

Allegro 轉 Gerber 注意事項

Allegro 目前轉 Gerber 格式有 **Gerber RS274D**(包含 Gerber4x00,Gerber6x00), **Gerber RS274x**,Barco DPF,MDA 其中以 Gerber6x00,Gerber RS274x 較多人使用,在此敘述其流程及注意事項.

Gerber RS274D(以 Gerber6x00 為主)

Gerber6x00 資料輸出時需多附加一個鏡頭敘述檔 art_aper.txt

- Gerber6x00 產生底片檔
 - 執行 Manufacture>Artwork 選擇 General Parameters 設定參數
 Device type --- Gerber 6x00
 Format --- Integer places:3 ; Decimal places:5(用英制 inch 必選 5,表示 mil 後兩位)
 - 2.選 OK 產生 art_param.txt File
 - 3.選擇 Apertures --- 彈跳出 Edit Aperture Wheels 執行 Edit

Artwork Control Form	s	
Device type Gerber 6x00 Gerber 4x00 Gerber RS274X Barco DPF MDA	Film size limits Max X: 24.00000 Max Y: 16.00000	Coordinate two Edit Aperture Wheels Add Undo Delete Wheel Operations 1 Edit
Error action Abort film Abort all Suppress	Format Integer places: 3 Decimal places: 5	
 ✓ Leading zeroes ✓ Trailing zeroes ✓ Equal coordinates 		+
Max apertures per wheel:	999 So	OK Cancel Help



編輯鏡頭表資料

選 Auto 鍵再選 without Rotation(鏡頭不能旋轉) 若確定可旋轉才選 with Rotation 底下列出所使用鏡頭,選擇 OK 鍵產生 art_aper.txt 檔

🚰 Edit Aj	perture Station	s				K
Wheel Nu	umber: 1	Units: 💿	Inches C N	fillimeters		
	Auto Without	Rotation	Sort ->			
Station	₩ith Ro	otation	Height	Rotation	Unda Dalata	
Station	deometry	(or Flash N	lame)	(degrees)		
D10	Line 💌	37.00	37.00		CopyDelete	^
D11	Oblong 💌	37.00	97.00	0.000	Copy Delete	Ξ
D12	Oblong 💌	97.00	37.00	0.000	Copy Delete	
D13	Line 💌	25.00	25.00		Copy Delete	
D14	Oblong 💌	25.00	85.00	0.000	Copy Delete	
D15	Oblong 💌	85.00	25.00	0.000	Copy Delete	
D16	Rectang 💌	150.00	150.00	0.000	Copy Delete	
D17	Rectang 💌	138.00	138.00	0.000	Copy Delete	
D18	Circle 💌	288.00	288.00		Copy Delete	
D19	Circle 💌	276.00	276.00		Copy Delete	
D20	Circle 💌	188.00	188.00		Copy Delete	
D21	Flash 💌	T188×174×40		0.000	Copy Delete	
D22	Circle 💌	178.00	178.00		Copy Delete	
D23	Circle 💌	248.00	248.00		Copy Delete	
D24	Circle 💌	236.00	236.00		Copy Delete	~
OK					Help	
						//

4. 回到 Film Control 編輯輸出的 Artwork 內容

B	Artwork Control Form
	Film Control General Parameters
	Available films
	· · · · · · · · · · · · · · · · · · ·



5.先針對 Film Options	s的内容做介紹
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Film options	
Film name:	top.art
Rotation:	0 💌
Offset X:	0.00
Y:	0.00
Undefined line	width: 8.00
Shape boundin	g box 0.00
Plot mode:	• Positive
	C Negative
Film mirrored	
🔲 Full contact t	hermal-reliefs
🔲 Suppress un	connected pads
🔽 Draw missing) pad apertures
🔲 Use aperture	rotation
🔲 Suppress sha	ape fill
🗖 Vector based	d pad behavior

.Undefined line width - 定義零線寬的値

.Shape bounding box – 他的作用等於是板子周邊的隔離線(Anti etch), 由Outline 的中心點往外擴 60mail(只有負片才有用)

.Plot mode – Positive (Artwork 為正片), Negative (Artwork 為負片)

.File Mirrored – 資料要不要 mirror

.Full Contact Thermal-Reliefs – 忽略Thermal, 用全接的方式(只有負片才有用)

.Draw missing pad apertures – 在 Aperture 中無法直接敘述 D-Code 的 Pad,則採用 Line Draw 的方式描繪

.Suppress Shape Fill – 銅箔大包小的時候勾選(只有負片才有用)

.Vector based pad behavior - 用向量來描述鏡頭檔,資料檔案比較小(Gerber RS274X才有)



6. Artwork 內容有兩種一是正片(Positive)另一是負片(Negative) 先針對 Film <u>RS274 正片</u>內容如下:

Ex:

以 Top.art 為範例,先將預輸出的 subclass 加至 Top.art 的公事包中,

内容是 VIA CLASS/TOP PIN/TOP MANUFACTURING/PHOTOPLOT_OUTLINE ETCH/TOP DRAWING FORMAT/OUTLINE

螢幕上 show 的即是未來 Gerber 轉出的結果



<u>RS274 負片</u>的內容如下:

	- Control Form
	Film Control Form Film Control General Parameters Film control General Parameters Film options Film name: gnd att
	Image: Construction of the state of the
REV:C	Check database before artwork Create Artwork Create Artwork Manual Create Artwork Manu

Ex:

以 Gnd.art 為範例, 先將預輸出的 subclass 加至 Gnd.art 的公事包中,

內容是 VIA CLASS/GND PIN/GND MANUFACTURING/PHOTOPLOT_OUTLINE ETCH/GND DRAWING FORMAT/OUTLINE ANTI ETCH/GND

規則跟正片的設定是一樣的只是多了 Anti etch 的層面(隔離層)

7. 選 Create Artwork 產生底片檔 .Art

其中的 Check database before artwork 用意是在出 artwork 之前先幫您檢查 database

>
work
 t



8.利用 CAM Tools 將 *.art 檔案 Import 進來



Gnd.art 轉出的結果:



Note: Gnd.art File 中出現的 Thermal 需要另一個定義文件宣告



此例之 D21 的 T188X174X40 只是一個"名稱" 需再 CAMTOOL 中另行定義其真實值如外徑、內徑、開口寬度、角度、數量等

Gerber RS274X

Gerber RS274X 資料輸出與 Gerber6x00 不同的地方即是 RS274X 是將鏡頭描述的資料加入 Gerber File 檔案前段中,所以不需鏡頭檔 art_aper.txt

Note:出 RS274X 時有一個口訣,"所見即所得" 意思是說目前看到的即是未來的結果

● Gerber RS274X0 產生底片檔

 執行 Manufacture>Artwork 選擇 General Parameters 設定參數 Device type --- Gerber RS274X Format --- Integer places: 3 ; Decimal places: 5

🚰 Artwork Control Form	×
Film Control General Parameters	1
Device type Film size limits Coordinate type C Gerber 6x00 Max X: 24.00000 Not applicable G Gerber R5274X Max Y: 16.00000 Not applicable	
Error action Format Output options Abort film Integer places: 3 Decimal places: 5 Not applicable 	
Suppress Output units Image: Leading zeroes Image: Inches Image: Trailing zeroes Image: Im	
Continue with undefined apertures Scale factor for output: 1.0000	
OK Cancel Apertures Help	

2.選 OK 產生 art_param.txt File3. 回到 Film Control 編輯輸出的 Artwork 內容



2	Artwork Control Form	
	Film Control General Parameters	
	Available films	
	ter in the second seco	

4. Artwork 內容有兩種一是正片(Positive)另一是負片(Negative)

Artwork Control Form	
Film Control General Parameters Available films Image: Control General Parameters Available films Image: Control General Parameters Available films Image: Control General Parameters Image: Control General Par	Film options Film name: top.art Rotation: Image: Comparison of the second se
OK Cancel	Apertures Help

RS274X正片內容如下:

Ex:

以 Top.art 為範例,先將預輸出的 subclass 加至 Top.art 的公事包中,

內容是 VIA CLASS/TOP

PIN/TOP MANUFACTURING/PHOTOPLOT_OUTLINE ETCH/TOP DRAWING FORMAT/OUTLINE

螢幕上 show 的即是未來 Gerber 轉出的結果



RS274X負片的內容:

	Triwork Control Form	
· · · · · · ·	Film Control General Parameters	
	Film Control General Parameters Available films Film options Film options Film name: gnd at Cosk at Film name: gnd at Film options Film name: gnd at General Parameters Film name: gnd at Film options Film options Film options Film Optio	
	Create Artwork Create Artwork Create Artwork Create Artwork	
	OK Cancel Apertures	Help

Ex:

以 Gnd.art 為範例, 先將預輸出的 subclass 加至 Gnd.art 的公事包中,

內容是 VIA CLASS/GND PIN/GND MANUFACTURING/PHOTOPLOT_OUTLINE ETCH/GND DRAWING FORMAT/OUTLINE
與 Gerber6x00 不同之處是不要將 Anti etch 的層面(隔離層)加進來

5. 選 Create Artwork 產生底片檔 .Art



<	>
Select all	Load
🔲 Check da	atabase before artwork
Creat	e Artwork

6.利用 CAM Tools 將 *.art 檔案 Import 進來

Top.art 轉出的結果



Gnd.art 轉出的結果

在 cam tool 中會顯示未疊合之狀態,需以 composite 的方式才能顯示出此效果,才是真正出 底片的結果



