B	- 11			
	V	BELDEN	1505A 003		\w{1,6}-\d			DA3-001	DAJ-002	8-03	A-03	Location	Elevation	Location	Elevation	8	B	- 11			
	×	BELDEN	1505A 003		\w{1,6}-\d			DAJ-001	DAJ-002	8-07	A-07	Location	Elevation	Location	Elevation	8	B	- 11			
	1	BELDEN	1505A 003		W{1.6}-\d			DAJ-001	DAJ-002	8-08	A-08	Location	Elevation	Location	Elevation	8	B	- 11			
	1	BELDEN	1505A 003		W(1.6}-\d			DAJ-001	DAJ-002	8-09	A-09	Location	Elevation	Location	Elevation	8	B	- 11			
	1	BELDEN	1505A 003		\w{1.6}-\d			DAJ-001	DAJ-002	8-10	A-10	Location	Elevation	Location	Elevation	8	в	- 11			
	1	BELDEN	1505A 003		\w{1,6}-\d			DAJ-001	DAJ-002	8-11	A-11	Location	Elevation	Location	Elevation	B	в	- 11			
	V	BELDEN	1505A 003		\w{1,6}-\d			DAJ-001	DAJ-002	B-12	A-12	Location	Elevation	Location	Elevation	в	в	- 11			
	V	BELDEN	1505A 003		\w{1,6}-\d			DAJ-001	DAJ-002	8-13	A-13	Location	Elevation	Location	Elevation	8	в				
Đ	1	BELDEN	1505A 003		\w{1,6}-\d	DA-1014-		DAJ-001	DAJ-002	8-14	A-14	Location	Elevation	Location	Elevation	в	в				
Ð	1	BELDEN	1505A 003		\w{1,6}-\d	DA-1015-		DAJ-001	DAJ-002	8-15	A-15	Location	Elevation	Location	Elevation	в	в				
Đ	$\checkmark$	BELDEN	1505A 003		\w{1,6}-\d	DA-1016-		DAJ-001	DAJ-002	8-16	A-16	Location	Elevation	Location	Elevation	в	в				
Ð	$\checkmark$	BELDEN	1505A 003		\w{1,6}-\d	DA-1017-		DAJ-001	DAJ-002	B-17	A-17	Location	Elevation	Location	Elevation	в	в				
Ð	$\checkmark$	BELDEN	1505A 003		\w{1,6}-\d	DA-1018-		DAJ-001	DAJ-002	8-18	A-18	Location	Elevation	Location	Elevation	в	в				
æ	$\checkmark$	BELDEN	1505A 003		\w{1,6}-\d	DA-1019-		DAJ-001	DAJ-002	B-23	A-23	Location	Elevation	Location	Elevation	в	в				
æ	$\checkmark$	BELDEN	1505A 003		\w{1,6}-\d	DA-1020-		DAJ-001	DAJ-002	8-22	A-22	Location	Elevation	Location	Elevation	в	в				
Ð	$\checkmark$	BELDEN	1505A 003		\w{1,6}-\d	DA-1021-		DAJ-001	DAJ-002	8-21	A-21	Location	Elevation	Location	Elevation	8	В				
Ð	$\checkmark$	BELDEN	1505A 003		\w{1,6}-\d	DA-1022-		DAJ-001	DAJ-002	8-20	A-20	Location	Elevation	Location	Elevation	в	В				
Ð	$\checkmark$	BELDEN	1505A 003		\w{1,6}-\d			DAJ-001	DAJ-002	8-19	A-19	Location	Elevation	Location	Elevation	8	В				
Ð	$\checkmark$	BELDEN	1505A 003		\w{1,6}-\d			DAJ-001	DAJ-002	8-24	A-24	Location	Elevation	Location	Elevation	в	В				
	1	REI DEN	15054-002		had a share	DA.1025.		DA1.001	DA1.002	8,75	A.75	Location	Elevation	Location	Elevation						

#### 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.

#### **Controls**

- **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.
- 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!



#### 4.3.4.6 Bill of Materials Generator

	of Materials 5	inaphshot													
Sn	apshot Name:	My Snapsh	ot				Include Equipm	ent		Equipment	Filter				:
							Include Cable	ypes		Cables Filt	er				:
							🗹 Include Conne	tors							
														Generate	
Do	ine														
								X							
6	Category	Snapshot N	Manufacturer	Item					Status	BOMUser 1	BOMUser2	BOMUser3	BOMUser4		
					Bill of Materials cre Edit any of the dat	ta in the orid below (don't	forget to click Save).								
					Then open one of	the Bill of Materials report	s and filter for this Snaps	not						-	
F	Equipment 💌	My Snapshot	360 SYSTEMS	Image Se		OK		1.96	Not Ordered						
		My Snapshot		PP12232					Not Ordered						
E	Equipment	My Snapshot	Manufactu	Equipment	. 1		0	(	Not Ordered						
0	Cable Types	My Snapshot			13				Not Ordered						
0	Cable Types	My Snapshot	BELDEN	1505A	0		0	(	Not Ordered						
¢	Cable Types	My Snapshot	BELDEN	1504A	2		0	(	Not Ordered						
¢	Cable Types	My Snapshot	BELDEN	200Pair	789789		0	0	Not Ordered						
0	Cable Types	My Snapshot	BELDEN	test mc 1	0		0	0	Not Ordered						
0	Cable Types	My Snapshot	BELDEN	9508	0		0		Not Ordered						
		My Snapshot	BELDEN	1505A 003 .			0	0	Not Ordered						
		My Snapshot			0				Not Ordered						
	4 Record 1	of 20 + HI	+ - ▲ √ ×												

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 by **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 given **Cable Type**. But what if you have specified a pre made cable of 2 meter length? In this case we don't want to total the length but rather the quantity. To handle pre-made cables take the following steps:

- 1. Create a new <u>Cable Type</u> with the cable length in the name. For example: an off the shelf 2 meter HDMI cable might be named: OTS HDMI 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.

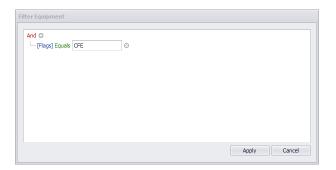
#### Prerequisites

1. You will need an active project with **SysNames** and **Cable** data.

Related Topics: Grid Basics 37

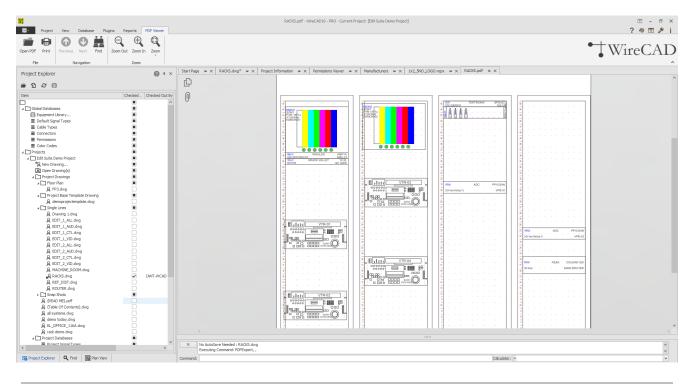
#### Form Options

- **Snapshot Name** Name is something unique that you will remember. Preset by the Default BOM Snapshot Name in the Project Settings panel.
- Include Equipment, Include Cable Types, Include Connector Types What to include.
- Filter Equipment Apply a filter to the set. Click the [...]



#### 4.3.5 PDF Viewer

Visible only when the active environment is a pdf document.



#### Explanation

This is the built in PDF viewer. Any pdf file placed in the project\Drawings\ folder tree can easily be previewed by double-clicking it in the **Project Explorer**.

#### **Controls**

- Open PDF Open another pdf.
- Print Shows the PDF preview dialog. 549
- Page Navigation
- Find Shows the find text panel.

#### 4.3.6 Plugins Forms

The following sections relate to plugins that register forms for editing. These are plugins included with WireCAD. Other plugins may register forms that do not appear here.

#### 4.3.6.1 Translation Manager

ReyString	en	fr	CalledBy
AD:	(D)	* <b>O</b> C	* <b>D</b> r
WireCAD	WireCAD		
UserSettings.xml	UserSettings.xml		
SupportPaths	SupportPaths		
Group	Group		WireCAD.Translation.wcLayoutLocalizer
Checked	Checked		WireCAD.Translation.wcEditorLocalizer
Unchecked	Unchecked		WireCAD.Translation.wcEditorLocalizer
Loaded Plugins:	Loaded Plugins:		WireCAD.frmSplash.labelControl 1.Text
PRO	PRO		WireCAD.frmSplash.lbMode.Text
Copyright 2000-2009 Holbrook Enterprises, Inc.	Copyright 2000-2015 Holbrook Enterprises, Inc.		WireCAD.frmSplash.lblCopyright.Text
Serial Number: - Trial	Serial Number: - Trial		WireCAD.frmSplash.lbISN.Text
Info	Info		WireCAD.frmSplash.lblInfo.Text
Lubing up the engine room	Lubing up the engine room		WireCAD.frmSplash
Lubing up the engine room	Lubing up the engine room		WireCAD.Workspace
AutoSave In: {0}	AutoSave In: {0}		WireCAD.fmMain
(Unassigned Items)	(Unassigned Items)		WireCAD.Translation.wcBarLocalizer
(All Items)	(All Items)		WireCAD.Translation.wcBarLocalizer
Custom {0}	Custom {0}		WireCAD.Translation.wcBarLocalizer
layoutControl1	layoutControl1		WireCAD.ucDrawCables.loJunctions.Text
Junctions	Junctions		WireCAD.ucDrawCables.layoutControlGroup 16.Text
Start Cable	Start Cable		WireCAD.ucDrawCables.simpleButton5.Text
Cable Drawing Properties	Cable Drawing Properties		WireCAD.ucDrawCables.gcPrefs.Text
Preview:	Preview:		WireCAD.ucDrawCables.layoutControlGroup17.Text
True	True		WireCAD.ucDrawCables.rgManyToManyDb.Text
layoutControl3	layoutControl3		WireCAD.ucDrawCables.layoutControl3.Text
X Feeder Distance:	X Feeder Distance:		WireCAD.ucDrawCables.layoutControlItem31.Text
Y Feed Distance:	Y Feed Distance:		WireCAD.ucDrawCables.layoutControlItem22.Text
Hor Extension:	Hor Extension:		WireCAD.ucDrawCables.layoutControlItem24.Text
Output (Source) H ↓ Record 7 of 8062 → H H - ▲ √ <	Output (Source)		WireCAD.ucDrawCables.gcSrc.Text

#### 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 (en) version is returned.

You can right-click a column header and select the KeyString column to show the base en 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

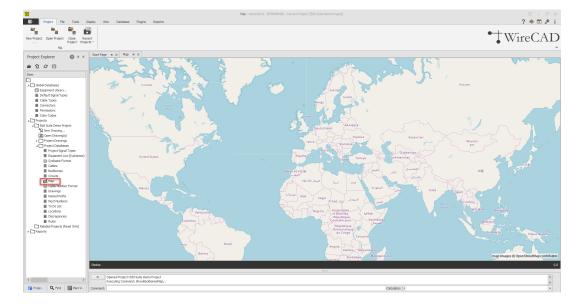
- 1. Translate WireCAD into a different language.
- 2. Change user column names and labels in the application to aid your process.

See Also How to Translate a Form Caption 207

#### Form Options

- 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.

#### 4.3.7 Map Tool



WireCAD Enterprise provides a world map tool.

#### Explanation

The Map tool within WireCAD can be used to associate your Locations table entries to specific GPS coordinates.

Once the Locations table entries have been associated with corresponding GPS coordinates we can automatically place:

- Location Markers
- Panel Markers
- Backbone Markers

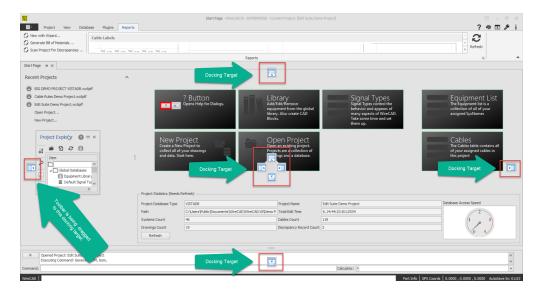
To associate the Location records with specific points on the map use the Tools > ID GPS Locations [55] tool.

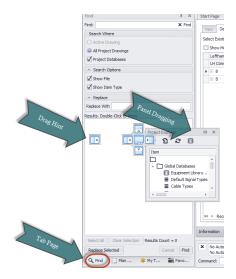
#### 4.4 Tool Panels

Tool Panels differ from Forms and Dialogs in that they are windows that can be docked to the edges of the main application window.

Tool panels are used to present logical groups of controls. Tool panels can be shown/hidden from the **View>Tool Panels>Pane Name** menu.

Tool panels can be docked together or undocked. To Undock a tool panel drag its tab page. As you move near a docking target a hint will be shown. Tool Panels will dock based on the hint you click.





#### 4.4.1 Project Explorer

		ilorer 2	0			
Item						
		Connec	tors			*
	=	Permiss	ions			
	=	Color C	odes			
	8	Pinouts				
- C	Proj	ects				
		just a t				Π
		R Nei	v Drawin	ig		
	[	<b>B</b> I 🐢	en Drawi	ng(s)		
	- [		ject Dra			
			FP3.dw			
			plan vie			
			racks to			
			racks.dr			
			test1.d			
			test1.pe			
			iect Dat	D Drawing.	.awg	
	ΥL			abases ent List (Sy		
				e Format	sivames)	
			Cables	e i onnac		
			Backbor	-		
		=	Orcuits			
			Cable N	umber For	mat	
		- Ē	Drawing	IS		
		=	Named	Paths		
		=	Next Nu	mbers		
		=	To Do Li	st		
		=	Location	8		
			Discreps			
		Related	Project	s (Read O	nly)	U
1 =			-			*

View > Tool Panels > Project Explorer Commandline: none

#### 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.
- Open the Map Tool. (ENT only).
- Rename drawings.

Related Topics: <u>New Project</u> Show Report Mode

**Prerequisites** In order to see project related information you will first have to open a project.

#### **Tool Panel Options**

**Open Project Folder -** Show the current project folder in a windows folder browser. **Project Properties -** Show the <u>Project Info</u> [556] form. **Refresh -** Refresh the **Project Explorer**. **Equipment Library** - Show the <u>Equipment Library</u> [456].

#### 4.4.2 Draw Cables

	Start Cable		
Point to Point Cable			
able Text Height (1/	(100 DU)	2	s \$
Replace Cable wit			
Manually Draw Ca	sble		
Aux Text			
Enable			
Height (1/100 DU)			
Location Over			
Variable CircuitNun	nber		
Format (0)			
<ul> <li>Settings</li> </ul>			
Router X Offset (1/	(100 DU)	150	\$
Router Y Offset (1/	(100 DU)	100	¢
Default Pointer			٠
Preview:	····		

View > Tool Panels > Draw Cables Commandline: none

#### 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:

- <u>One-to-One</u> 75 One output to one input.
- <u>One-to-Many</u> 78 One outputs to many inputs.
- Many-to-One at Many outputs to one input.
- Many-to-Many 32 Many outputs to many inputs.
- <u>Terminal to Point</u> Drag a Terminal into the drawing and drop it on a connection point in the drawing. This will place the terminal on the left hand side of the block.
- <u>Point to Terminal</u> BD- Drag a Terminal into the drawing and drop it on a connection point in the drawing. This will place the terminal on the right hand side of the block.
- Working with Pointers and

**Prerequisites** Requires and open drawing.

Related Topics:

Draw Cables 73

#### 4.4.3 Drawing Properties

Grid Space X		
Grid Space X	1.0000	^
GridStyle	Dot	
OrthoMode	0.0000,0.0000,0.000	
OrthoModeAxis	X, Y, Z	
PolarTrack	A, 1, Z	
PolarTrackAngle	45.0000°	
PolarTracklock	0 45.0000-	
SnapAngle	0°	
SnapBase	0.0000.0.0000.0.0000	
SnapMode	0.0000,0.0000,0.0000	
SnapSpaceX	1.0000	
SnapSpaceY	1.0000	
Keyboard	1.0000	
OrbitActionKey	AltLeft	
OsnapDialogKey	Ctrl+None	
PanMouseButton	Middle	
SelectionPreviewDor	Down	
SelectionPreviewUp		
UrlActionKey	(trl+None	
Misc		

View > Tool Panels > Drawing Properties Commandline: none **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: None

#### **Tool Panel Options**

• Selected Object - This combo box displays the selected object and allows you to select individual items from the drop down.

Drawing Properties	ч×
🧭 🙉 🐗 🔍	
4 Items	-
4 Items	
vdPolyline	
vdText	
vdText	
vdInsert 360_SYST-Image_	_Sev0
Misc	^
Drawopriag	Deiduit
FadeEffect	0
Handle	

- **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

Ž 📴 🗲 🔍
---------

#### 4.4.4 Find

Find				-	×
Find:				×	Find
Sea	rch Where				
04	ctive Drav	ing			
ء	I Project I	Drawings			
٧P	roject Dat	abases			
^ 5	earch Opt	ions			
<b>V</b> 5	how File				
<b>V</b> 9	how Item	Туре			
~ F	eplace				
Repl	ce With				
	s. Double-				

View > Tool Panels > Find and Replace Commandline: none

#### 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.

Changing 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: None

#### **Tool Panel Options**

- Find The text to search for.
- [X] Clear the Find text.
- Search Active Drawing Only look in the active drawing.
- Search All Project Drawings Search every project drawing.
- Show File Show file name if any of the context in which the item is found.
- Show Item Type Is it a text entity in a drawing or a field in a database.
- Results -



- [Select All] Selects all items in the results window.
- [Clear Selection] De-selects all items in the results window.
- **Replace With -** The text to replace the found text with.
- [Replace Selected] Initiate the replacement.
- [Cancel] Cancels the current search.
- [Find] Initiate the search.

#### 4.4.5 Plan View

D Pla	ce with scale and rotation		
ŝ	All groups		
Equipment Library Plan Wew Files All Plan Wew Files Project Plan Wew Items	Annotation	Ô	
oject Plar			
Pr	Bold Arrow.dwg		
v Files			
5	<u></u>		
	Ellipse 1.dwg		
w Files	$\odot$		
r Plan We	Ellipse 2.dwg		
t Ubran	~		
uipmer	(L)		
ŭ	Idea Cloud.dwg		
	$\odot$		
	Large Idea Cloud.dwg		
		Ŧ	

View > Tool Panels > Plan View Commandline: none

#### 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.

#### **Tool Panel Options**

- 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).

#### 4.4.6 Favorites

X Scale Factor 1 💲	æ
' Scale Factor 1 🗘	
Explode after insert	
Favorites - Double-Click to Add to Drawing	
Item	
Global Favorites	
★ 1.dwg ★ my router.dwg	
PESA-COUGAR Sv0.dwg	
🛨 VTR.dwg	
Your User Favorites	
Project Favorites	

View > Tool Panels > Favorites Commandline: none

#### 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.

#### **Tool Panel Options**

- 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.

#### 4.4.7 Command Line

```
        Executing Command: Open PDF - C: \Users\Public\Documents\Uset a test\Drawings\test1.pdf
Can't find dependent file: C: \Users\Tarab\Documents\Marketing\Wrt\hires\WireCAD logo.jpg

        Command:
```

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 commands directly. All commands entered must be executed by clicking the **[Enter]** key.

Calculator:

Prerequisites None

Related Topics: My Space Bar is my Enter Key 3987

#### **Dialog Options**

- 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:

x	No AutoSave Needed : test1.dwg
	No AutoSave Needed : Test2.dwg
Comr	mand:

Otherwise it will prompt you for some action:

×	No AutoSave Needed : test1.dwg No AutoSave Needed : Test2.dwg
Selec	it the Source

- Command Line Enter the command here.
- Calculator



# Writing Plugins

### 5 Writing Plugins

#### INTRODUCTION

#### The examples can be found at: C:\users\public\documents\WireCAD\WireCAD9\WireCAD SDK\Examples

Welcome to the WireCAD SDK examples. These examples show you how to interact, via your own code, with WireCAD. These examples assume that you understand the basics of C# programming syntax and structure (the examples are in C# but you may use any .NET programming language that you are comfortable with).

If you do not understand it don't let that deter you. It is really very easy to understand. Microsoft has tons of examples. Just get on the web.

If you have WireCAD SDK specific questions email support@wirecad.com along with as much code as you can and an explanation of what you are trying to do. We will try to help. If you need more help or if you are developing a commercial plugin for WireCAD you may want to consider purchasing custom programming services from us. Please call the office for more information.

#### **Getting Started**

You will want to download a .net ready integrated development environment(IDE) like Visual Studio for c# or SharpDevelop. Visual Studio has free versions. SharpDevelop is an open source.

We recommend the Visual Studio for the ability to attach a debugger to your running process. Also use the **WireCADv9TemplateInstaller.vsix** to install several starter projects in Visual Studio that you can use from the **File>New Project** wizard.

The first place to go with any programming effort is the ubiquitous **"Hello World"** example in the Basic folder.

NOTE: there are two types of WireCAD plugin.

1. The automatically discovered (AD) plugin that loads silently

and may or may not interact with the user.

2. Plugins that require a WireCAD .wpi manifest file that describes

where the plugin can be found, how to call it, what icon to display and on which toolbar or menu, etc. Both plugins implement the WireCAD.IPlugin interface.

AD plugins are named YourPluginName.**Plugin.Dll** and are placed in the C:\users\public\documents\WireCAD\WireCAD9\\bin folder.

Standard WireCAD plugins have no naming requirements but must be accompanied by a **.wpi** file in the

C:\users\public\documents\WireCAD\WireCAD9\Plugins\Active Plugins folder.

To create a wpi file you can use the utility in Plugins>Plugin Manager [New Pl Info]

Take some time to read through the code. The interface is very simple, yet you can access most of the WireCAD object model including drawing, data access, grids, GUI, reports, etc.

You can also create your own forms and functions to interact with the WireCAD objects.

#### THIRD PARTY LIBRARIES

WIRECAD USES THIRD PARTY LIBRARIES THAT MAY REQUIRE YOU TO PURCHASE DEVELOPER COPIES. PLEASE DO NOT IGNORE THIS STATEMENT. THESE ARE GREAT LIBRARIES AND IF YOU ARE PLANNING TO DEVELOP A COMMERCIAL PLUGIN FOR WIRECAD YOU WILL WANT TO HAVE THEM. If you are developing a small project or line of business function for your own use you may not need to purchase licenses. Here is an example: If you want your plugin to have the same look and feel, or create a custom form with the same gridview or treeview as WireCAD you will need to purchase the Developer Express library. If you are developing a custom form that needs to show its own drawing engine you will need to purchase the VectorDraw developer framework. If, on the other hand, you are able to use the WireCAD baseforms object, are happy with the WinForms controls and can develop using the WireCAD drawing engine then you can get started without spending a dime.

#### **BUILDING YOUR FIRST PLUGIN**

STEPS:

- 1. Open your IDE
- Click File>Open Project or Solution and browse to the basic hello world.csproj project file in the examples\basic\hello world folder
- 3. Click **Build>Build Solution** (Ctrl+Shft+B) to build the project.
- 4. Check that the file C:\Users\Public\Documents\WireCAD\WireCAD9\bin\helloworld.plugin.dll exists. If it does not then you need to check the project build path in the project properties section and point it to the WireCAD bin folder above.

If you get any reference errors check **Project>Hello World Properties...** [Reference Paths] section points to C:\Users\Public\Documents\WireCAD\WireCAD9\bin\. If it does not then modify it and make sure that your reference errors disappear.

5. You now need to force WireCAD to load the shiny new plugin.

Either relaunch WireCAD (tedious) or click **Plugins>Plugin Manager** ... then click the **[Rescan and Reload All Plugins]** button. Make sure that the helloworld.plugin

appears in the Auto Discovered Plugins list.

- 6. Now enter hw in the commandline and click **[Enter]**. This will launch the command that the plugin registered in its Load() method.
- 7. Make some changes and click **Build>Build Solution** (Ctrl+Shft+B) to build the project again. If your changes are outside the load() method you will not need to force a reload. Just call the command again by typing hw in the commandline and click **[Enter**].

There you have it. You have just built your first WireCAD plugin. Now go forth and do more!

#### **DEBUGGING YOUR PLUGIN**

Invariably you will need to stop the execution of your plugin and examine the variables and logic structure to figure out why it is not working as you expect.

The following instructions assume you are using the Visual Studio IDE for C#. Further, that you have built your project and made sure it is loading in the WireCAD plugin framework by looking at the loaded plugins list in **Plugins>Plugin Manager...** 

NOTE: The following will work for anything other than the initial Load() method. To debug that read on.

Steps:

- 1. Open your project in the Visual Studio IDE.
- 2. Run WireCAD.
- 3. In VS click **Debug>Attach to Process...**
- 4. Select WireCAD9.exe.
- 5. Place a breakpoint in the code where you want to stop execution. Do this by clicking in the gutter of the text editor(very left hand edge. A red dot will appear).
- 6. Execute your command. The debugger will pause at the line and highlight the paused line. In the interface you will find two very helpful tool windows - Locals and Autos. These windows list the variables in play at the time of the breakpoint.
- 7. On the IDE Debug menu you will find commands to continue execution:
  - 1. Continue runs from the break point until it hits the next breakpoint if any.
  - 2. **Step Into** continues execution of the next line. If the next line calls another function you will be stepped into that function.
  - 3. **Step Over** continues execution of the next line. If the next line calls another function that function will execute in its entirety and you will step to the next line in the current code block.

While you cannot edit and continue you will be able to understand the changes you need to make to fix the issue you are having.

8. Stop the debugger. Fix your code. Lather, rinse, repeat.

#### DEBUGGING THE LOAD() METHOD OF THE IPLUGINCORE INTERFACE

The load method or the HasPermissionToRun methods of the IPluginCore interface require some special consideration if we are to debug them. The reason for this is that the WireCAD loading process will call these methods before we have a chance to attach the debugger to the process.

This section will outline two approaches:

#### **1 - PAUSE EXECUTION USING MESSAGEBOX**

Place a MessageBox.Show("Pause"); command in the **Load** or the **HasPermissionToRun** method. This modal dialog will pause execution for you to attach the debugger as shown above. like this:

```
/// <summary>
/// This is called when the plugin is loaded at application start
/// </summary>
/// <param name="ws">Singleton WireCAD Workspace object</param>
public void Load(IWorkspace ws)
{
    MessageBox.Show("Pausing plugin load so you can attach the debugger");
    ....... Your code here
}
```

#### 2 - START WIRECAD IN THE DEBUGGER PROCESS

The other approach is to start WireCAD in the debugger from your project. While this seams like a good approach it suffers from a major drawback. When you want to fix your code you must stop the debugging session. Since WireCAD is running in the same process it will stop as well. Thus requiring you to start WireCAD every time you want to make a fix.

Steps:

- 1. Open your project in the IDE.
- 2. Close WireCAD.
- 3. Open the Project Properties window Project>YourProjectName Properties...
- 4. Select the **Debug** section.
- 5. Select the Start External Program radio button.
- 6. Browse to the WireCAD9.exe at: C:\Users\Public\Documents\WireCAD\WireCAD9\bin\WireCAD9.exe
- 7. Place your breakpoint.
- 8. Click Debug>Start Debugging (F5).

This will start the debugging session by launching WireCAD first. As WireCAD loads it will eventually come to your **Load()** method and hit your breakpoint.

When you are finished with your examination close WireCAD and let it shutdown. Ending the debugging session with the **Debug>Stop Debugging** (Shift+F5) acts like Kill Process and will not allow WireCAD to store session state.

#### ADDITIONAL RESOURCES

C# is the language of choice for developing in WireCAD. There are tons of resources online to learn this language.

For WireCAD specific issues: www.wirecad.com/wiki support@wirecad.com Please don't submit support tickets for SDK issues. Use the support email.

Developer Express is the library we use for many of the UI elements. They have a brilliant web site with documentation and support. If you are going to go deep on WireCAD development you will probably want to purchase a license. www.developerexpress.com

VectorDraw is the drawing engine we use. While their site is minimal they do offer registered developers lots of sample code. www.vdraw.com

for a full api listing visit: for the main WireCAD9.exe: https://www.wirecad.com/api/90/exe/index.html

for the global data access layer: http://www.wirecad.com/api/90/globaldal/index.html

for the project data access layer: http://www.wirecad.com/api/90/projectdal/index.html

#### 5.1 Hello World

Every programming effort starts with the ubiquitous "Hello World" example. This example is meant to provide just enough information to show the framework and produce an output.

Please note that in C# comments are preceded by //.

```
//WireCAD Plugin
//Contents:
       Basic WireCAD Plugin Framework
//Instructions:
       1. This project assumes that you installed WireCAD in the default
               location. If you did not, you will need to change the reference
               path and the build path to that of your install path
               ... \WireCADx \bin folder. You can do that byclicking:
               Application Menu > Project Options [Reference Paths] Reference path
               Application Menu > Project Options [Compiling Tab] Output Path
       3.Add your code and build
       4.Create a wpi file (from within WireCAD click Plugins>Plugin Manager [New]) that points to your assembly
               place it in the ...WireCADx\bin\plugins folder
//Explanation:
//This heloworld example demonstrates a number of different WireCAD SDK
//concepts. This is WireCAD Automatically Discovered (AD) plugin and
//therefore does not require a .wpi file in the /plugins folder. As such,
//it will load silently and can only be executed from the commandline since
//it does not add any other GUI elements.
//First familiarize yourself with the code below and try to understand
//what will happen before testing.
//1. Build the project and ensure that the helloworld.plugin.dll is located
               in the ..WireCADx\bin folder.
//2. if WireCAD is running click Plugins>Plugin Manager[Rescan and Load Plugins]
//3. Type hw into the WireCAD commandline.
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using VectorDraw.Professional.vdFigures;
using VectorDraw.Professional.vdObjects;
using WireCAD;
using WireCAD.Interfaces;
using WireCAD.Translation;
namespace hello_world
{
    public class MyPlugin: IPluginCore
        #region Fields
               //Place your field level variables here
       CommandInfo ci = null;
        #endregion
               #region Properties
               //Place your Properties Here
        #endregion
```

#region IPluginCore Members

```
/// <summary>
/// Called before plugin is loaded to make sure that this plugin
/// has permission to run at this application mode level and
/// for this person(Identity)
/// </summary>
/// <param name="ws">The Singleton Workspace object</param>
/// <param name="id">Current user identity</param>
/// <returns>should return true if the plug can load</returns>
public bool HasPermissionToRun(IWorkspace ws, Identity id)
{
     return true;
}
/// <summary>
/// This is called when the plugin is loaded at application start
/// </summary>
/// <param name="ws">Singleton WireCAD Workspace object</param>
public void Load(IWorkspace ws)
         //We pass an IWorkspace object exposing most if the WireCAD
         //object model
     //on load we will register a commandInfo object with our
     //commands so that our static method can be invoked from
     //the command line in WireCAD
     ci = new CommandInfo();
      //The name of our dll
     ci.Assembly = "helloworld.plugin.dll";
      //The NameSpace and Class of our function
     ci.NameSpaceAndClass = "hello_world.MyPlugin";
      //Our function's name
     ci.MethodName = "HelloWorld";
     //The long descriptive name of our function
     ci.CommandLongName = "Hello World Demo";
     //An alternative name for our function. You can type this text into the WireCAD command line
      //to call the function
     ci.CommandAlt = "hello";
                   //The shortcut
     ci.ShortCut = "hw";
     //this registers the command so that the commandline knows how to parse the information
     //and call our function
     ws.Commands.RegisterCommand(ci);
}
/// <summary>
/// Unload code for your plugin
/// </summary>
/// <param name="ws"></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param></param>
public void Unload(IWorkspace ws)
     //here we place any code to unload our plugin.
     //Unregistering the commandInfo prohibits the command from
     //being persisted. This is more a development function.
     //once you are ready to distribute your plugin you will
     //probably want your user to be able to save his own shortcuts
      //and therefore not unregister the command.
     ws.Commands.UnRegisterCommand(ci);
}
#endregion
         #region Static Methods
/// <summary>
/// Static method that can be called from the WireCAD command line
         /// It's a good idea to rename this to something meaningful
```

```
/// </summarv>
/// <param name="ws">WireCAD is expecting to find this parameter</param>
public static void HelloWorld(Workspace ws)
   //This hello world function demostrates a number of different
  //areas of the WireCAD SDK
   //this is a winForms messagebox
  MessageBox.Show("Hello World");
   //now we'll show an instance of form1(defined elsewhere in this project);
  Form1 f = new Form1();
  f.ShowDialog();
   //now let's send a message to the Command Line History
  ws.MainForm.CommandLine.AppendHistory("Hello World");
   //let's check to make sure that we have an open drawing
  if(!Commands.IsActiveDrawing(ws,true))
   {
              //no active drawing so return
              return;
  }
   //Get some user input on the next step
  if(DialogResult.No == MessageBox.Show(
              "Would you like us to add some text to the active drawing?",
              "WireCAD SDK", MessageBoxButtons.YesNo)) return;
   //First we create a vdText object
  vdText text = new vdText();
   //register it with the active document
  text.SetUnRegisterDocument(ws.ActiveDrawing);
   //give it the document defaults
  text.setDocumentDefaults();
   //Set the string
  text.TextString = "hello world";
   //locate it in the coordinate space
   text.InsertionPoint = new VectorDraw.Geometry.gPoint(0,0,0);
   //Set the textHeight
  text.Height = .25;
   //Set the color
  vdColor colorRed = new vdColor();
  colorRed.SetUnRegisterDocument(ws.ActiveDrawing);
  colorRed.Palette = ws.ActiveDrawing.Palette;
  colorRed.FromRGB(255,0,0);
  text.PenColor = colorRed;
   //alternately you could do this
   //text.PenColor.ColorIndex = 1;
   //our text will be added to the drawing on the ActiveLayer and with
   //the ActiveTextStyle if you want to change those you can by setting
   //those properties on the text object
  ws.ActiveDrawing.ActiveLayOut.Entities.AddItem(text);
   //now refresh the drawing
  ws.ActiveDrawing.Redraw(true);
         //alternately you can just invalidate the text object(less expensive)
          //like this:
          //text.Invalidate();
}
      #endregion
```

}

#### 5.2 Getting Started

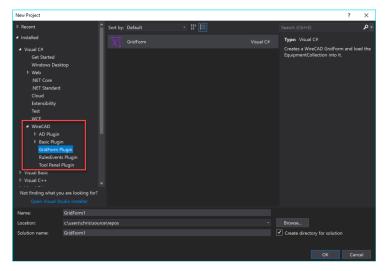
The following assumes that you have installed either Visual Studio 2017 or 2019. Run the **WireCADv10.0TemplatesInstaller.vsix** template installer from C: \Users\Public\Documents\WireCAD\WireCAD10\WireCAD SDK\Visual Studio Templates Installer\WireCADv10.0ProjectTemplatesInstaller.vsix. Launch Visual Studio

Study the examples by loading the All Project solution: C:\Users\Public\Documents\WireCAD\WireCAD10\WireCAD SDK\Examples\All Projects.sln

When you want to create a new project to start your own plugin follow these steps:

#### Your First Plugin Project

#### 1. Click [File] > [New Project]



- 2. Select one of the C# WireCAD Project Templates
- **3.** Name it something meaningful.
- 4. Click [OK] and a new solution will be created for you with all the necessary references and interface files.
- 5. Now start coding!
- 6. Click F5 to build your project and make sure that it builds and copies to c: \users\public\documents\WireCAD\WireCAD10\bin\YourPluginName.dll. If it does not build check to make sure that the **Project Properties - Reference Paths** section has a pointer to the above path.
- 7. If you are using a wpi file make sure that it is edited to point it to your dll and method and that you have copied it to c:\users\public\documents\WireCAD\WireCAD10\Plugins\Active Plugins folder. Relaunch WireCAD or click [Rescan and Reload] from the WireCAD Plugin Manager to make WireCAD load your plugin.

#### 5.3 Registering Your Plugin

#### Menu: Plugins>Plugin Manager[Add/Edit Pl Info]

Default command line shortcut: none

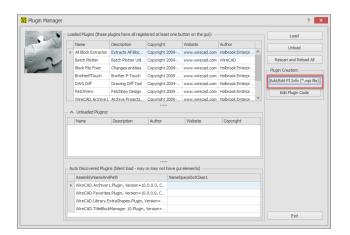
Assuming your plugin requires user input to launch it, ie. it does not respond to an event. You will want to register your command with the application.

WireCAD uses an information file (wpi - WireCAD Plugin Info) to describe a command and to tell the application how to execute the command.

WireCAD looks for these files in the c:\users\public\documents\WireCAD\WireCAD10\plugins\Active Plugins

Commands can be executed directly from the Commandline or from a button on a menu bar.

In order to register your command you must, at minimum, set up the Commandline arguments. Toolbar buttons are optional. To edit a wpi file use the editor.



		Add Or Edit Plugins		?
File New Open Save	Exit			
lame	1	Description		
Author	Holbrook Enterprises, Inc.	Website	www.wirecad.com	
Copyright	Copyright 2000-2016 Holbrook Ente	rprises, Inc. All Rights Reserved		
Button Info				
Tool Tip		Caption		
Ribbon Page		✓ Ribbon Page Group		
Button Bitmap		No image data		
- Command Line and Asse	mbly Info			
Command Line Long Nar	ne	Command Line Short Nar	me	
Command Line Alt		Assembly Name And Pat	n	

#### **Controls**

• Name, Description, Author, Website, Copyright - Self explanatory.

#### **Button Info**

- Tool Tip Text displayed when mouse hovers over the button.
- Caption The button caption.
- Ribbon Page Select a page or create your own.
- Ribbon Page Group Select a page group or create your own.
- Button Bitmap bitmap image. 16x16 for a small button 32x32 for a large one.

#### **Command Line and Assembly Info**

- Long Name The display name of your command.
- Short Name The shortcut.
- Alt Shorter less descriptive.
- Assembly Name The name and fully qualified path of your dll. If no path we will search the \WireCADx\bin directory.
- Namespace Dot Class YourNameSpace.YourClass where your function is located.
- Static Method Name The static void method name of your function. This must have the proper signature as follows:

Using the above example the Static Method Name would be: YourFunctionName

NOTE: if you use the WireCAD Plugin template a static method with the proper signature will be created for you. You will need to rename it to be something meaningful.

### 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.

# Index

# -[-

[Add Ports] 57 [Add to Drawing] 68 [Cleanup] 118 [Clear All Cables] 118 [Column Chooser] 37 [Ctrl]+[D] 37 [Ctrl]+[1] 37 [Fillet] 118 [Preview] 169 [Ratsnest] 118 [Register by Phone] 18 [Register By Web] 18 [Remove this Column] 37 [Submit] 169 [X] 37

#### - -

\_D.DWG 73 \_S.DWG 73 \_SD.DWG 73

# - A -

ac 100 academic discounts 25 **ACID** Compliant 199 Activate WireCAD 18 Activation 20 87 Adapters Add All Cores 100 Add Backbone Segment 258 Add Backbones 235 Add Connection Point 493 Add Equipment to Drawings 68 Add Jumper 258 Add Multi-core Cable 485 Adding Equipment to Drawings 36, 68 Adding Equipment to the Drawing 68 Advanced Tools 343 Advanced Tools Dialogs 455

Advanced Tools>Equipment Library 48 Alias 94 Appearance 235, 248 **Application Menu Dialogs** 363 **Application Menu Forms** 554 379 Application Setup Wizard Apply Aux Text to Existing Cable 146 Assign Cable Number 100, 479 assign multiple terminals 96 Assign Sysname 94, 477 Assign Terminal(s) Dialog 96 Assign Terminals 97 Assigning Cable Numbers 36 **Assigning Terminals** 36, 96 Assigning Unique IDs (SysNames) 36 Assurance Subscription 25 Attribute Height 103 Authorization 20 Auto Block 487 Auto Preview 68 **AutoScheme** 115 Aux Text 76, 145, 146 Aux Text Enable 73 Aux Text Height 73 Auxiliary Text 145 125 Available Cable Number Variables Available SysName Variables 122 Avoid Other Cables 73, 118 Avoid Other Calbles 73

### - B -

Backbone 110, 224, 225, 230, 258, 275, 313, 502.594 Backbone Grid 225, 566 **Backbone Segment** 230 **Backbone Segments** 225, 258 backbone status 225 **Backbone structures** 258 110, 222, 224, 225, 230, 257, 258, **Backbones** 275, 313, 594 backbones grid 225 **Backbones Section** 358 **Backbones Visualize** 235 batch plot 3 bidirectional 194 **Bill of Materials Generator** 604 BlockRef 103

Body Width and Pin Spacing 111 Brady 183

# - C -

Cable 52, 110, 275, 594 cable core data 194 Cable Cores 48 Cable Data Selector 353, 603 Cable Error Check 486 Cable Management Specific Features and **Functions** 52 Cable Numbers 222 Cable Router X Offset 77 Cable Terminology 73 Cable Text Height 73 Cable Type 52, 230 Cable Types 48, 194, 223, 224, 230, 258 Cable Types database 52, 258 Cable Types Database. 52 Cable Types Grid 562 CableNo 100, 183 Cables 230, 258, 577 cables database 225, 230 Cables table 111 Cables Visualization tool 113 CablesCollection 183 CableType 100 CableTypeManu 100 CAD Dialogs 419 CAD Tools 337 cq 113 Chassis Width 103 Check In 191 Check in Project 377 Check-out 191 Choosing a Database Format 199 255, 258, 312, 313 Circuit Circuit Grid 253, 255 Circuit Recursion 111, 113 Circuits Grid 252, 569 CktNo 100 Cleanup 115 **Clearing Filter Criteria** 37, 38 CMS 253, 312 CMS module 230, 312, 313 CMS tools 222 collections 177

Color Codes 48 Color Codes Grid 563 Column filtering 37, 38 Column grouping 37, 38 column header 37 Column hiding/showing 37, 38 Column re-ordering 37 Column re-ordering/resizing 38 Column resizing 37 Combining Circuits 266 Command Line 225, 252, 253, 257, 619 Concept 222 **Connection Point** 493 connectors 48, 194 **Connectors Grid** 561 Copy Selection Down 37, 38 core 52, 225 225 cores Count 73 Create a New Label Report 183 Create a New Project 62 177 Create a Standard Report **Create Model Space Boundaries** 65 **Create New Circuit** 258 **CreateFromDimensions** 103 CreateFromDimensionsIfNotFound 103 Creating a New Drawing 36 Creating a New Equipment Definition 36, 57 Creating a New Project 36 Current Record 235 Customizing WireCAD 621

# - D -

Data Dialogs 511 Data environment 321 Data Member 187 Data Source 235 Database 347 **Database Format** 199 194 Database Location Database menu 48 Database>Equipment Library 48 Database>Sync v6-v7 Equipment Libraries 198 Default Pointer 73, 77 **Deleting Cell Data** 37, 38 **Deleting Selected Rows** 37, 38 Demystifying Synchronization 194

© 2019 Holbrook Enterprises, Inc. dba WireCAD

design mode 171 Destination 100 Detail Tab 55 Dialogs 320, 362 **Dimension Styles** 432 Discrepancies 541 **Display As** 117 **Display Hierarchical Detail Data** 37, 38 Display mode 68 **Display Preferences** 55, 68, 117 Distance 118 drag 187 drag fields 187 **Draw Backbone** 229, 502 Draw Cable 160, 504 Draw Cable Toolbar 73 **Draw Cables** 612 **Draw Cables Control Descriptions** 73 Draw Cables Toolbar 73 **Draw Prewire** 164, 507 Drawing 335 **Drawing Cables** 36, 73 **Drawing Dialogs** 419 Drawing environment 321 **Drawing Properties** 613 Drawings 583

# - E -

Edit Cable Numbers Dialog 100 Edit SysNames Dialog 94 Elevation 94 Enabling v7 Locations 62 Engineering Data tab 94 equipment 48, 194, 224, 230, 258 223 Equipment Definitions Equipment Grid 558 Equipment Library 36, 48, 55, 57, 456 Equipment Library Access 48 Equipment Library. 111, 230 Equipment List 3, 574 Equipment List (SysNames) 111 Example 316 38, 194, 252, 253, 255, 316 Export Export Settings 314 Export to PDF, EXCEL, TXT, HTML, XML and more 37 Export to Visio 426

## - F -

**Favorites** 618 feature additions and changes 3 Feeder distances in 100/DU 73 **Feeder Selection** 73, 78 Fiber Mode 52 Field List 187 File 333 File>Export>[File Type] 37 filter 37 filter dialog 171 filter pane 37 **Filtering Reports** 171 Find 615 Find Tab 55 Flags 94 **Flipped Pointers** 88 Floating License Lease 18, 19 floating licenses 18, 25 Format 73 Front Panel File 57 Functional Block Diagram 258

# - G -

Get Port Data From Cables Database 117 **Getting Started** 630 48 global database **Global Equipment Database** 194 grid 110, 275, 594 Grid Searching 38 GroupBy panel 37 grouping 37, 177 Groups 435

# - H -

Height in RU 103 Hellerman Tyton 183 Hello World 627 hide a column 37 hierarchical 177 Hierarchical display 37 home page 252 Hor Extension in 100/DU 73 Horizontal Spacing DU 117 host 62 How Rack Builder Works 105 How SysName Formatting Works 119 How SysName Formattion Works 123 How to Place Custom Titleblocks into Your Drawing 188 How To: Access the Equipment Library 54 How To: Add a New Location 92 How To: Add Equipment to Drawings 68, 69 How To: Add Equipment to the Library 57, 58 How To: Add Multiple Locations 93 How To: Add Some Inputs and Outputs 59 How To: Assign a Cable Number 102 How To: Assign a SysName 95 How To: Assign Multiple Terminals 98 How To: Assign Terminals 98 How To: Create a Label Report 183 How To: Create a New Backbone 230 How To: Create a New Cable Type 52 How To: Create a New Circuit 258 How To: Create a New Drawing 66 How To: Create a new drawing using the wizard 65 How To: Create a New Label Report 183 How To: Create a New Project 62 How To: Create a New Report 177 How To: Create a Standard Report 177 How To: Create Your Own Custom Titleblocks 190 How To: Customize Your CAD Blocks to Work with WireCAD 127 How To: Draw a Prewire Cable in Planview 165 How To: Filter a Report Using Parameters 173 How To: Filter Reports 171 How To: Find and Replace a Port Name 204 How To: Grid Functions 38 How To: Output a Circuit to CAD 253 How To: Output Many Circuits to CAD 255 How To: Place a Terminal as a Source 84 How To: Place Custom Titleblocks (Page Borders) 188 How To: Populate Cables in Planveiw 163 How To: Print a Report 169 How To: Print Reports 169 How To: Pull a Take-Off from a Drawing 155 How To: Setup a SQL Server 200 How To: Translate a Form Caption 207 How To: Use a Manufacturer Front Panel 212

How To: Use the Cables Visualizer 115 How To: Use the Equipment Visualizer 112 HTML View 352, 597

### - | -

I/O 230 Image Editor 438 Images 437 import 194 Include hashes 103 Increment Selection Down 37, 38 inputs 48, 96, 194 Inputs and Outputs 57 Insert 188 Insert Block Into Drawing 188 **Insertion Point** 103, 117 Inserts Dialog 441 10 68 IO Tab 55 **IP** Address 94 **IsSequencial** 94

### - J -

Jumper 257, 258 Jumpers 258 Justified 177

### - L -

Label Report 183 layered digraph 113 427 Layers Layout 177 Layout Tools 153, 496 Layouts 429 Leading Zeros 94 Lease Period 18 License Agreement 22 license expire 25 25 Licensing FAQ Location 73, 94 Location Boundary 157, 500 location change 103 Location Filter 117 Location Marker Section 356 Locations 62, 92, 580

### - M -

638

Machine ID 18 371 Manage Security Manual Draw 73 Manual Draw Cables 76 Manufacturer 57 manufacturers 48, 194 Manufacturers Grid 557 Many Cable Database Entries 73 Many to Many Cables 82 Many to One Cables 81 Many-to-Many Cable 73, 82 Many-to-One Cable 73, 81 masked 100 Maximum Column Count 117 Misc. 235, 248 model 57 Model Space Boundaries 434 Model Space Text Height 65 More about Regular Expressions 122, 125 Moving Proeicts 191 Multi Core 52 multicore 100, 230 485 Multi-core Multicore Data 100

### - N -

Named Paths 581 100 New + New Backbone 571 New Cable 515 New Cable Type 519 New Circuit 570 New Circuit tool 257 New Drawing 65 New Drawing Wizard 65, 420 New Equipment 57 new equipment block 68 New Equipment Wizard 518 New Location 512 New Manufacturer 517 New Plugin Template 630 New Project 62

New Project Wizard 364 New Report with Wizard 177, 183 New Report Wizard 540 New Viewport 188 Next Numbers 62, 110, 275, 594 Next Numbers Database 94 Next Numbers Grid 110, 275, 594 Next Numbers table 62

# - 0 -

One Cable Database Entry 73 One to Many Cables 78 **One-to-Many Cable** 73, 78 **One-to-One Cable** 73 Ordinal 246 Orientation 177 outputs 48, 96, 194 Outputs track inputs 96 Outputting Circuits to CAD 252

### - P -

Pack Up/Check Out 199 Packup 191 Packup / Checkout 374 Packup / Check-out 191 Panduit 183 Panel Marker Section 357 parameters 169, 171 Path Finder 264 PDF Export 424 **PDF** Print Preview 549 **PDF** Viewer Dialogs 548 PDF viewer environment 321 Persist this equipment 96 Pinouts 48, 202, 564 Place Text If Item Cannot Be Created 103 Plan View 153, 496, 617 Plan View and Layout Tools 351 Plan View and Layout Tools Dialogs 153, 496 **Plugin Manager** 544 Plugins 349 **Plugins Dialogs** 543 pn 57 Point Styles 430 **Populate Cables** 161, 505

Index 639

Populate Equipment 166, 509 Port Data Source 111 port selection dialog 96 ports 230, 258 Post Process Scripting 316 Power Consumption 94 Preview 169 Pre-wires 113 **Print Preview** 352, 422, 596 Printed Output Text Height 65 **Printing Reports** 169 Printing Reports with Parameters 170 PRO 18 project 110, 258, 275, 313, 332, 594 **Project Cables Grid** 113 **Project Database** 230 **Project Explorer** 52, 169, 171, 611 **Project Save As** 369 **Project Settings** 225, 311 Project>New Project 62 Project>Open Project 198 Project>Utilities>Pack Up/Check Out 199 projects 223 Purge 440

# - Q -

Quick Access Toolbar 321

# - R -

Rack Builder 103 **Rack Builder Controls** 104 Rack Builder Tool 36, 103, 475 Ratsnest 115, 490 rb 103 **Rectangular Array** 439 **Remember Settings** 194 **Replace Cable with Pointers** 73 **Report Design Basics** 187 **Report Designer** 352, 598 Report filtering 171 **Report Style** 177 Report>New Report with Wizard 177 Reporting 168 Reporting environment 321 Reports 169, 350

Reports>New Report with Wizard 183 Ribbon Tabs 320

# - S -

Scan for Discrepancies 541 Script Editor/Runner 547 Search Depth 235 235 Search Width Searching 37 Security 197 Selected Format 119 Setting Up On a Network 197 Setting Up the WireCAD Global Databases on SQL Server 200 Setting Up Your Global Data 36, 48 settings menu 252, 311 Show All 235 Show Cable Numbers 118 **ShowDWGInPath** 103 signal types 48, 194 Signal Types Grid 560, 572 Signal Types to Display 117 SignalType 100 Slot Count 103 Slot Delimiter 103 Software Activation 18 Software Key 20 Sort 38 Sort I/O By Last Display Order 111, 113 Sorting 37 Source 100 Source and Destination info 100 Spacing DU 103 **Splice Points** 86 Split Cable 144 Split Cables 143 SQL 223 SQL databases 62 SQL Server 199, 200 Starting Cable Number 62 Status 225 Status Bar 194 Strand Count 246 Strand Count and Ordinal Explanation 247 Submit 169 Subnet Mask 94 suggest and test 62

Swap 91, 99 Swap All Pointers 91 Swap All Terminals 99 sync 194 Sync Equipment Libraries... 194 Synchronize Global Databases 521 svs 111 SysName 94, 96, 103 SysName Error Check 484 SysName Format 94 SysName Format Controls 124 SysName Prefix 57 SysNames 94, 100 System Snapshot 111, 113 Systems Involved 103 Systems Involved list 103

### - T -

Tabs 331 Take Offs 154, 497 Template drawings 65 Terminal 111, 113 Terminal as a Destination Cable 85 Terminal as a Source Cable 83 **Terminal as Destination Window** 73 **Terminal as Source** 83 Terminal as Source Window 73 Terminal Offset 73 Terminals 73,96 Text Styles 431 The Application Button 321 321 The Application Menu The Command Line Interface 321 The Draw Cables Tool Panel 321 The Drawing Properties Tool Panel 321 The Favorites Tool Panel 321 The Find and Replace Tool Panel 321 The Plan View Tool Panel 321 The Project Explorer 48 The Project Explorer Tool Panel 321 The Quick Access Toolbar 321 The Ribbon Toolbar 321 The Settings Dialog 387 Tidy Cables 73 Title and Comment Block 235, 248 Title Block 111 **Title Block Manager** 147, 148

ToDo 582 Tool Panels 321, 610 Toolbox 353, 600 Translation Manager 607 Troubleshooting Activation 21

### - U -

UNC 197 un-group 37 Unlock 100 Unpack 191 **Unpack Project** 376 upgrade a v5 or earlier project 198 Upgrading from v6 198 Use Last Display Order if Set 111 Use Last Saved Appearance 111 Use Location Lookup 92 User 1 - 4 94 User Data tab 94 **User Settings** 311 223 Using The Backbone Grid Using The New Circuit Tool 223

# - V -

Variable 73 Variable List 119 View 345 **View Permissions** 197 View Rule 103 View>Windows>Property Grid 171 VistaDB 199 Visualization tab 111 Visualization Tools 37

### - W -

Weight 94 Wiki Links 52 WireCAD Cable Terminology 73 WireCAD Community Server 48 WireCAD Nomenclature 223 WireCAD Project 62 WireCADify Block 492 work flow 222 Work Flow Diagram 36

Workflow Diagram 36 Working with Pointers (on-sheet/off-sheet reference) 88 Workspace 321

# - X -

X Offset 73 XL FREE 18 XLT 18 XREF Manager 442

# - Y -

Y Offset 73 Y Spacing 73

# - Z -

Zero Administration 199

