

A grayscale background image of a printed circuit board (PCB) with intricate white traces and circular pads. The image is slightly blurred and has a gradient from dark to light.

Ucamco



Multi-Job Dynamic Panel Optimizer

Webinar June 02, 2020

How does it work?

- All attendees are muted during the webinar
- Questions can be asked using the 'Questions' button
- Answers will be handled at the end of the webinar
- After the webinar, a copy can be downloaded

Who does the work?

- Moderator: Karel Langhout
- Co-Moderator: Sylvia Liemer

Webinar content

- Short Ucamco introduction
- MultiJob Dynamic Panel Optimizer introduction
- Live demonstration of MultiJob Dynamic Panel Optimizer
- Questions and Answers

Multi-Job Dynamic Panel Optimizer webinar



☀️ **Serving the global PCB industry**

☀️ **Laser Photoplotters/Ledia DI**

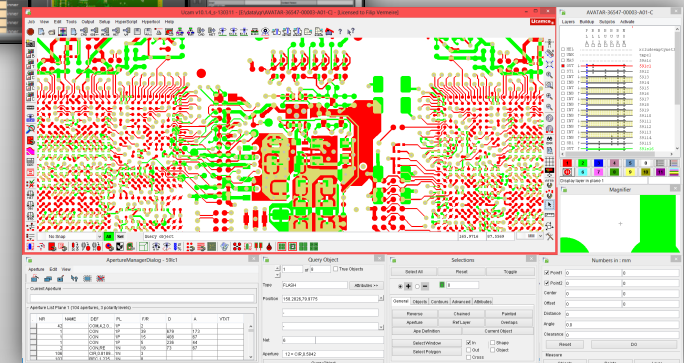
- Best-in-class performance
- Long-term reliability
- Constant evolution

☀️ **PCB manufacturing software**

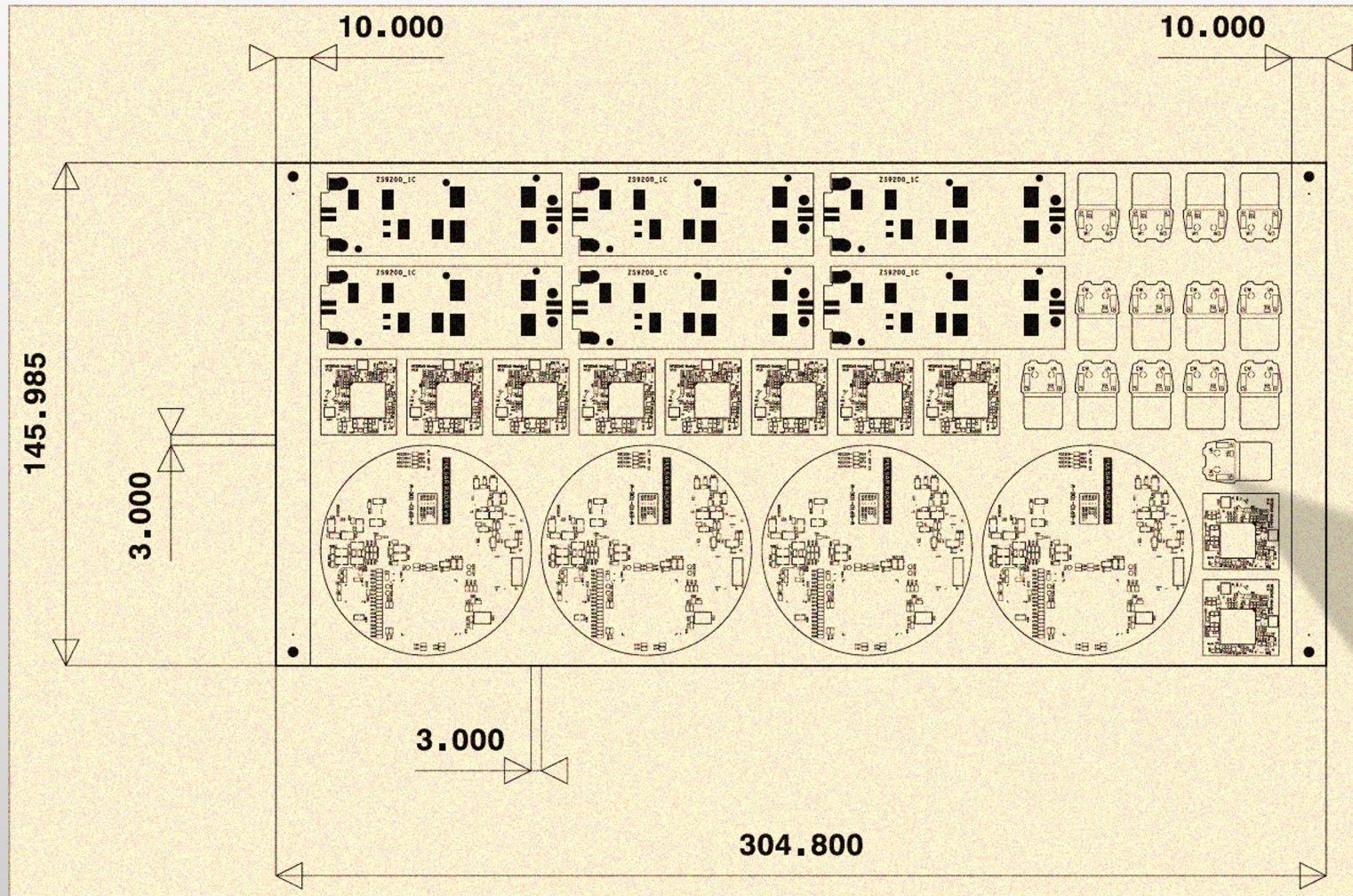
- Integr8tor, UcamX
- Web-based: iamcam, Communic8tor

☀️ **PCB bundled front-end software**

☀️ **Gerber developments: X2, X3, Gerber Job**



Multi-Job Dynamic Panel Optimizer webinar



Steps & Sizes: Registration

Single PCB Step & Repeat

Number: X: 3, Y: 2

Clearance: 3, 3

Rotated:

Y: 3

Multi-PCB Panel Optimization

Min Panel Size: X: 150, Y: 100

Max Panel Size: 305, 266

Border Size:

Left: 10, Right: 10, Top: 0, Bottom: 0

Offset X: 3, Offset Y: 3

Calculate PCB Placement

Fit Panel Size

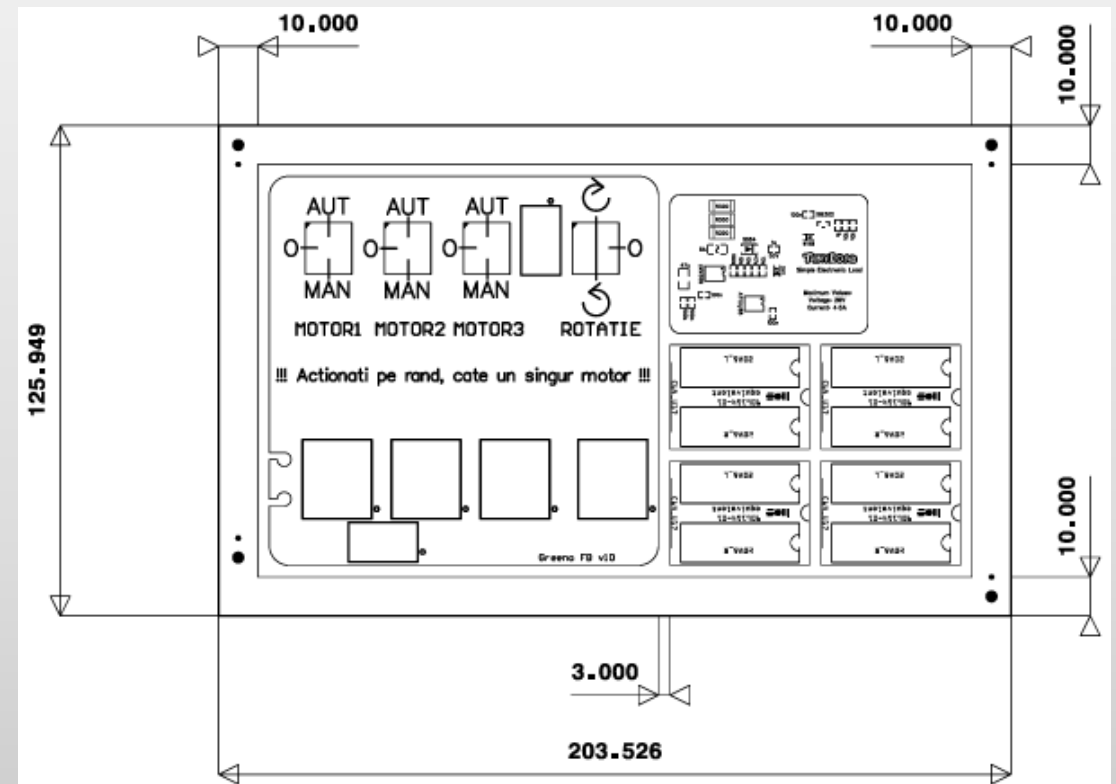
☀ Integr8tor client application

- Integr8tor analyses the customer data
- Solution needed to create assembly panel design using several datasets
- MDPO is the solution

☀ Stand alone application

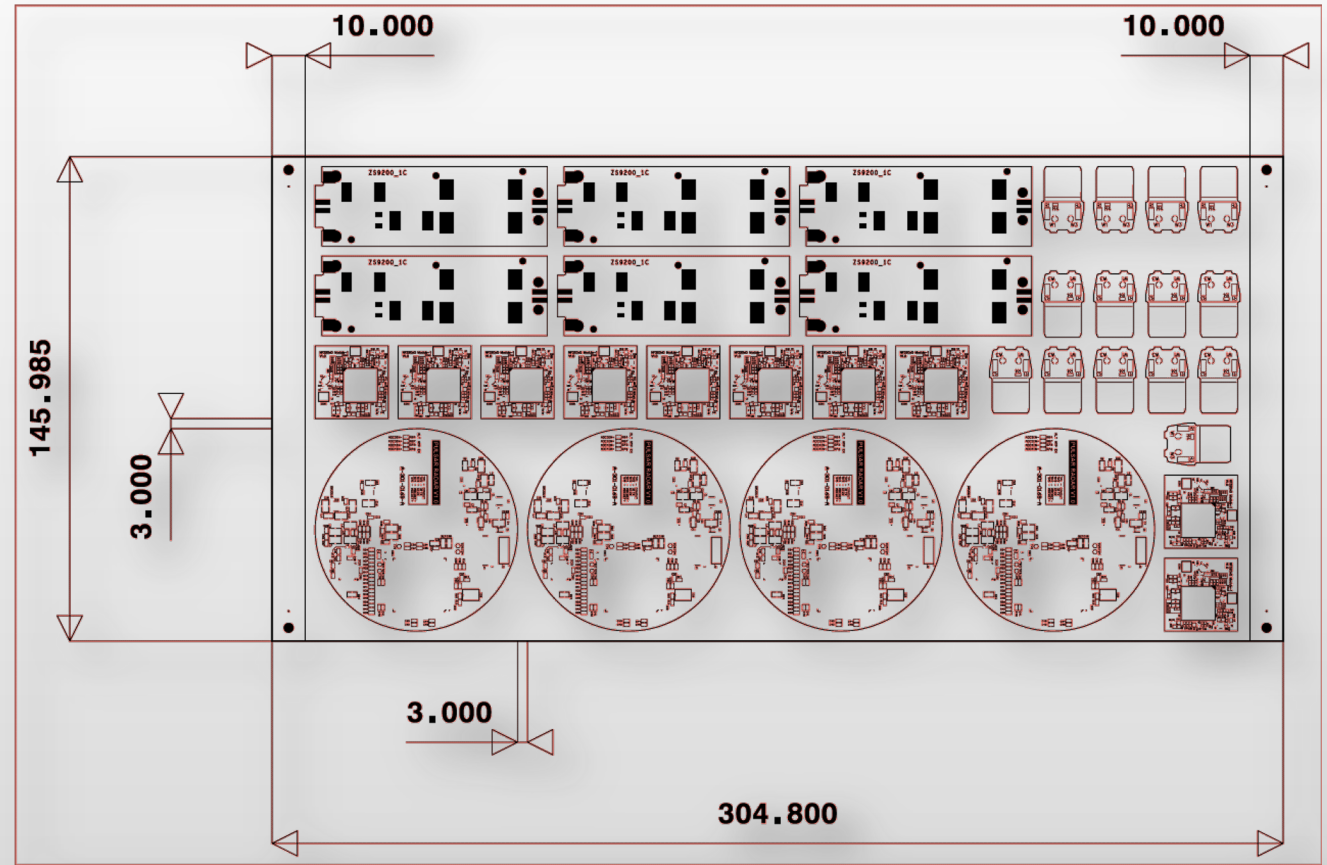
- DPF/ODB++ Jobs

Id	Handler	CUSTOMER REFE	Original Data	Location
49		Project C	WC2555_single.zip	QED With Image Data
48		Project B	WB2355_Mirror.zip	QED With Image Data
47		Project A	WA2354_LeftRight.zip	QED With Image Data
46		Project A	WA2354_Motor.zip	QED With Image Data
45		Project A	WA2354_Main.zip	QED With Image Data



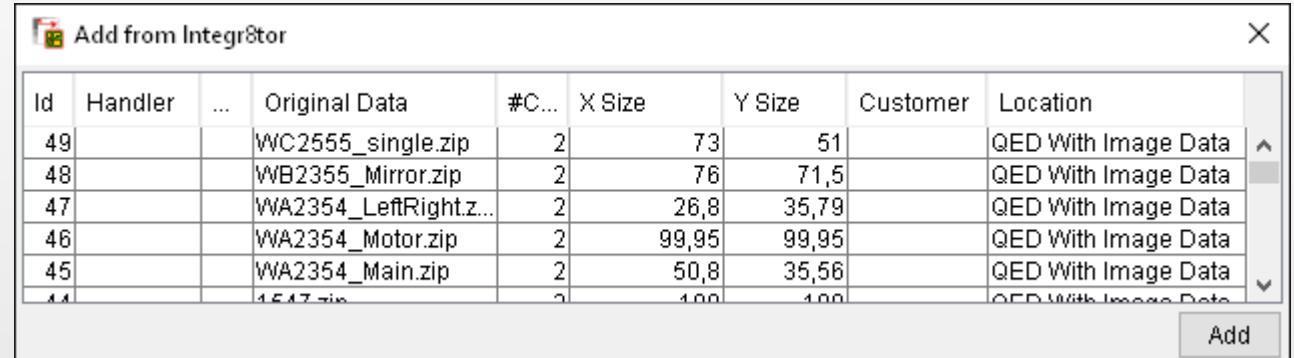
Features

- Create PDF **assembly panel drawings**
- Send the assembly panel layout to your customer at the time of **quotation**
- Including **panel rail** information as well as **tooling holes** and **fiducial** locations

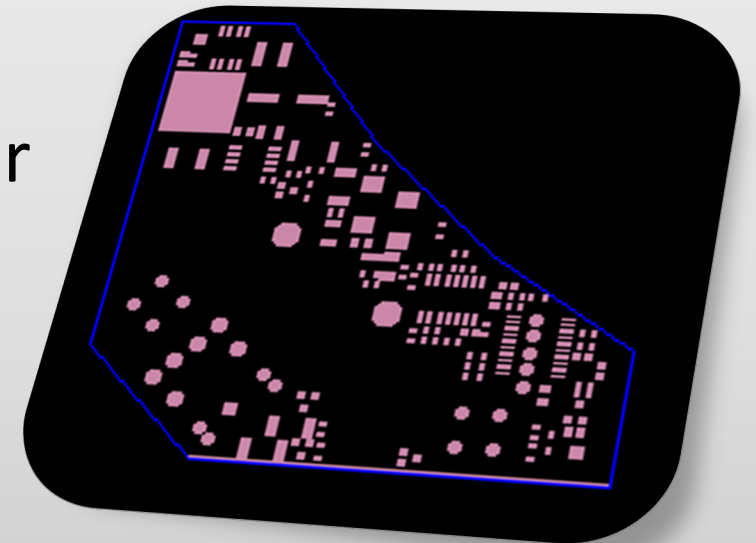


Features

- Connects live to **Integr8tor job queue** to pick up the jobs required to go onto the assembly panel
- Combines PCB outline and legend layers for **clear visualization** and **easy recognition**

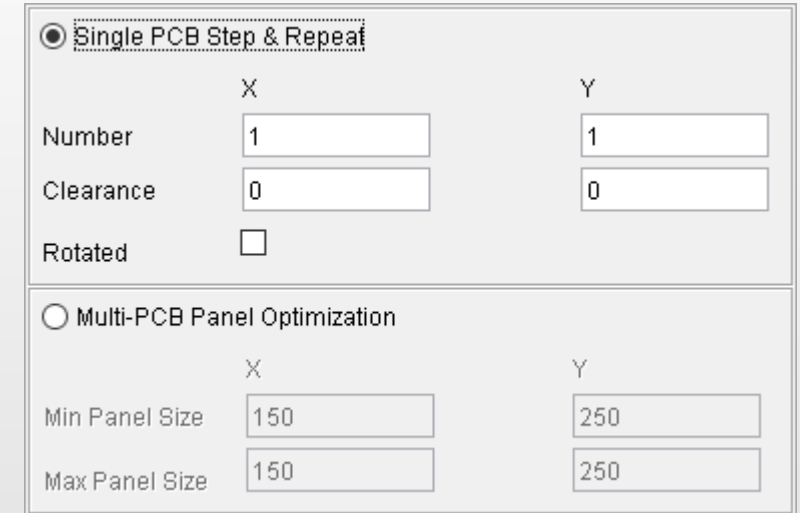


Id	Handler	...	Original Data	#C...	X Size	Y Size	Customer	Location
49			WC2555_single.zip	2	73	51		QED With Image Data
48			WB2355_Mirror.zip	2	76	71,5		QED With Image Data
47			WA2354_LeftRight.z...	2	26,8	35,79		QED With Image Data
46			WA2354_Motor.zip	2	99,95	99,95		QED With Image Data
45			WA2354_Main.zip	2	50,8	35,56		QED With Image Data
44			1.5.17.zip	2	100	100		QED With Image Data



Features

- Allows the design of **single-job** (same PCB) as well as **multi-job** (different PCBs) assembly panels
- Calculates several assembly panel layouts and sizes and **reports the panel usage** for each of them

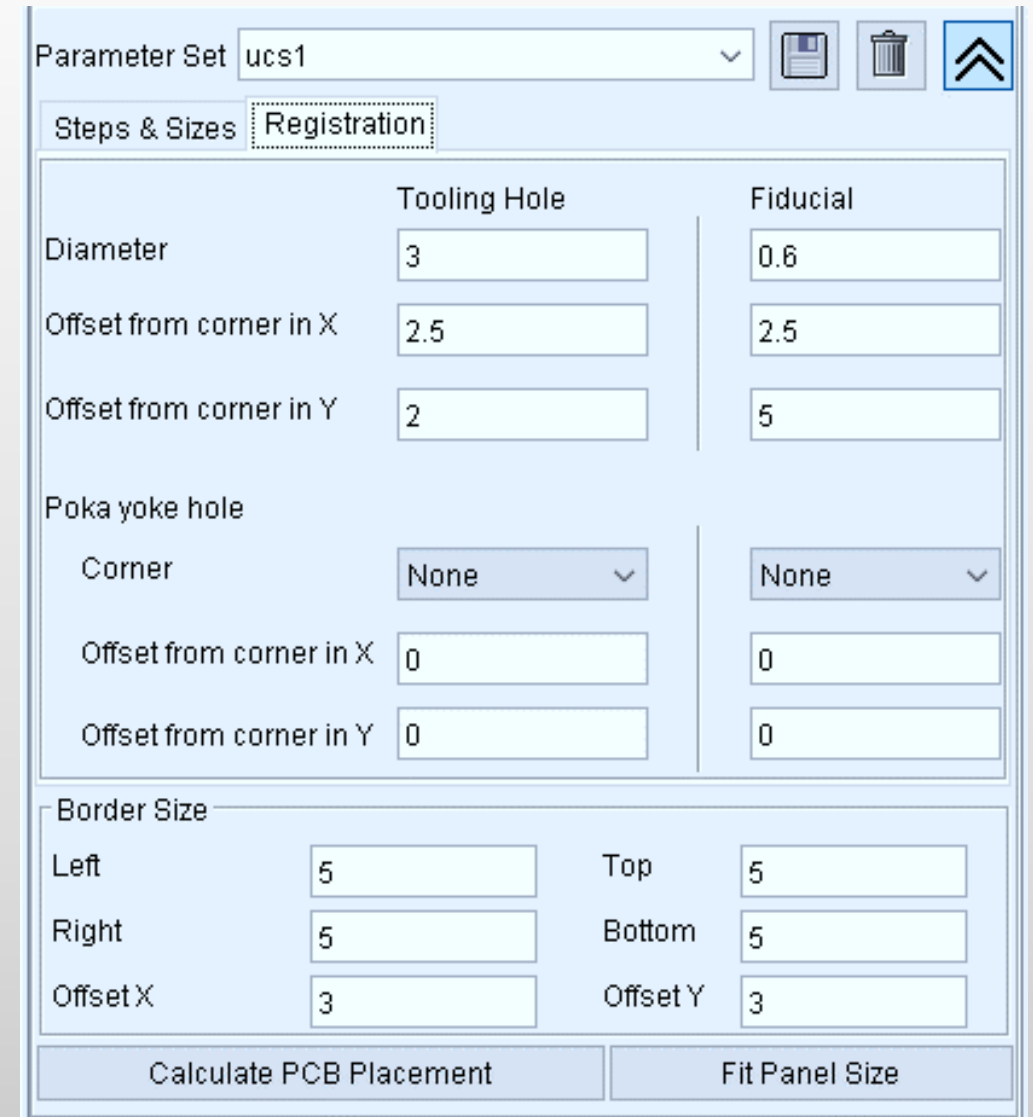


The screenshot shows a configuration window with two main sections. The first section, 'Single PCB Step & Repeat', is selected with a radio button. It contains input fields for 'Number' (1), 'Clearance' (0), and 'Rotated' (unchecked). The second section, 'Multi-PCB Panel Optimization', is unselected. It contains input fields for 'Min Panel Size' (150) and 'Max Panel Size' (150) for both X and Y dimensions.

ID	Panel Usage (%) ¹	# Panels	Panel Size X	Panel Size Y
1	61	1	204,948	181,098
1	61	1	155,999	239,01
1	61	1	155,999	239,01
1	60	1	155,999	240,509
1	59	1	164,738	231,746
1	59	1	186,892	206,146
1	59	1	164,509	231,746
1	59	1	297,508	128,797
1	58	1	210,509	127,209

Features

- Automatically dimensions **sizes** and **spaces** on the panel drawing
- Visualizes assembly panel **tooling holes** and **fiducial locations**



Parameter Set: ucs1

Steps & Sizes: Registration

	Tooling Hole	Fiducial
Diameter	3	0.6
Offset from corner in X	2.5	2.5
Offset from corner in Y	2	5

Poka yoke hole

Corner	None	None
Offset from corner in X	0	0
Offset from corner in Y	0	0

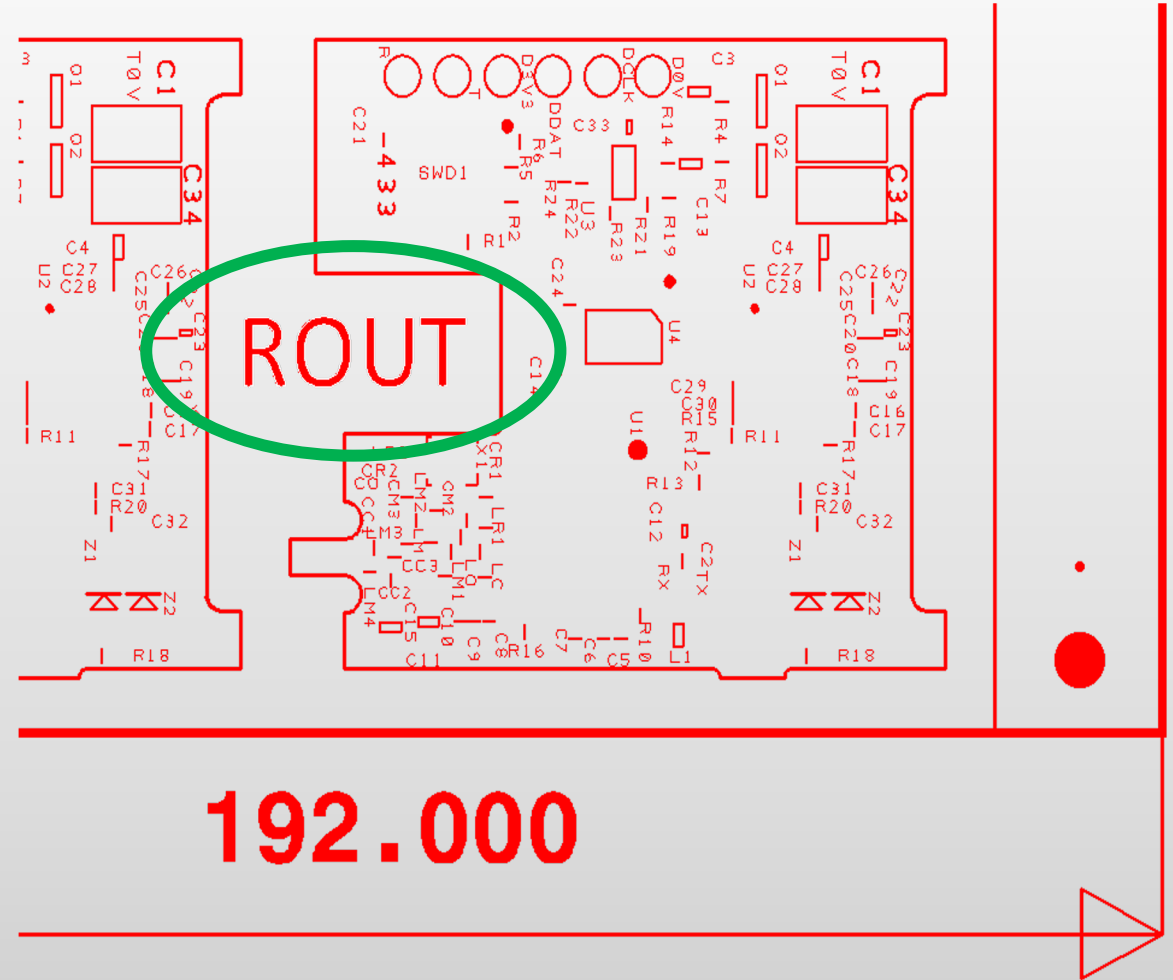
Border Size

Left	5	Top	5
Right	5	Bottom	5
Offset X	3	Offset Y	3

Calculate PCB Placement Fit Panel Size

Features

- Outputs the assembly panel drawing in **DPF format** for further use with UcamX' dimensioning tool in case additional call-outs or instructions are required



Features

- Includes a convenient **QED PDF report** listing the various PCBs on the assembly panel and the consolidated panel design minima.

Multijob Panel QED Report

Panel Name	ucs2	Report Generated on	29-Oct-2018 13:57:15
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Miscellaneous							
Job Name	Routed Holes	Testable Points		Soldermask		Legend	
		Top	Bottom	Top	Bottom	Top	Bottom
TopSolderMask_i8	0	733	85	yes	yes	yes	yes
L41EUC_1_01_0_GERBER	1	365	100	yes	yes	yes	yes
Panel	4	2,926	570	yes	yes	yes	yes

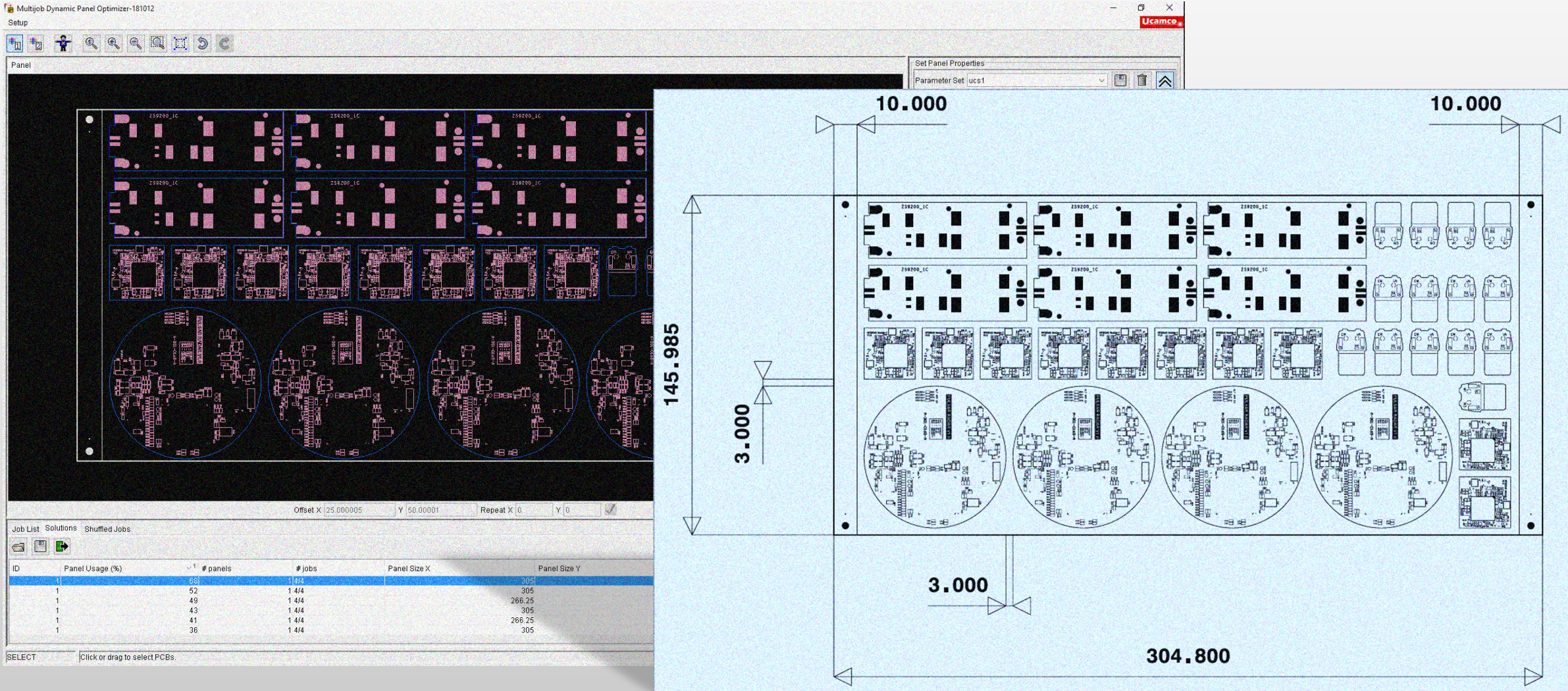
Copper Area							
L	TopSolderMask_i8		L41EUC_1_01_0_GERBER		Panel		
	dm ²	%	dm ²	%	dm ²	%	
1	0.42	53	0.06	45	1.09	44	
2	0.57	72	0.09	68	1.51	61	
		73	0.09	68	1.53	62	
		54	0.08	57	1.17	48	

Composition			
Job Id	Job Name	# on panel	Size
			mm x mm
861	TopSolderMask_i8	2	80.000 x 99.300
860	L41EUC_1_01_0_GERBER		
Panel			

Design Rule Checks					
Job Name	Min. End Dia.	Min. Critical Trace Width	Min. Clr. to Copper	Min. Clr. to Plated Hole	Min. Clr. to NPTH
	mm	mm	mm	mm	mm
TopSolderMask_i8	0.254	0.152	0.081	0.292	
L41EUC_1_01_0_GERBER	0.400	0.250	0.210	0.248	0.006
Panel	0.254	0.152	0.081	0.248	0.006

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Live demo



Panel

Set Panel Properties
Parameter Set: ucs1

10.000 10.000

145.985

3.000

3.000

304.800

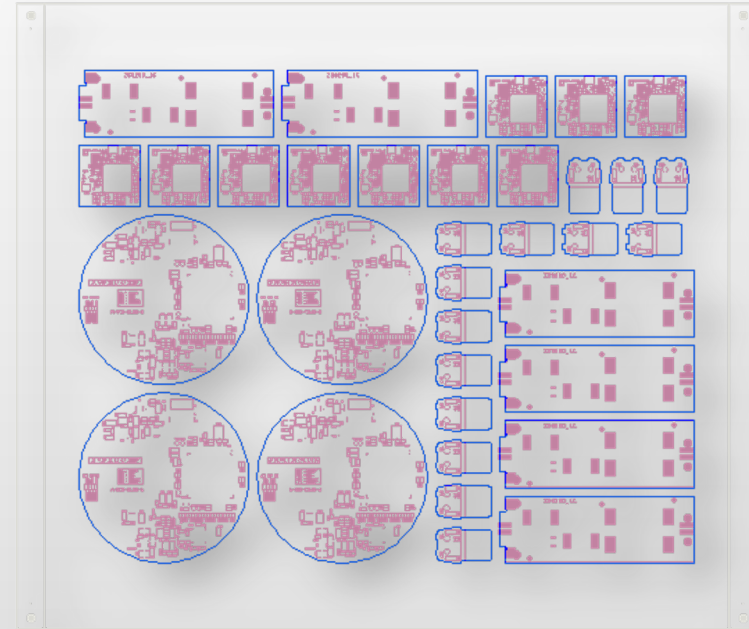
Job List Solutions Shuffled Jobs

ID	Panel Usage (%)	# panels	# Jobs	Panel Size X	Panel Size Y
1	88	144	305		
1	52	144	305		
1	49	144	266.25		
1	43	144	305		
1	41	144	266.25		
1	36	144	305		

SELECT Click or drag to select PCBs.

☀ Benefits

- Avoid costly mistakes or misunderstandings
- Clear assembly panel drawing and report
- Reduce material costs by selecting the optimum assembly panel size



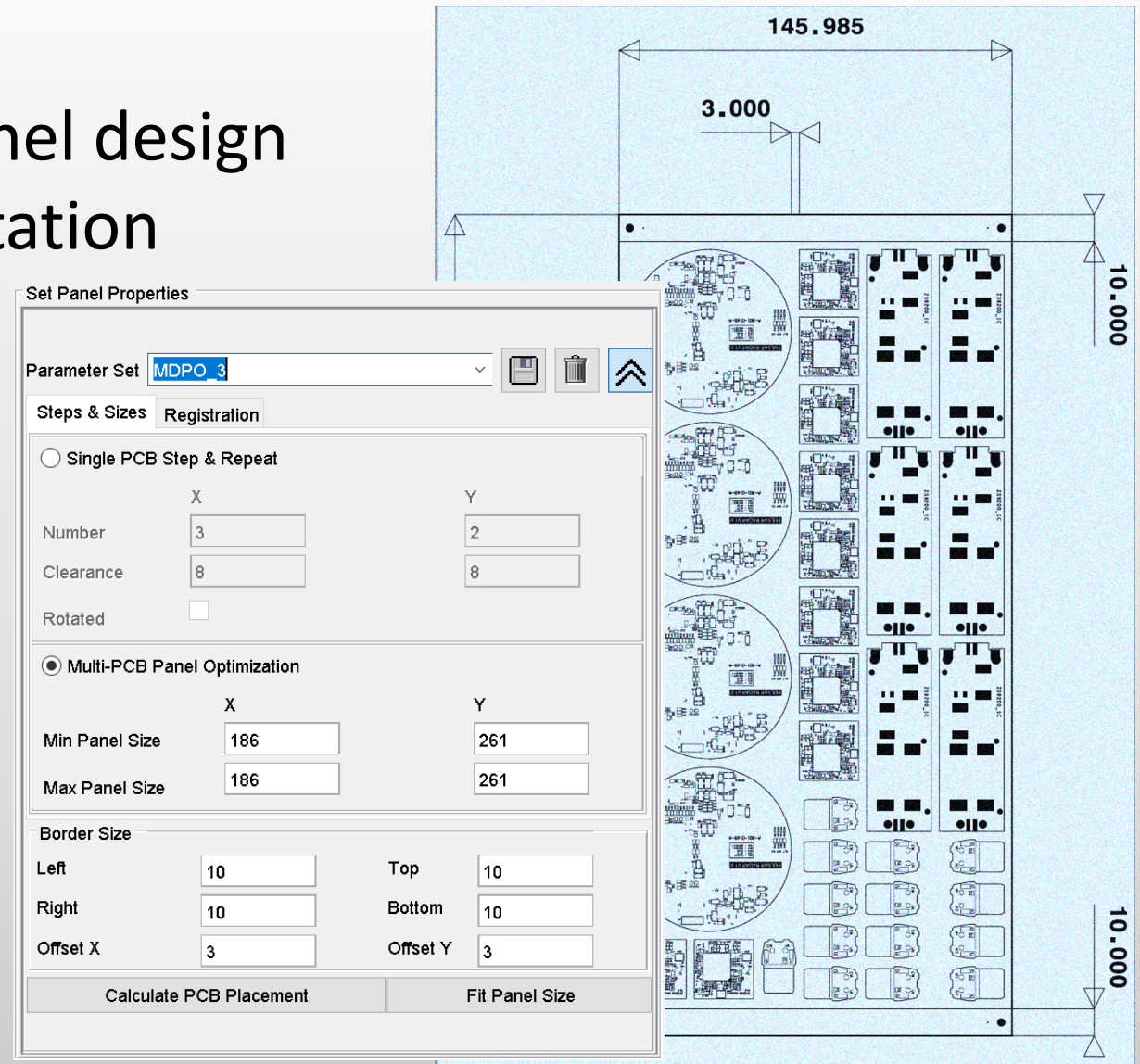
Offset X 0 Y 0 Repeat X 0 Y 0

Job List Solutions Shuffled Jobs

ID	Panel Usage (%)	# panels	# jobs	Panel Size X	Panel Size Y
1	68	1	4/4	305	141.5
1	52	1	4/4	305	183
1	49	1	4/4	266.25	224.5
1	43	1	4/4	305	224.5
1	41	1	4/4	266.25	266
1	36	1	4/4	305	266

Benefits

- Speed up of the assembly panel design and the necessary documentation
- Design of consistent and high-quality assembly panels
- Storing and retrieving settings to a panel setup library



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✦ **Thank you!**

Interested? Request a trial version at sales@ucamco.com

Unanswered questions will get a response later this week via email.

Use your feedback to add future webinar topics.

We will inform you about any new webinars coming up.

Thank you for attending this webinar.

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