BacklightFly Manual

http://www.febees.com/

How to install and register

如何安裝與註冊

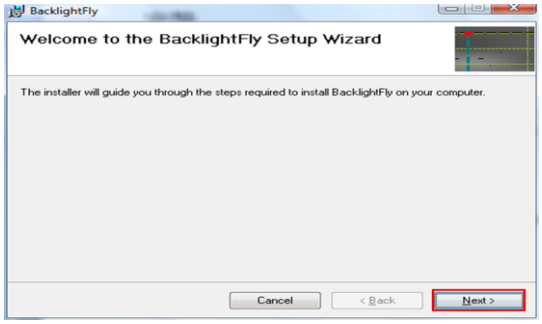
Installation

1. Executive BacklightFlySetup.msi program (double click BacklightFlySetup.msi file), and in accordance with screen instructions to install

   執行 BacklightFlySetup.msi 程式(雙按 BacklightFlySetup.msi 檔案)，並依畫面指示進行安裝

2. Welcome to BacklightFly installation instructions screen / click Next

   歡迎來到 BacklightFly 安裝指示畫面 / 按下一步



3. Choose the installation path (default is C: \ Program File \ Backlight Fly \)

   選擇安裝程式要存放的資料夾路徑(預設為 C:\Program File\BackLight FLY\)

4. (1) Use the default path please jump (3)

   使用預設跳至(3)

   (2) Choose the installation path：

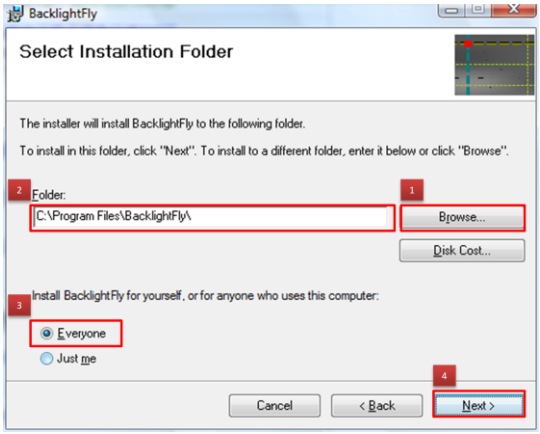
   選擇安裝程式要存放的資料夾路徑

   (3) Check the BacklightFly to use this computer to any one person or your own use

   勾選 BackLight FLY 給使用這台電腦的任何一個人或自己使用

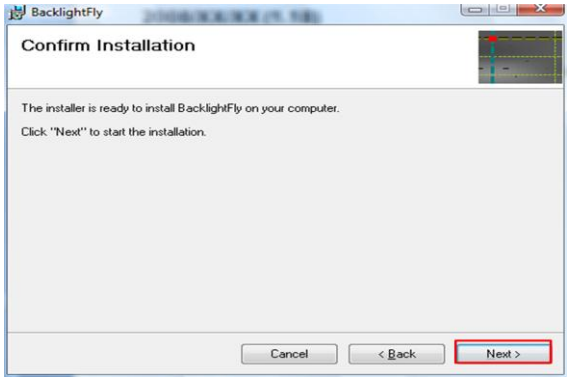
   (4) NEXT

   下一步



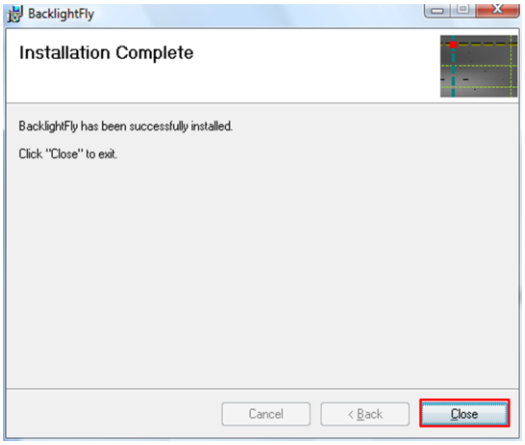
5. Ensure that the installation / Next

確認安裝 / 下一步



6. Complete the installation /Close

完成安裝 / 關閉



Registration

註冊

Registration can be divided into several steps, see the following picture shows:

註冊可分為幾個步驟，見下面圖片所示:

1. When first execution after installed, the License window will appear

   當安裝完第一次開啟時會出現 License 視窗

2. Storage product hardware profile and send support@febees.com。

   儲存產品硬體設定檔並寄至 support@febees.com

3. Once we receive your file, we will send you back to a decoder authorization file (. Txt) text file

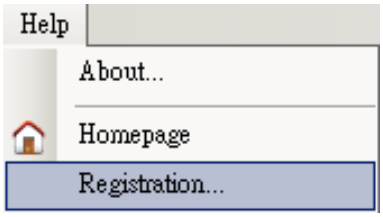
   一但我們收到您的檔案，我們將回寄給您一個解碼的認證檔案 (.txt)文字檔。

Registration steps are as follows：

註冊步驟如下：

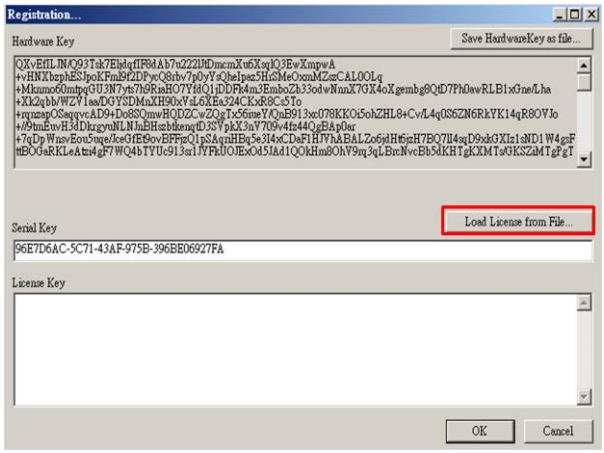
(1) Auxiliary input / License

輔助 / 輸入 License



(2) Enter License window appears / loaded from a file License

出現輸入 License 視窗 / 從檔案載入 License



4. Loading License steps ：

載入 License 步驟

(1) Click load license from file then file window appears

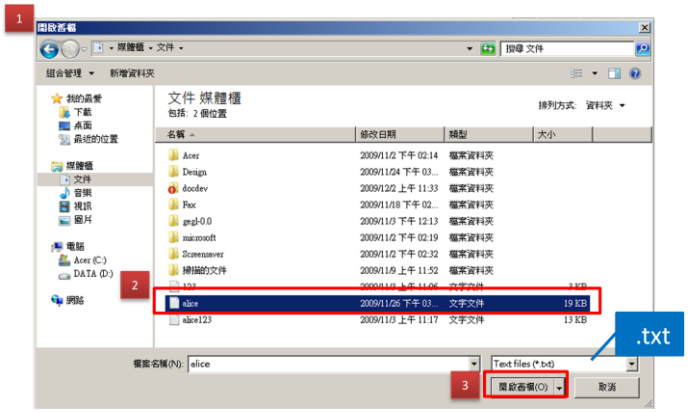
出現開啟舊檔視窗

(2) Click the license file which feedback from BacklightFly

點選由 BackLight FLY 回寄給您的一個解碼認證檔案 (.txt) 文字檔，此文字檔可自行重新命名

(3) Click File Open

按開啟舊檔



5. Loading window appears：

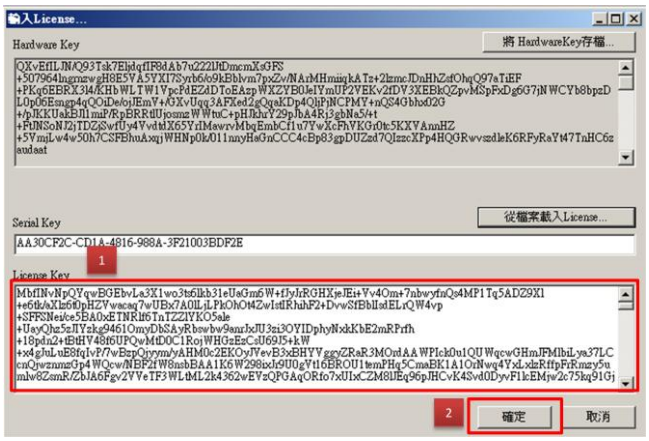
出現載入視窗

(1) certification file loading

載入認證檔案

(2) Click OK

按確定



7. Please note that after you press the OK BacklightFly will automatically shut down, after restart you can free to use this program now。

請注意在您按確定後 BacklightFly 將會自動關閉，您必須再重新開機啟用即可開始使用軟體進行設計。

Navigation - into the world Backlight FLY

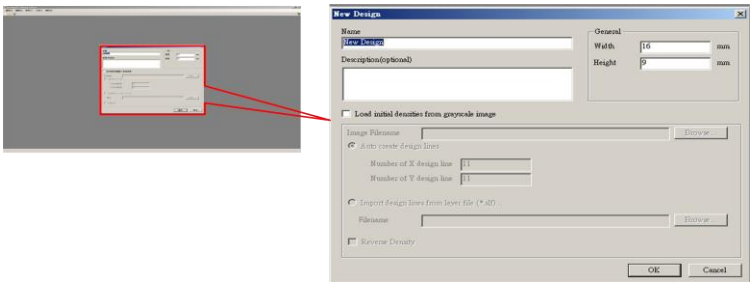
導覽 – 跨入 Backlight FLY 的世界

Start Backlight FLY

啟動 Backlight FLY

To start BacklightFly , run the "Start / All Programs / BacklightFly / BacklightFly 3" command, then the top screen will display new design window as shown below, you can press OK a new design file or press Cancel Open an old design files. (Note: As for how to open a new design to design and open the old files to modify the relevant content file section, please see Chapter 1, opening a new file of 1.1 and 1.2 to open the new file to open the old file these two sections.)

要啟動 BacklightFly 導光板佈點軟體， 請執行「開始／所有程式／BacklightFly／BacklightFly 3」命令，接著畫面上面會顯示**新設計**交談視窗如下圖所示，您可以按下確定新增一個設計檔案或按取消開啟一個舊的設計檔案。（ 註：至於如何開新設計檔進行設計和開啟舊檔來修改相關內容的章節，請詳見第 1 章 開新檔案之 1.1 開新檔案與 1.2 開啟舊檔此兩小節。）



You can also click saved BacklightFly design file (*.clf) to open directly in the design mode. (See below)

除了執行上述命令可啟動 BacklightFly 外，在桌面或檔案資料夾視窗中雙按 BacklightFly 設計檔的檔案名稱或圖示，同樣也可以啟動 BacklightFly，並且會直接將檔案開啟在設計區中。日後若需要直接開啟檔案，亦可使用這個方法來啟動 BacklightFly。(見下圖)

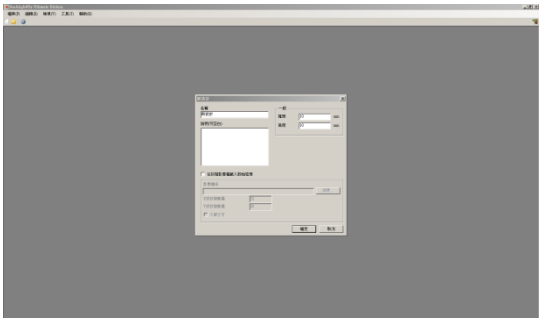
Chapter 1 New File

第 1 章 開新檔案

New file

開新檔案

1. **Open BacklightFly, the new design window**
   開啟 BackLight FLY，進入新設計視窗



(1) Start a new design：

開始新設計：

(a) Name: Custom Name

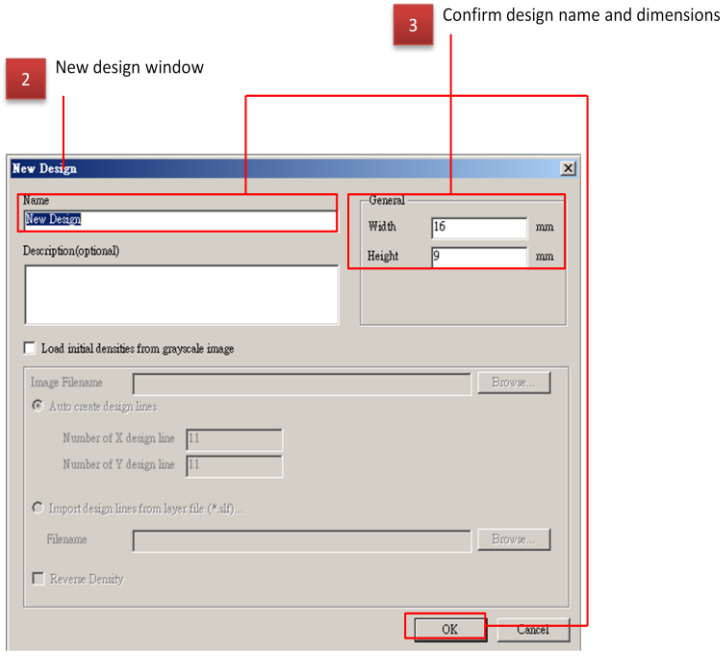
名稱 ：自訂名稱

(b) Width / Height: the default value can be made to demand change

寬度/高度 ：10 為預設值,可依需求更改

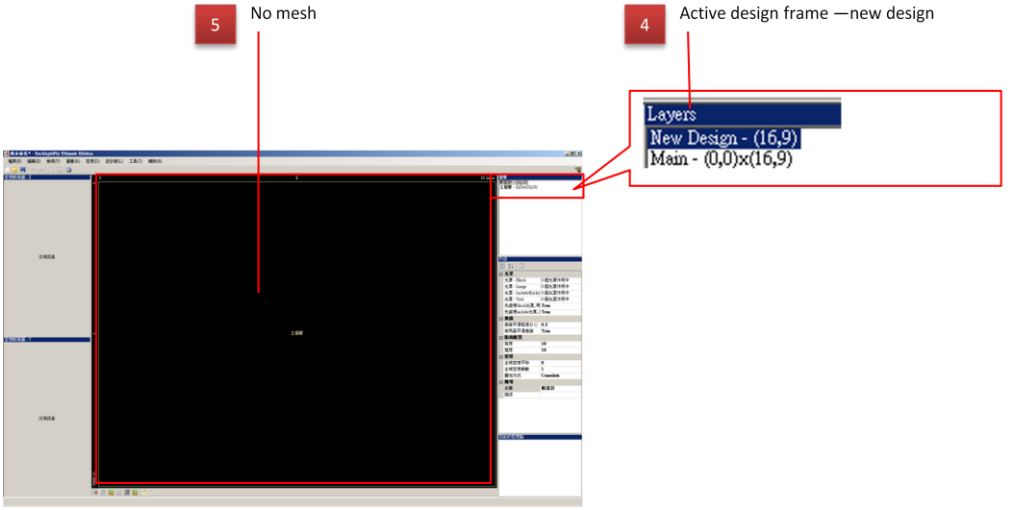
(d) Press OK

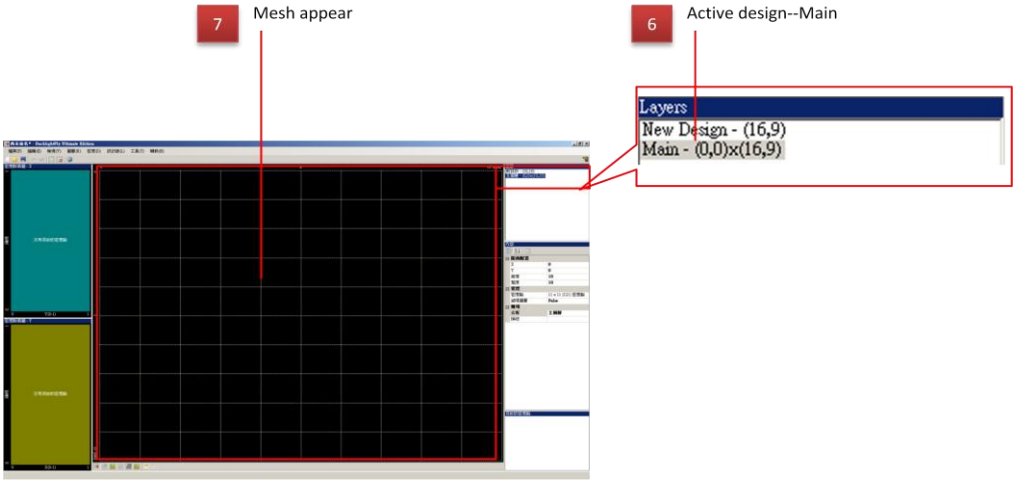
按確定



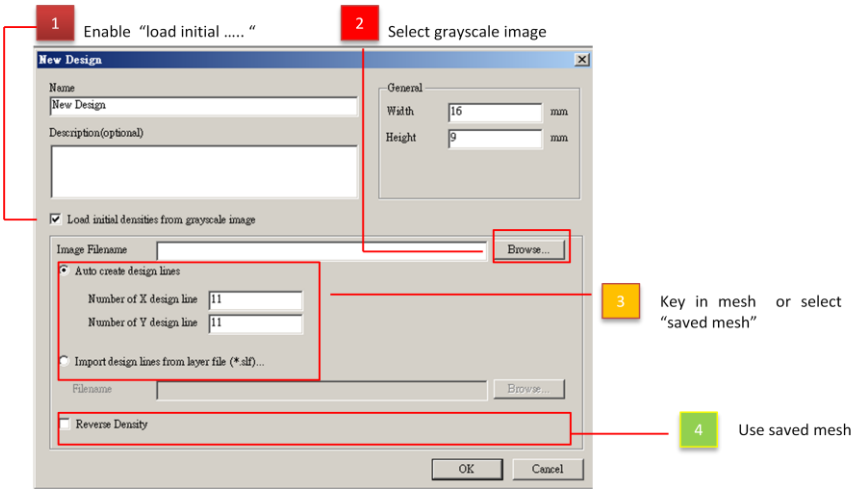
(2) Enter layer design of the main screen

進入主圖層設計畫面





2. **Start a new design from existing grayscale images**
   從灰階影像檔載入啟始密度，開始新設計



(1) Enable “load initial density from grayscale image”
勾選從灰階影像檔載入啟起密度

(2) Select grayscale image
選擇一灰階影像檔

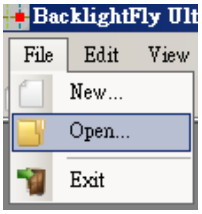
(3) Key in mesh or load pre-saved mesh.
啟用勾選從圖層匯入設計線：預存的圖層資料

(4) Reverse density: Normal black=1,enable black=0
啟動勾選反轉密度:將黑代表 1,改成代表 0 密度

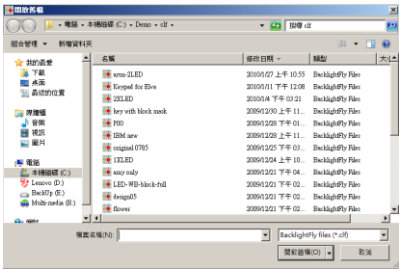
Open existing file

開啟舊檔

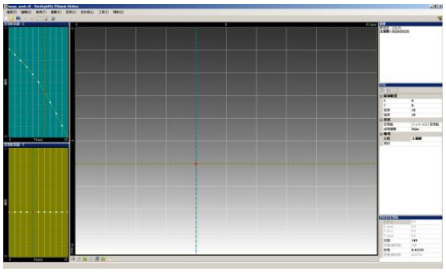
1. Open
   開啟舊檔



2. select file
   出現開舊檔視窗 / 點選檔案 / 開啟舊檔



3. screen shot：
   開啟舊檔後 ， 畫面呈現如下 ：



Save (Ctrl + S)

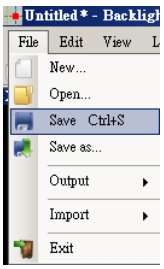
儲存(Ctrl + S)

1. Unsaved file will show * in title area

   開啟舊檔後 ， 尚未儲存的檔案標題區將顯示為*

2. File / Save (Ctrl +S)

   檔案 / 儲存 (Ctrl +S)



3. * is disappear in title area ：

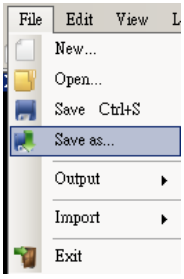
   儲存檔案後 ， 標題區即顯示如下 ：

Save as:

檔案 / 另存新檔

1. File / Save as...

   檔案 / 另存新檔



2. Pop up new window / key in name/ click save
   出現另存新檔視窗 / 輸入檔案名稱/ 存檔
3. Name is changed in title area：new.clf
   另存新檔後，標題區顯示為：new.clf

Exit

離開

1. File / Exit：Quit

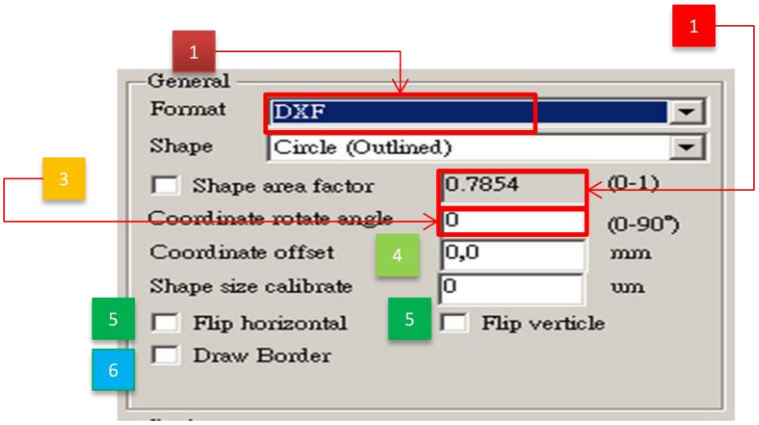
檔案 / 離開：即離開整個程式並關閉

Chapter 2 output and import the file

第 2 章 輸出與匯入檔案

General setting of output (Build4336—output rotate angle)

共通參數設定



1.Format: DXF (Note: output file formats: DXF / Gerber / Standard Laser / Standard Laser with origin offset / SPEOS / Light Tools / TracePro / text coordinates / Image / EPS/PDF)

格式 ： DXF (註 ：可輸出的檔案格式：DXF / Gerber / Standard Laser / Standard Laser with origin offset / SPEOS / LightTools / TracePro / 文字座標 / Image / EPS/PDF)

PS. PDF output count is limited by memory; we don't guaranty the value.

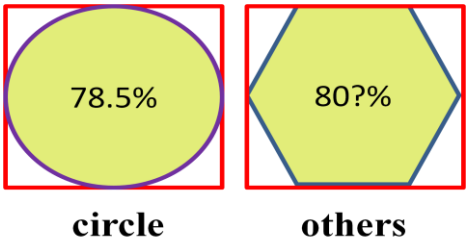
備註:PDF 輸出受限於記憶體的使用,本產品不保證輸出的數量.

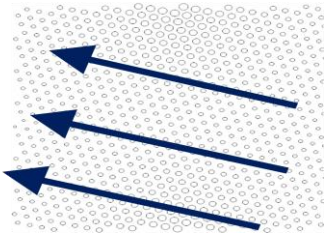
2. Shape are factor:

convert square base density to design shape.

圖形面積係數

正方形轉換成輸出圖形面積比





3.Coordinate rotate angle:

direction of scan.

座標旋轉角度

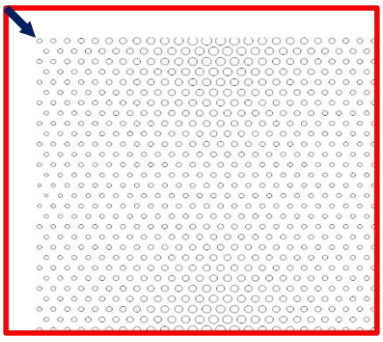
佈點旋轉角度

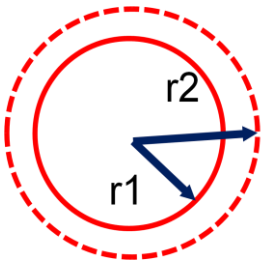
3.Origin offset:

offset origin coordinate

座標位移

座標基準點位移,所以座標位移





4.Shape size calibrate:

gap of design and actual (r2-r1)

Purpose: compensate for simulation.

圖型尺寸校正

修正圖型尺寸,如蝕刻擴孔或印刷誤差,

以方便模擬軟體分析

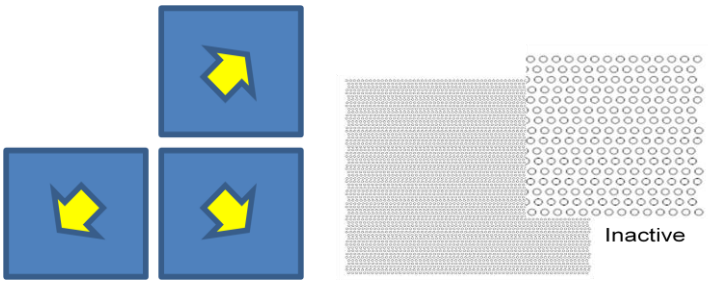
5. Flip (horizontal/ vertical):

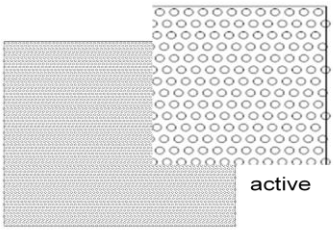
mirror design.

Purpose: invert for printing or coordinate origin .

翻轉 (水平/垂直):

輸出左右或上下對調,主要用在印刷底片需要左有反轉或座標系統變更時使用





6.Draw Border: (build 4094 20110318-Draw Border)

Confirm the design area and dot distribution

輸出邊界外框:

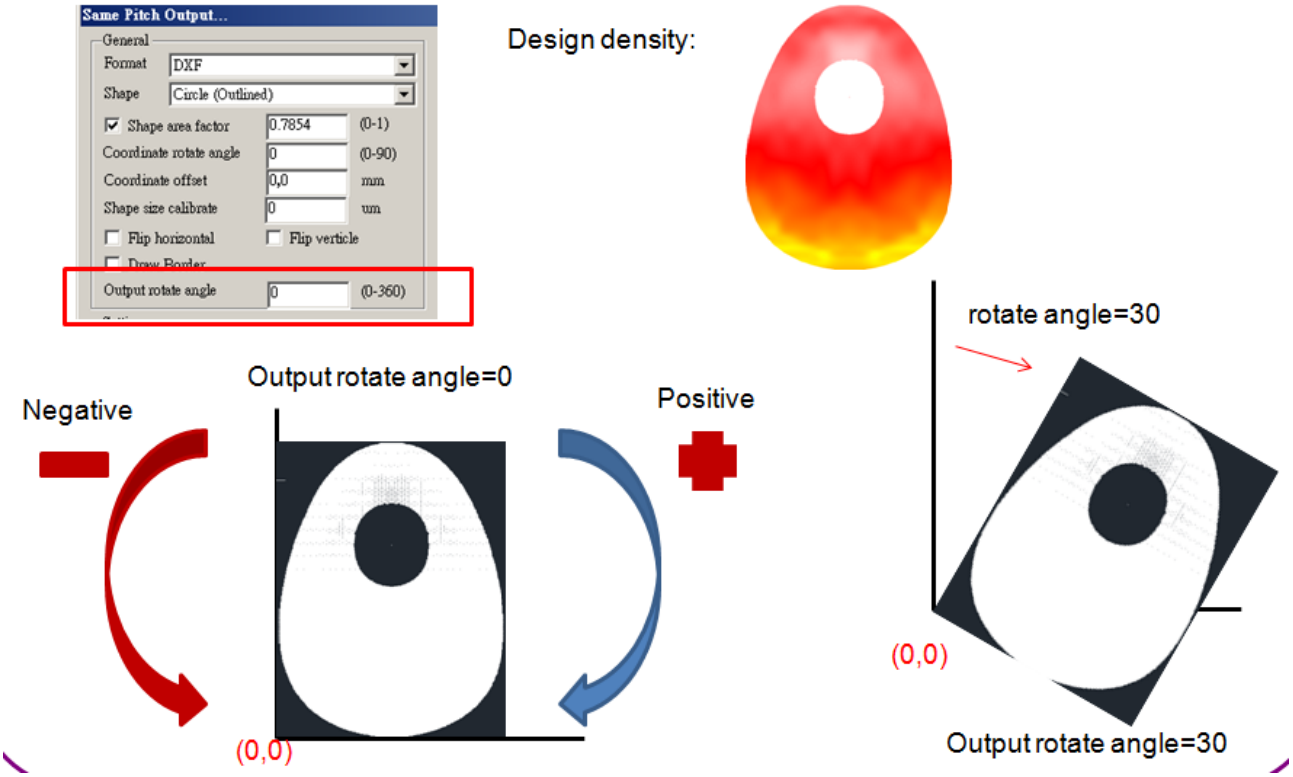
顯示設計稿邊界,方邊確認設計稿大小

6. Output Rotate angle: (Version V3.9 Build4336 2011/11/15)

Rotate output result

旋轉輸出結果

將輸出結果做旋轉



Same Size Output-FineGrained3 (for imaging)(Version V4.0 Build4366 2011/12/25)

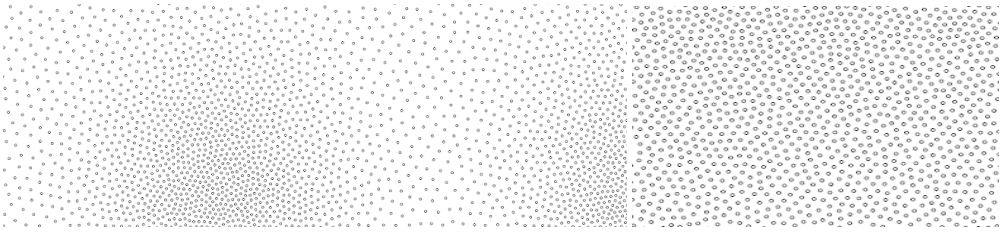
細緻輸出 3(影像模式)

(You can use multithreads to save run time, please reference chapter 10 Tools)

(你可以啟用多功模式,來節省運算的時間,請參考第十章工具)

(a) Dot distribution—look like random distribution.

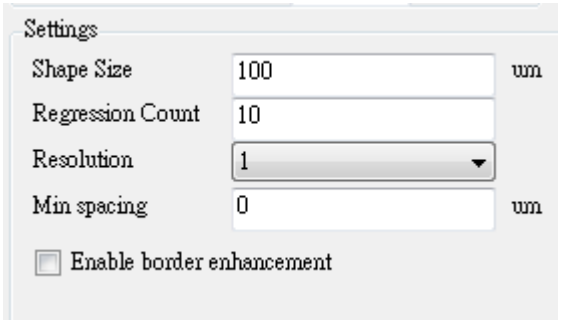
佈點方法-同大小類似亂數 ：



(b) Setting

設定說明

1. Shape Size: Dot dimension.
   圖型尺寸:佈點的大小
2. Regression Count: Set the loop times, more is better but slower.
   設定迴圈次數,越多分散越佳速度會較慢
3. Resolution: higher value get high quality but long process time.
   解析度:越高品味越佳,但速度下降劇烈
4. Min spacing: Setting minimum spacing.(0 is recommend, system will optimum)
   理想的最小間距:此為兩圓的最近距離,在高密度區可能有 1%的誤差值
5. Enable border enhancement: Lighten seesaw shape in edge.
   增強邊界分佈:改善邊緣鋸齒狀分佈.



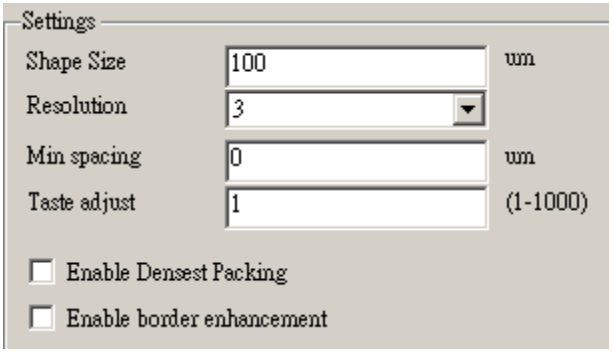
Same Size Output-FineGrained2(for Backlight)

細緻輸出 2(導光板設計模式)

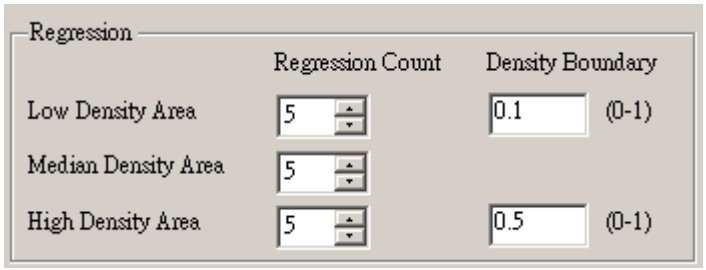
Setting
設定說明

6. Shape Size: Dot dimension.
   圖型尺寸:佈點的大小
7. Resolution: higher value get high quality but longer process time.
   解析度:此設定主要影響高密度分散狀況,越高越加但速度也越慢
8. Min spacing: Setting minimum spacing.(0 is recommend, system will optimum)
   理想的最小間距:此為兩圓的最近距離,在高密度區可能有 1%的誤差值
9. Taste adjust: change to 1000 if you get Z shape texture.(normal happen in only one value density design)
   品味調整:將設定值改為 1000 可以解決 Z 狀的紋路(通常發生在單一密度的設計稿中)

10. Taste adjust: change to 1000 if you get Z shape texture.(normal happen in only one value density design) --Version V3.9 Build4336 2011/11/15
    品味調整:將設定值改為 1000 可以解決 Z 狀的紋路(通常發生在單一密度的設計稿中)
11. Enable Densest Packing: Using “close package” skill to enlarge design density.
    啟用最高密度堆積:如果您的密度過高必須勾選此設定,此設定對高密度影響較大.
12. Enable border enhancement: Lighten seesaw shape in edge.
    增強邊界分佈:改善邊緣鋸齒狀分佈.



13. Setting of Regression: You separate design in 3 density zone and give individual regression cout.
    設定密度區間及迴圈數:您可以設定高中低三個密度區間,分別採用不同的迴圈數控制,通常在高/低密度區需要較多的分散迴圈,

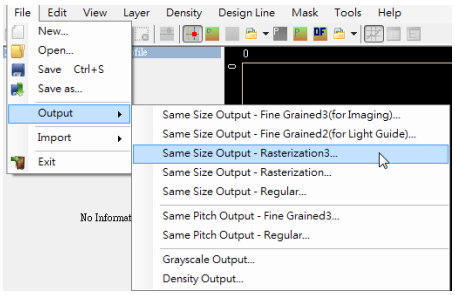


Same Size Output-Rasterization3(V4.0 B4366 2011/12/15)

點陣化輸出 3

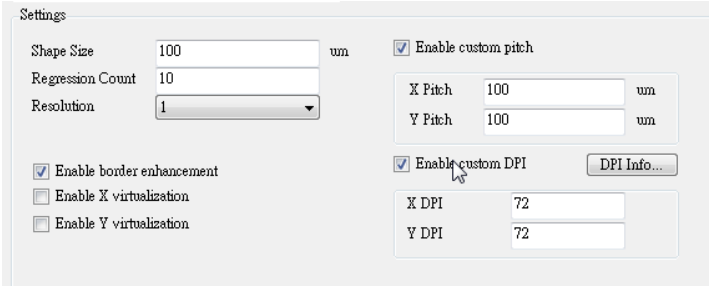
Purpose: Introduce FineGrained technology into rasterization to make a big improvement.
目的:導入細緻化技術到點陣化輸出中,顯著改善輸出品質.

1. File /Output /Same Size Output-Rasterization3
   檔案 / 輸出 / 同大小-點陣化輸出 3



2. General:

   一般設定:



   2.1 Shape Size: Real dot size like laser spot size

   點大小:實際在產品上的點大小

   2.2 Regression Count: loop times for dot distribution option

   回歸次數:優化點分散的次數

   2.3 Resolution: Optimum dot distribution quality factor, more is better but slower fast.

   解析度:點分散的品質相關參數,越大效果越好但輸出速度下降明顯

   2.4 Other parameters please reference Same Size Output-Raterization on next section..

   其他參數請參見下一節同大小-點陣化輸出

Same Size Output-Rasterization

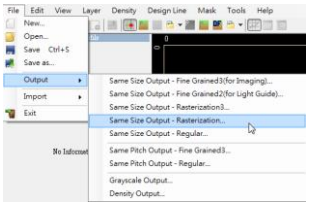
點陣化輸出

Purpose: Use TIFF as laser dot distribution is a good method to reduce file capacity like DXF and TXT. This is the best method can review the output result in huge output dot count.

目的:在雷射等製程需要大量點數輸出時,使用 TIFF 格式可以降低檔案大小,也是目前大尺寸唯一可以看到輸出結果的方式.

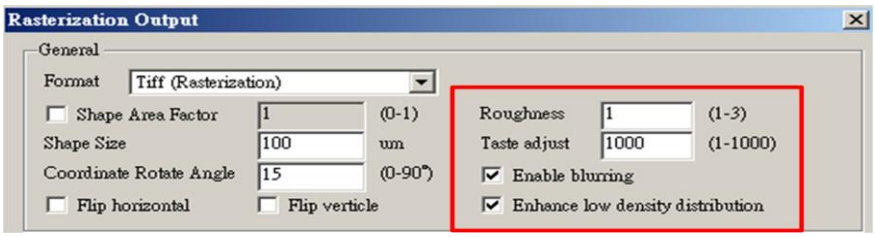
3. File /Output /Same Size Output-Rasterization

   檔案 / 輸出 / 同大小輸出-點陣化輸出



4. General:

   一般設定:



   4.1 Roughness: random level 3 is biggest

   粗糙度:點的分散度(3 最大)

   4.2 Taste adjust: Erase texture

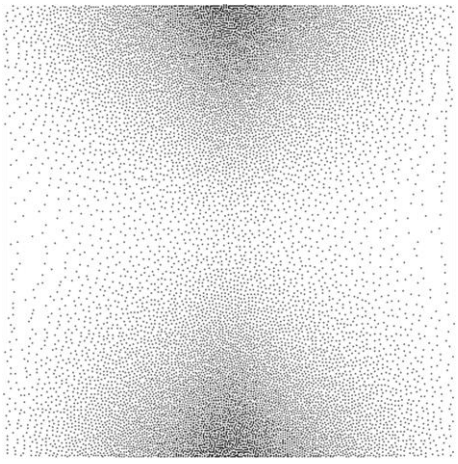
   品味調整:去除紋路

   4.3 Enable blurring: Enhance dot distribution

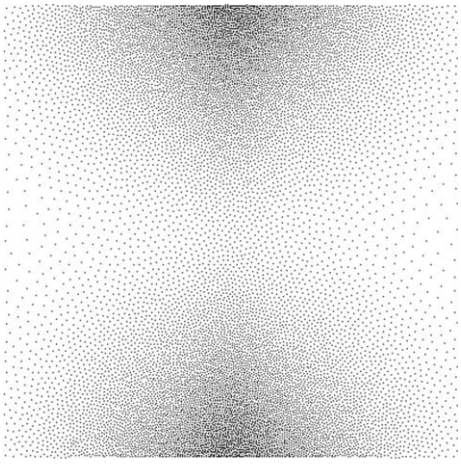
   模糊化:加強點分散能力

   4.4 Enhance low density distribution: improve dot distribution low density(<0.1)

   低密度分散加強:改善低密度分散效果



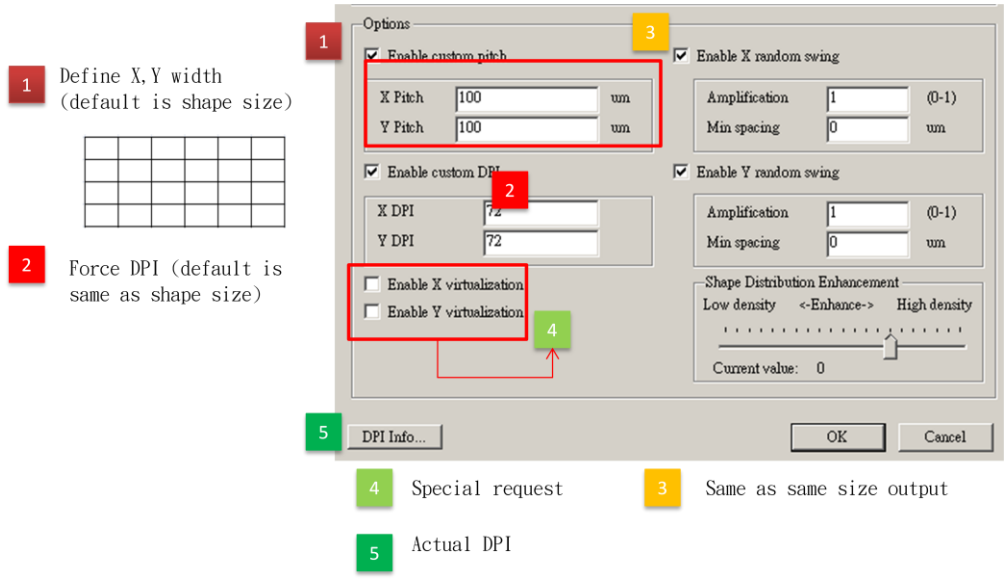
Version 3.7



Version 3.8

5. Options

   出現點陣化輸出視窗(與陣列輸出相同部分請參見陣列輸出-固定圖形尺寸)



(1) Define customer pitch:

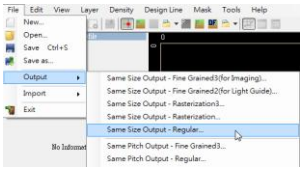
啟用自訂 pitch ：當 X,Y 間距與圖形尺寸不相同時可以在此設定 X,Y 間距(如固定軸之雕刻機)

(2) 啟用自訂 DPI ： 某些機台必須強制輸出圖形 DPI,若不勾選系統會給正確的 DPI 值

(3) 啟用 X,Y 虛擬化 ：特殊需求,請勿勾選

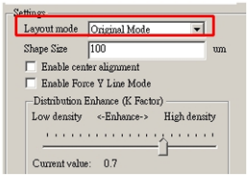
Same Size Output --Regular

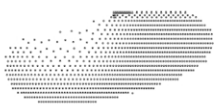
同大小輸出



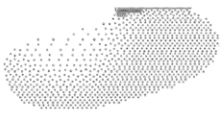
(a) Layout mode

輸出模式





Normal mode



LG mode

1.Layout style:

different scan profile

Purpose:

To lighten stripe.

Method:

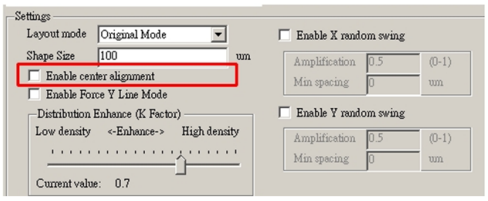
We try to adjust line to line spacing.
Original mode : optima line density.
LG mode : average Neighborhood

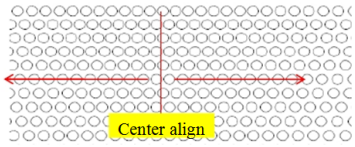
(b) Shape Size: dot diameter.

定義圖形尺寸:設定輸出點大小(直徑)

(c) Enable Center Alignment (dot generate from center to sides)

選項:啟用置中對齊(強制佈點左右對齊)





Enable center alignment:

Symmetric profile

Purpose:

Some customer hope dot distribution is Symmetric .

Method:

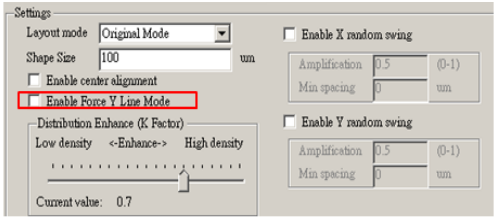
layout dot from center to edge

Method:

layout dot from edge to edge

(d) Enable Force Y Line mode:

選項:強制 Y 線段模式(線型加工)

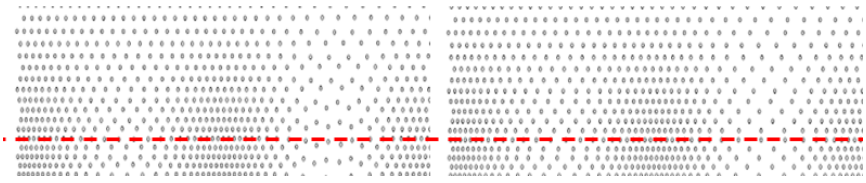


Enable force Y Line Mode:

align Y position

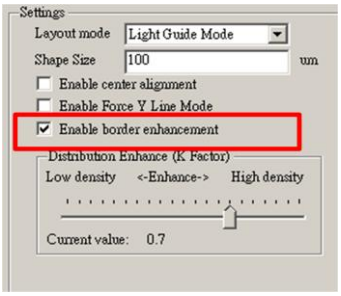
Purpose:

meet engrave machine requirement.



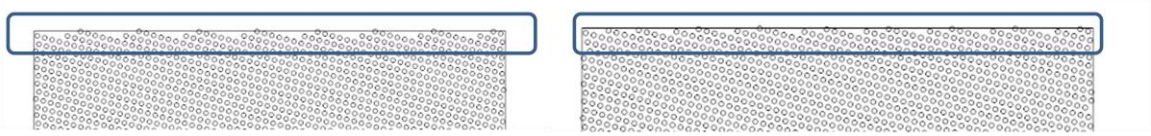
(e) Enable border enhancement: (build 4094 20110318—Enable border enhancement)

啟用邊界加強:



Improve the dot coverage at design edge.

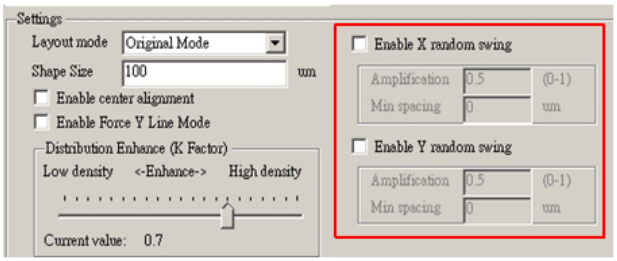
改善邊界佈點空隙問題

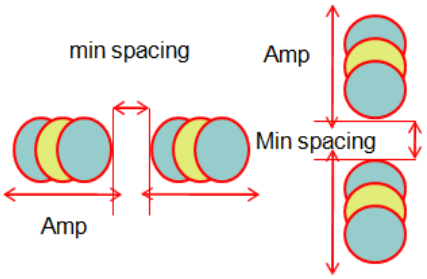


Origin　　Enable border enhancement

(f) Enable random swing :

選項:啟用亂數搖晃(振幅為可搖動距離,1 是最大 0.3 指最大距離的 30%)





3.Random Swing:

random vibration

Purpose:

decrease Mura and stripe

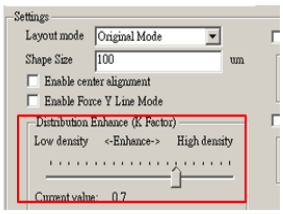
Method:

control the vibration amount and keep the minima spacing.

vibration amount = Rand()Xamplification X (spacing-min spacing)

(g) Distribution Enhance (0-1,0 :low density optioma,1:high density optima, recommend 0.5~0.9)

設定圖形分佈加強值(0-1,0 為低密度最佳排列,1 高密度最佳排列,理想設定為 0.5~0.9)



3.distribution Enhance

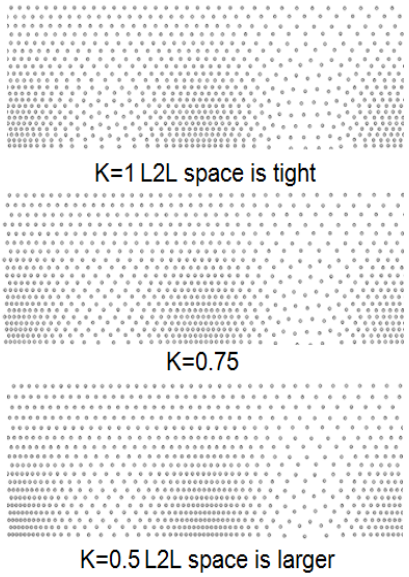
X,Y pitch adjusting

Purpose:

To enhance distribution.

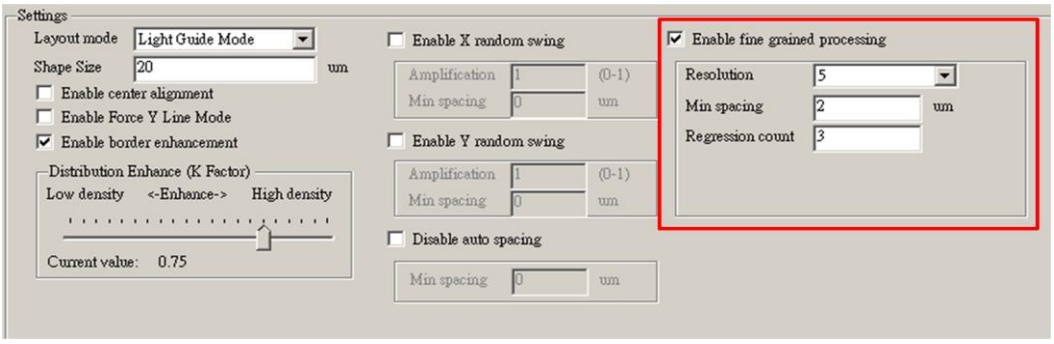
Method:

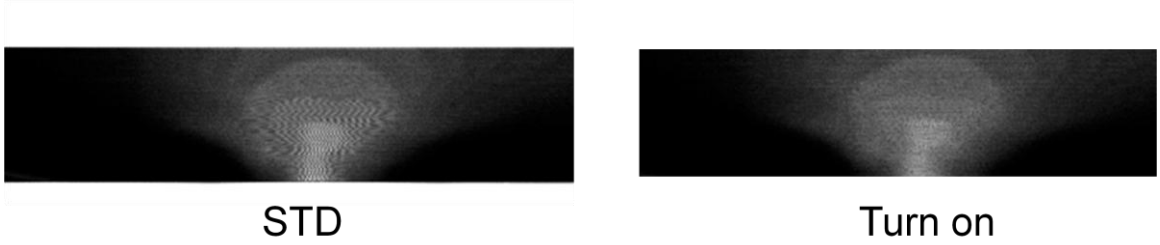
To adjust line to line spacing.



(h) Enable fine grained processing: Turn on dot location optimizer to lighted texture. (V3.8 B4163 add fine grained processing)

啟用細緻化處理:最佳化佈點位置以降低紋彩問題





Resolution: 0 is poor, 9 is best but slowest

解析度: 佈點細緻度(0 最差,9 最佳但最慢)

Min spacing: set dot edge to edge minimum spacing.

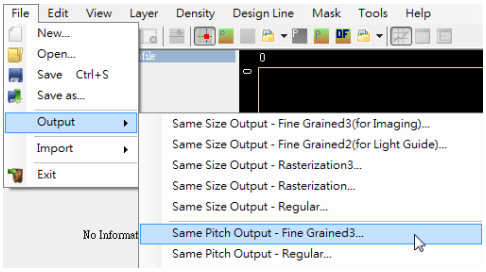
最小間距: 定義最小點距(邊緣到邊緣距離).

Regression count: loop count(You can use multithreads to save run time, please reference chapter 10 Tools)

回歸次數: 計算次數(你可以啟用多功模式,來節省運算的時間,請參考第十章工具)

Same Pitch Output – FineGrain3(build 4021)

等間距輸出—細緻輸出 3



Setting：

設定參數:

1. X/Y pitch:

   Define Fixed X/Y distance, Please note Y is above define.

   定義 X/Y 間距特別強調,Y 間距的定義如上圖

2. Regression Count：

   回歸次數 ：

   You can do several times to get better dot distribution. The recommend count is 5.

   定義演算次數:較多的迴圈可以改善分佈,但以良好的分佈更多的迴圈不會改變點的位置,建議值為 5.

3. Resolution：

   解析度 ：

   higher value get higher quality but longer process time.

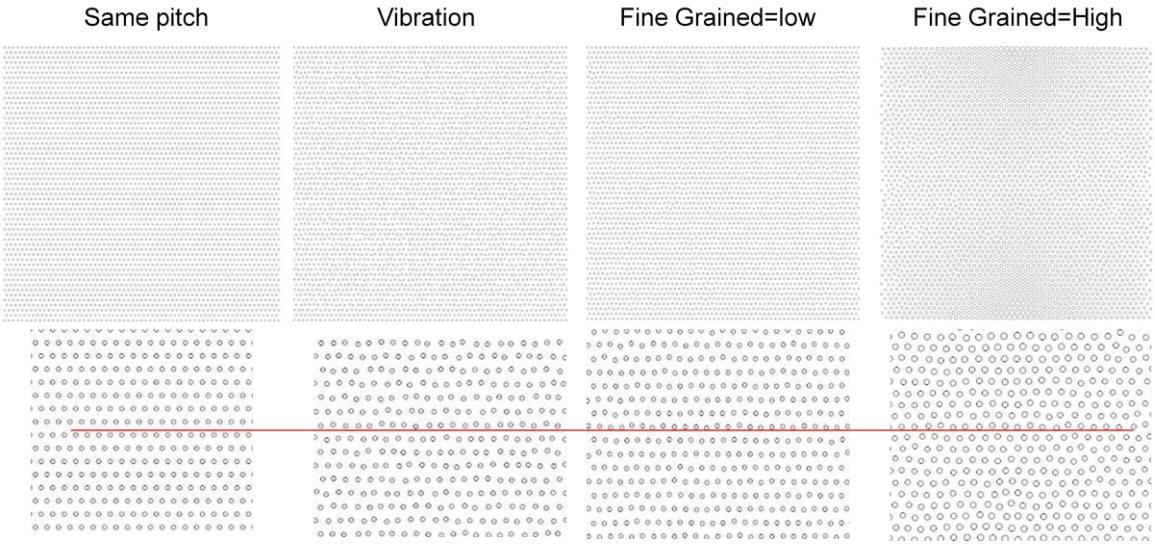
   較高的設定值可以得到較佳的效果但會增加輸出的時間

4. Min Spacing：

最小間距 ：

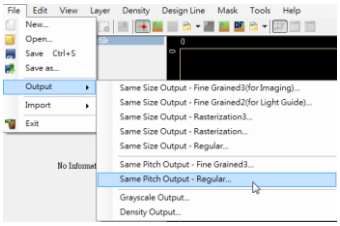
Setting minimum distance between two dots (edge to edge)

設定球與球間的最小距離(邊緣距離非球心距離)



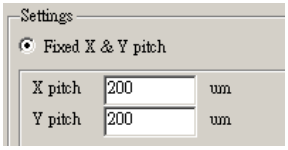
Same Pitch Output--Regular

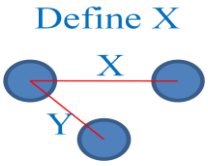
等間距輸出



1. Fixed X&Y Pitch ：

佈點方法-固定 X,Y Pitch ：





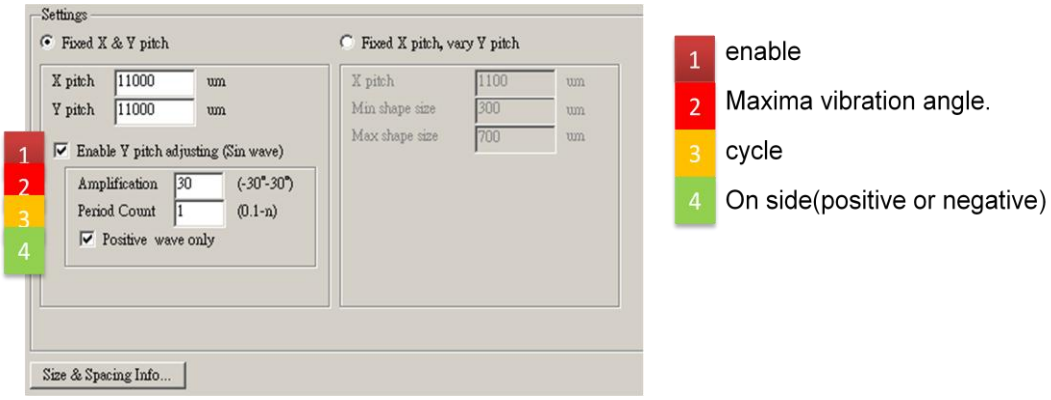
1.1 Enable Y pitches adjusting:

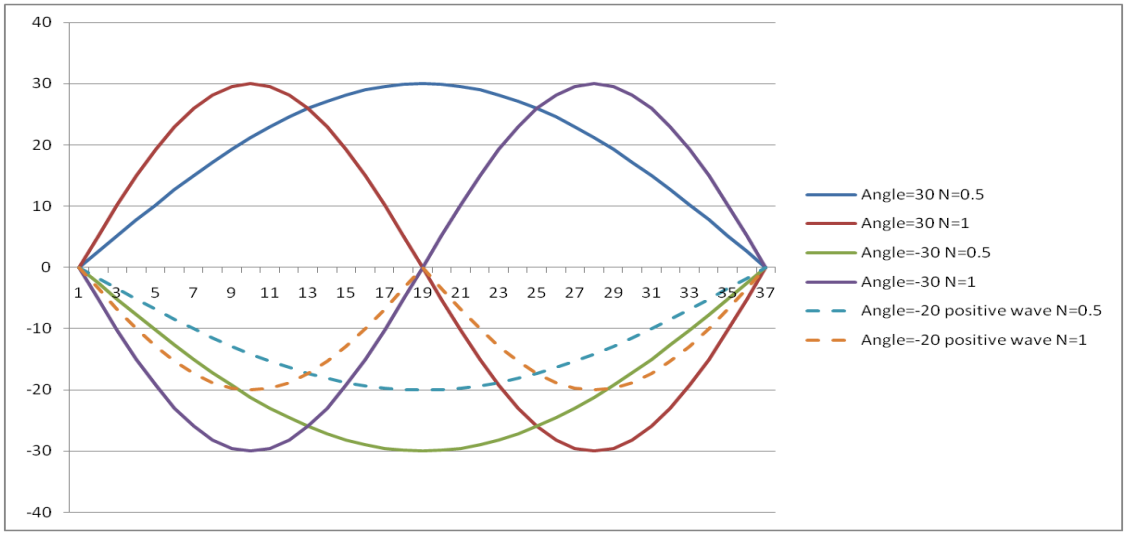
- Select “Enable Y pitch adjusting”

  勾選 Enable Y pitch adjusting:
- Set vibration angle(-30~30)

設定 amplification:晃動最大角度(-30~30)

- Set number of wave(1=one sin wave,0.5=half)
  設定 Period count:晃動次數(Y 方向)
- Force all positive or negative vibration.
  Positive Wave only:整流為上半波或下半波

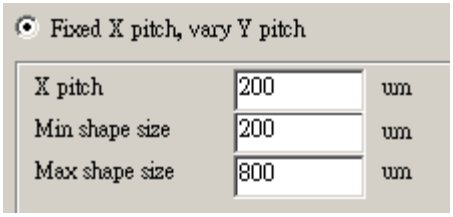




2. Fixed X pitch, vary Y pitch：

佈點方法-自動調變 Y Pitch ：

- Select Fixed X pitch, vary Y pitch
  勾選自動調變 Y Pitch
- Define X pitch：
  定義 X pitch：
- Define Min/Max shape size(output will meet this range but didn't means max/ min size as setting)
  定義理想最小/最大圓形尺寸(圓形符合設定區間,但不代表最小/大圖形與設定相同)



2.Vary Y Pitch:

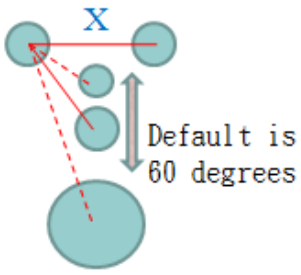
Define X and dot size range

Method:

Try 60 degree first check dot size in setting range.
Change angle to meet .

Purpose:

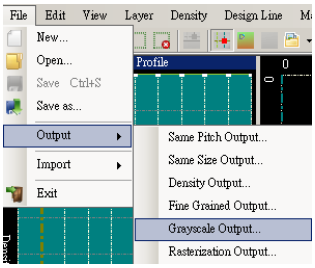
To meet process window.



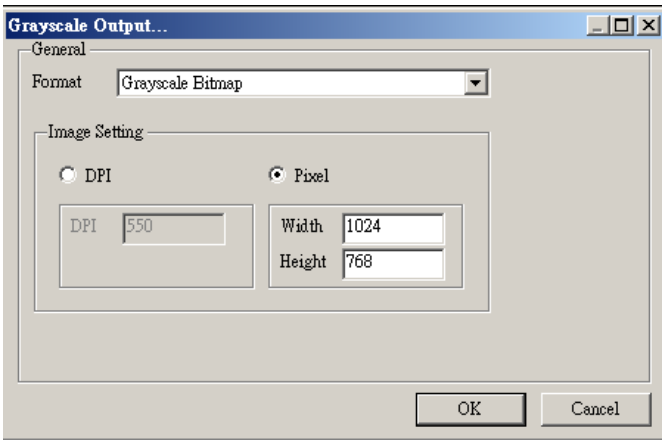
Grayscale Output

灰階輸出

1. File / Grayscale Output
   檔案 / 灰階輸出



2. Setting window
   出現灰階輸出視窗



(1)Format：

格式 ：

(1.1) Grayscale Bitmap: 256 grayscale 1byte

Grayscale Bitmap:256 色 1byte 灰階圖

(1.2) Image: 256 grayscale 4bytes

Image: 256 色 4byte 灰階圖

(1.3) EPS: EPS

EPS:EPS 格式

(1.4) FHD: 64K FebeesHighDefinition (Febees defined)

FHD:64K 高解析圖(飛比專用)

(1.5) CCD: 256 colors (same as CCD preview mode)

CCD:256 階彩色圖(同設計 CCD mode 圖像)

(2) DPI ： 96 (dot per inch)

DPI ：輸出解析度(DPI)

(3) Pixel: Force output pixel

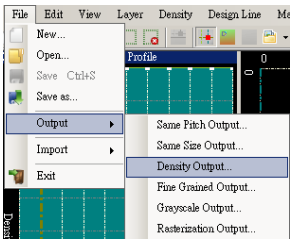
Pixel: 輸出解析度(pixel)

Density Output

密度輸出

1. File / Density Output

檔案 / 密度輸出



2. Setting window

   出現密度輸出視窗

   (1) Width ：X columns

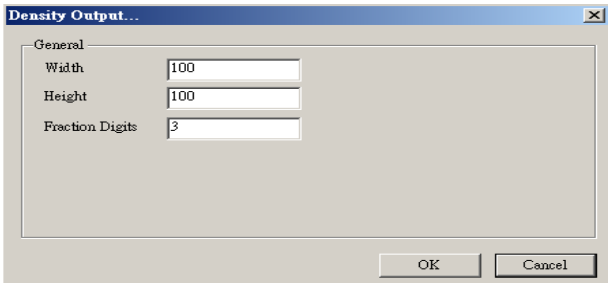
   寬度 ：X 軸輸出等份數量

   (2) Height：Y rows

   高度 ：Y 軸輸出等份數量

   (3) Precision：number of decimal

   小數點位數



PS: Output Format is ".csv"：

註:密度輸出後如下所示為一試算表(.csv)檔案格式：

Import same pitch design

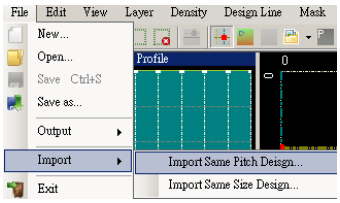
匯入等 pitch 設計

Import function only work under design mode (please create or open design first)

匯入檔案前須開新/舊檔案才能進行匯入指令

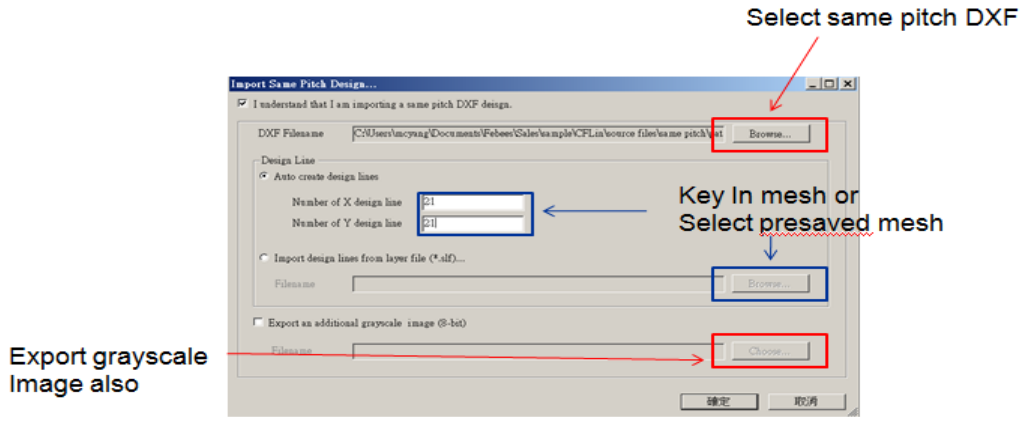
2. File / Import / Import same pitch design

   檔案 / 匯入 / 匯入等 pitch 設計



3. Setting window

   現匯入等 pitch 設計視窗 / 勾選自動建立設計線 / X 設計線數量；Y 設計線數量 / 按瀏覽後出現開啟舊檔視窗 / 選擇一個(.dxf)檔案 / 開啟舊檔



   (1) Select “I understand that I am importing a same pitch DXF design”. We only support same standard DXF formats without block mode for example Light Tool format.
   勾選我了解我正在匯入的 DXF 檔為等 pitch 設計：目前僅支援 Light Tool 等格式輸出,不保證所有 DXF 格式能被解析

   (2) Select “Auto create design lines”:Set mesh.
   啟用勾選自動建立設計線： X 設計線數量；Y 設計線數量

   (3) Select” Import design….”:load pre-saved mesh data.
   啟用勾選從圖層匯入設計線：預存的圖層資料

   (4) Select “export an additional”:You can generate gray scale image in the same time.
   啟用勾選額外輸出輝階：轉呈灰階圖

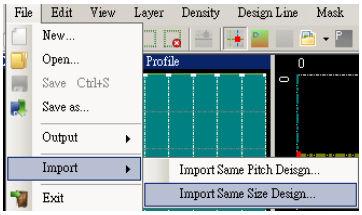
Import same size design

匯入 same size 設計

Import function only work under design mode (please create or open design first)

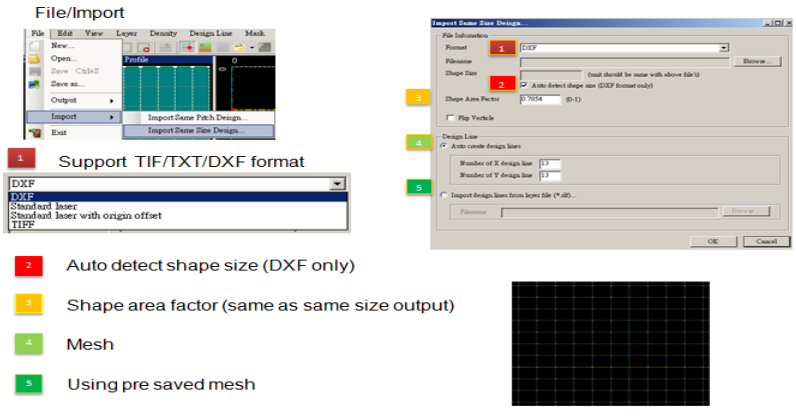
匯入檔案前須開新/舊檔案才能進行匯入指令

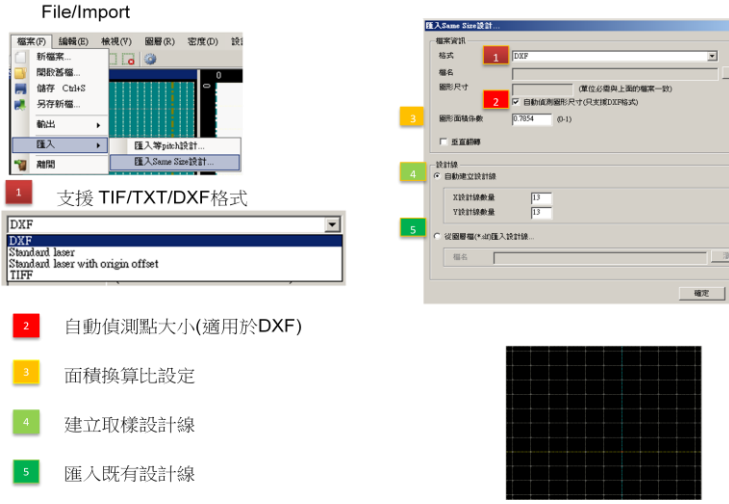
1. File / Import / Import same pitch design
   檔案 / 匯入 / 匯入 same size 設計



2. Setting window

   出現匯入 same size 設計視窗





Import large density table(build 4064 2011/02/16)

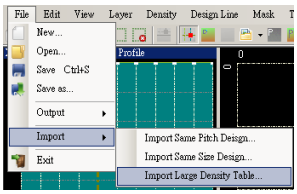
匯入大型密度表

Import function only work under design mode with same mseh (please create or open design first)

匯入檔案前須開新/舊檔案才能進行匯入指令,匯入的設計線與所開啟的設計檔一致

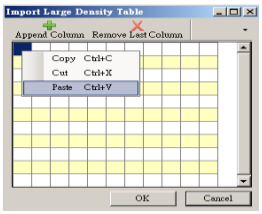
3. File / Import / Import large density table

   檔案 / 匯入 / 匯入大型密度表



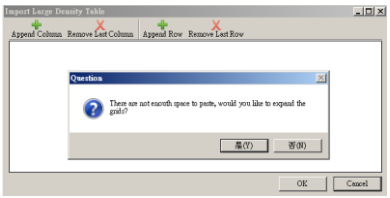
4. Setting window

出現密度編輯視窗



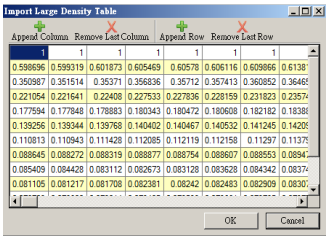
Copy excel data and paste

直接複製試算表資料並貼在跳出的編輯器上



Confirm expand grid➔click Yes

出現確認視窗➔點選確認



You can edit it, Press OK to finfish

您可以直接編輯,完成後按 OK 完成轉換

Chapter 3 Editing

第 3 章 編輯功能

Undo

回復

1. Undo /Ctrl+Z /  :

   回復(Undo) /Ctrl+Z /  : 回復至上一個畫面

Redo

重做

1. Redo/Ctrl+Y/  。

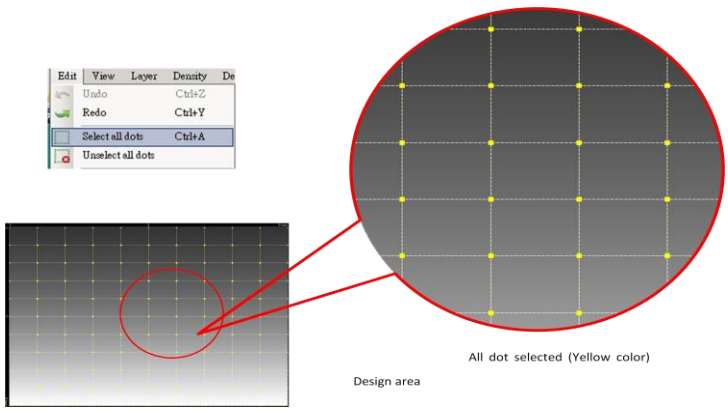
   重做(Redo) /Ctrl+Y/  ：可重做上一個動作，或取消上一個回復動作。

Select all dots

選擇所有密度點

1. **Select all dots/(Ctrl +A)/**  **Only work on design or CCD mode**

   選擇所有密度點/(Ctrl +A)/  選擇所有密度點鈕:選取設計區上所有由 X／Y 軸設計線交叉後產生的密度點

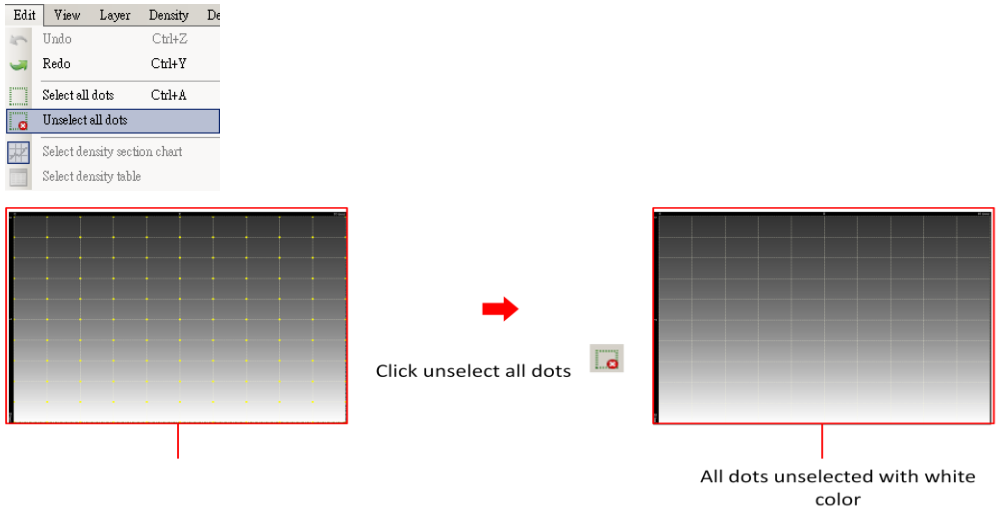


Unselect all dots

取消所有已選擇選擇的點

1. Unselect all dots/ Only work on design and CCD mode

   不選擇所有密度點/ **不選擇所有密度點**鈕：取消選取設計區上所有由 X／Y 軸設計線交叉後產生的密度點

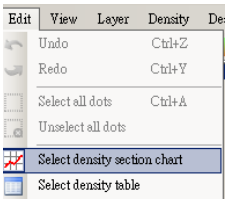


Select density section chart

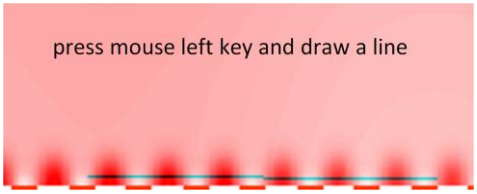
選擇密度線型分析圖

2. Select density section chart Only work on Preview, CCD preview and Diff view mode

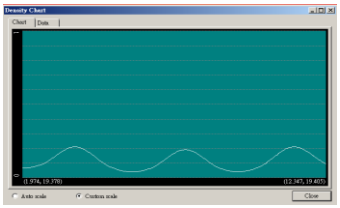
選取密度斷面圖  這個功能只能在預覽及背景模式中使用



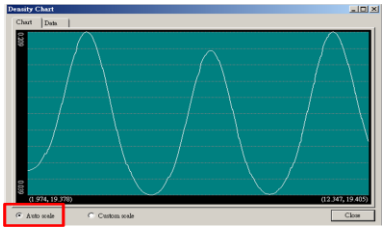
3. Press mouse left key and draw a line.
在設計圖稿中按住滑鼠左鍵任一畫一直線



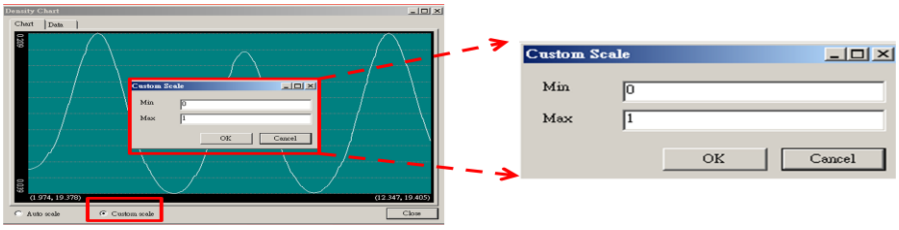
Pop up density profile:
系統會跳出該線的密度分佈圖



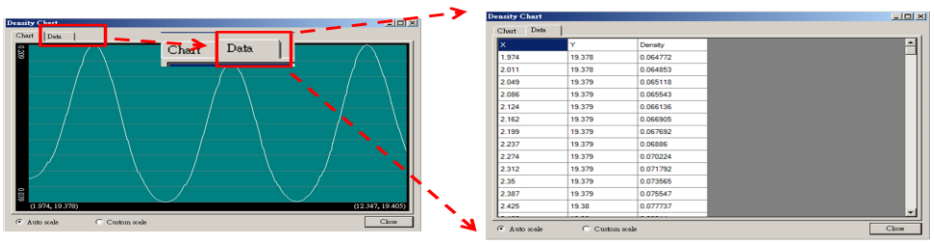
Auto made: scale to maxima range
自動 scale:系統會自動放大到最佳的座標範圍



Change scale by user define
自定 scale:使用者可以設定自寄的座標範圍



You can click Data label to view data and you can copy it to excel for advanced analysis.
你可以點選上方的資料標籤,畫面會帶出螢幕解析度的所有座標及密度值以方便做進一步的分析.

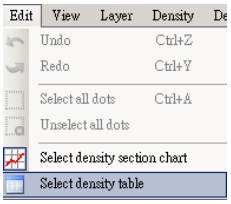


Select density table

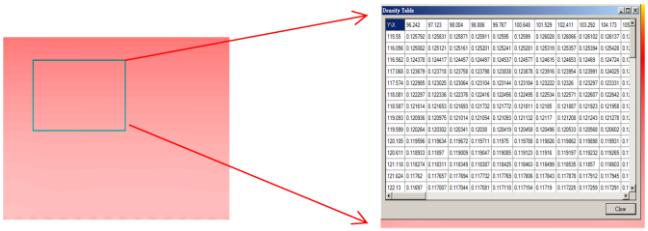
選擇密度表分析

1. Select density table  Only work on Preview, CCD preview and Diff view mode

   選取密度表分析  這個功能只能在預覽及背景模式中使用



2. Press mouse left key and draw a square area then you will see a pop up window shows density table.
   在設計圖稿中按住滑鼠左鍵任一畫一對角直線,系統會跳出對應的方塊密度值,密度值的解析度為設定的螢幕解析.



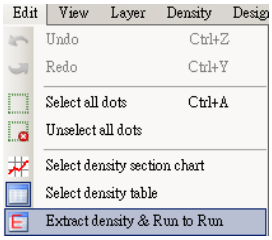
3. You can copy those data to excel for advanced analysis.
   你可以點選上方的資料標籤,畫面會帶出螢幕解析度的所有座標及密度值以方便做進一步的分析.

Extract density and Run to Run(build 3918 2010/09/23)

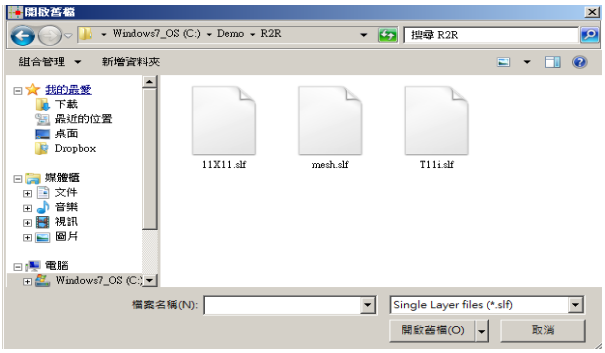
擷取密度及回饋運算(build 3918 2010/09/23)

1. Extract density and Run to Run  Only work on Preview, CCD preview and Diff view mode

   擷取密度及回饋運算  這個功能只能在預覽及背景模式中使用

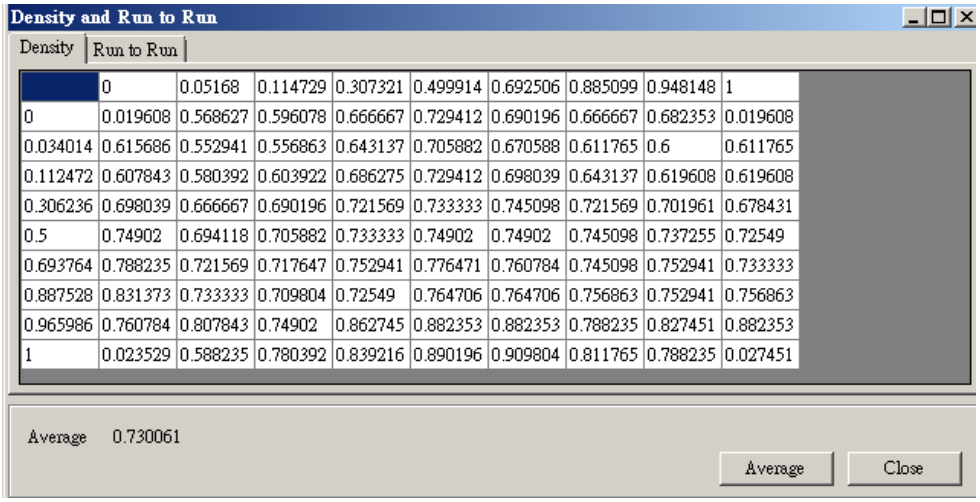


2. Choose pre saved export layer file (get mesh information *.slf) in pop up window.
   系統會帶出一個畫面要求選擇一個已經存檔的設計圖層檔(主要是取得網格線資料 *.slf)



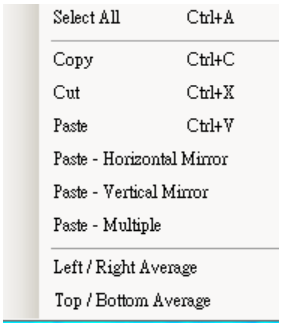
3. There are two page in pop up window “Density” and “Run to Run”
   接著會跳出一個畫面,此畫面包含兩個頁面”密度”及” “Run to Run”

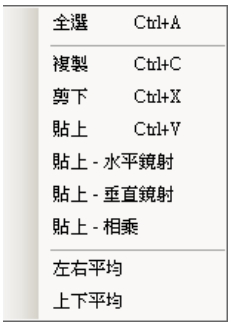
   3.1 Density:
   密度:



	0	0.05168	0.114729	0.307321	0.499914	0.692506	0.885099	0.948148	1
0	0.019608	0.568627	0.596078	0.666667	0.729412	0.690196	0.666667	0.682353	0.019608
0.034014	0.615686	0.552941	0.556863	0.643137	0.705882	0.670588	0.611765	0.6	0.611765
0.112472	0.607843	0.580392	0.603922	0.686275	0.729412	0.698039	0.643137	0.619608	0.619608
0.306236	0.698039	0.666667	0.690196	0.721569	0.733333	0.745098	0.721569	0.701961	0.678431
0.5	0.74902	0.694118	0.705882	0.733333	0.74902	0.74902	0.745098	0.737255	0.72549
0.693764	0.788235	0.721569	0.717647	0.752941	0.776471	0.760784	0.745098	0.752941	0.733333
0.887528	0.831373	0.733333	0.709804	0.72549	0.764706	0.764706	0.756863	0.752941	0.756863
0.965986	0.760784	0.807843	0.74902	0.862745	0.882353	0.882353	0.788235	0.827451	0.882353
1	0.023529	0.588235	0.780392	0.839216	0.890196	0.909804	0.811765	0.788235	0.027451

   Those data is extract mesh position from final design. You can edit like normal sheet.
   這個密度值是直接截取最終設計的網格點的密度,你可以如同一般表格編輯.



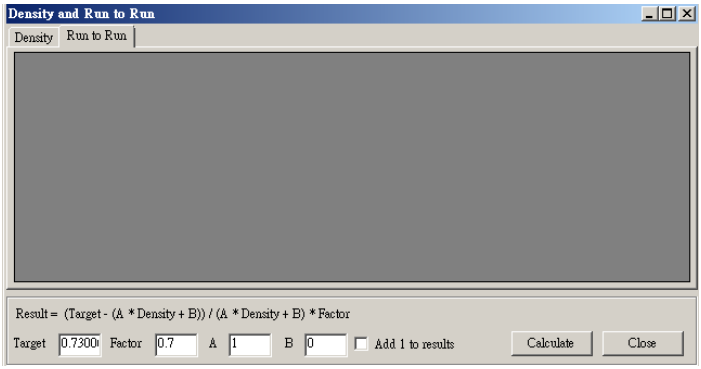


You can calculate latest average just press Average button.

你可以按一下 Average 得到最新的平均值

3.2 Run to Run:

Run to Run



There are some setting in the bottom .

以下是設定值的相關說明

3.2.1 Target:

目標

You can set ideal target you want(luminance).

你可以設定計算的目標值(亮度)

3.2.2 Factor:

系數:

You can set Modify ratio.

設定預修正的百分比

3.2.3 A,B:

You can translate density data into luminance data.

這是用來轉換密度資料到亮度資料的係數.

3.2.4 Add 1 to result:

結果全部加 1:

You can use percentage or add percentage.

加一只原來的百分比,不加一只增加百分比.

3.2.5 Calculate:

計算:

It will calculate the result as (Target-(A*Density+B))/(A*Density+)*Factor +1.

計算的公式為(目標-(A*Density+B))/(A*Density+)*系數+1

You can edit like normal sheet also after calculated.

計算完後,你仍可以如同一般表格編輯

There is one example show you how to use it:

請參考範例說明:

English version: http://www.febees.com/backlightfly/1011/index.html

中文版: http://www.febees.tw/backlightfly/1011/index.html

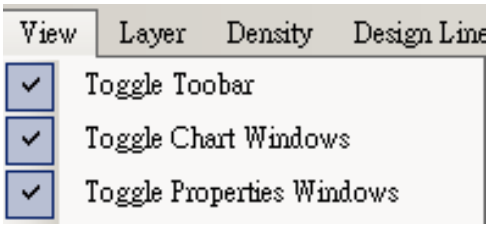
Chapter 4 View

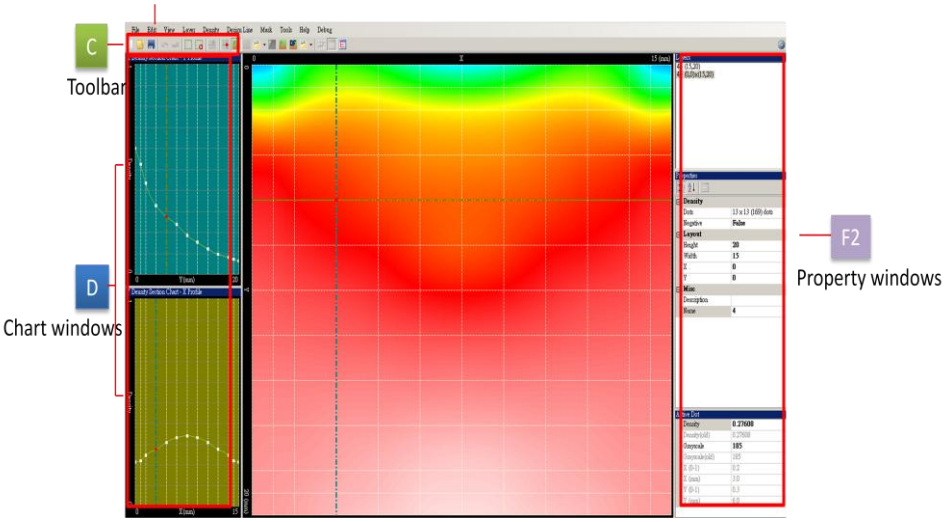
第 4 章 檢視模式

Switching Toolbar

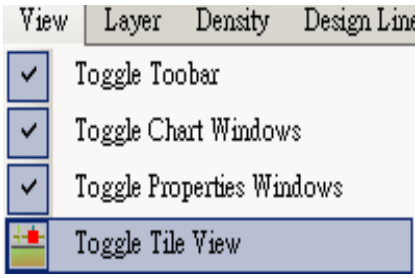
切換工具列

1. View or hide those windows
   設定展現工具列/密度斷面/內容視窗與否

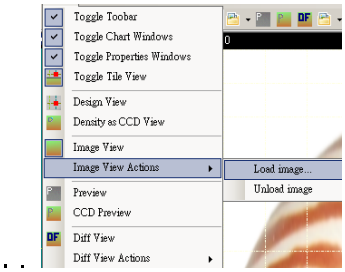




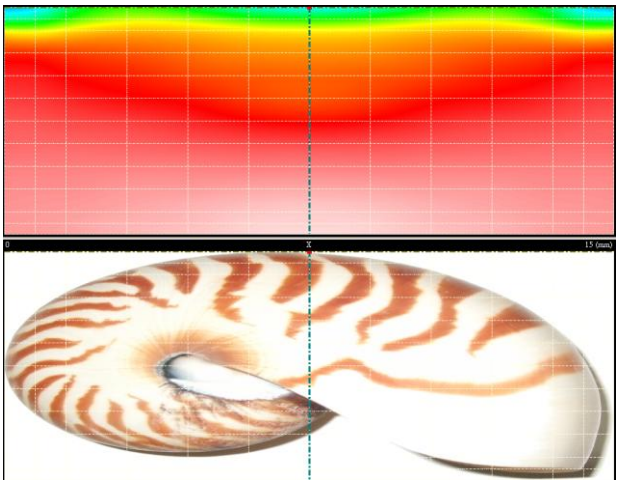
2. Toggle tile view: It work when reference image loaded first
   並列模式:必須在影下模式下先載入參考影像



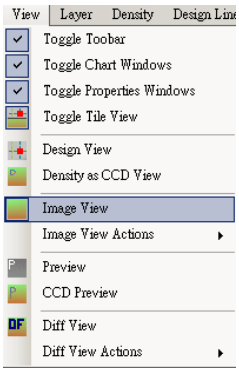
1. Load reference image first: View/Image view Actions/Load image
   先在入參考影像檔

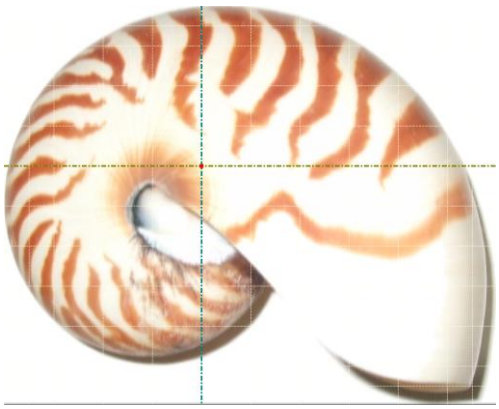


2. You can toggle title view now: The loaded image is for reference only. You select design node is image area is the same as design area.
   現在您可以選擇並排顯示



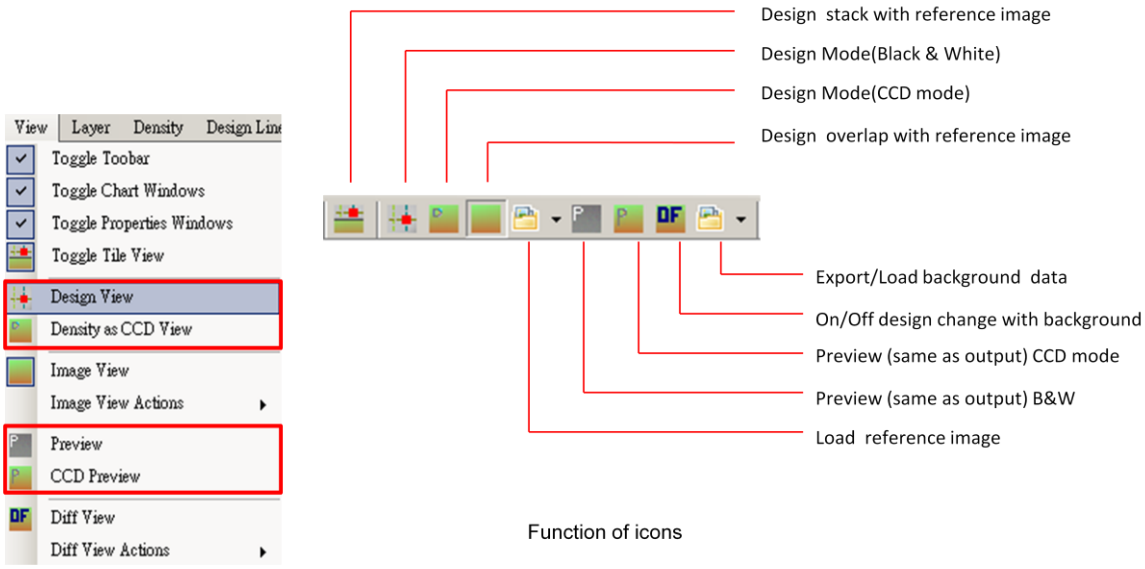
3. You can choose overlay view also: The design area will be this loading screen image; function is same as design mode, adjustment and design of line density.
   現在您可以選擇重疊顯示





Views:

檢視 ：



Design Mode：BacklightFly default ,this mode can be edited with design lines, adjust density and design of line。

設計模式：BacklightFly 預設的檢視模式，於此模式下設計區具設計線可進行編輯、調整密度值與設計線。

CCD mode：This mode is the density distribution of the design file to CCD mode rendering; function is same as design mode, adjustment and design of line density. Showed the lowest to the highest density of the order of red - "(yellow -)" (Green) -> Blue. Edit or modify the density in CCD mode immediately after the presentation and preview。

模擬 CCD 模式：此模式是將設計檔的密度分佈以 CCD 模式呈現，但設計區仍具設計線可進行編輯、調整密度值與設計線。並以顏色紅、藍混色來表示密度分佈疏密程度。顯示密度最低到最高的順序為紅->(黃-)>(綠)->藍。編輯或調整密度值後可即時以 CCD 模式呈現並預覽。

Preview Mode：This mode is the density distribution of the design file to grayscale image, and preview the results presented, the design area does not have the design lines to edit, adjust the density

and design lines.

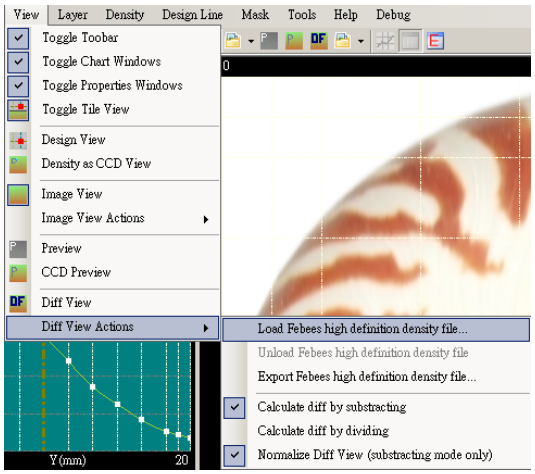
預覽模式：將設計檔的密度分佈以灰階影像方式呈現並預覽。

CCD Preview Mode：This mode is the density distribution of the design file to CCD mode, and preview the results presented, the design area does not have the design lines to edit, adjust the density and design lines.

CCD 預覽模式：此模式是將設計檔的密度分佈以 CCD 模式呈現並預覽其結果，但設計區不具設計線可供編輯、調整密度值與設計線。

Diff View:

背景值差異性比較視窗:



1. Compare two designs by subtracting or dividing.
   比較兩個設計稿的相差或比例值
1.1 Preparing Original design: Export Febees high definition density file to disk。
   準備原始設計:選擇匯出飛比高解析格式
1.2 Load original design: Load Febees high definition density file
   載入預存的原始設計:選擇載入飛比高解析格式
2. Select comparison method: subtracting or dividing.
   選擇比較模式:選擇相減或相除比較.
3. Enable “Normalize Diff view” to extend scale. (only for subtracting mode)
   可以選擇自動調整相減或相除值的比例
4. Toggle Diff to look comparison result or not.
   切換比較模式及設計預覽模式.

Please look detail below:

User request：I need to double check the final design with original. I need to know the density change is as we think.

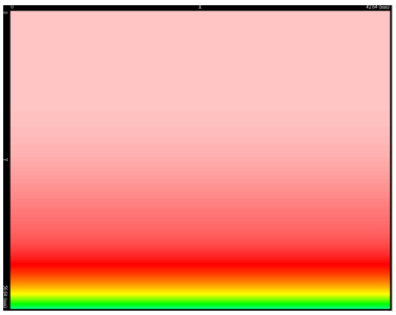
Compare mode.

Design mode.

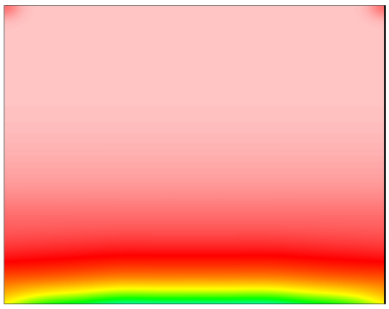
1. **Open your design which you want to compare as background.**
2.  **Press DF button.**
3. 

Select Export and save.
4. **Press design view**  **. Start design or open new version design.**
5.  **Press DF button and load "Febees HD density file "**
6. **You can switch Compare and design mode now**

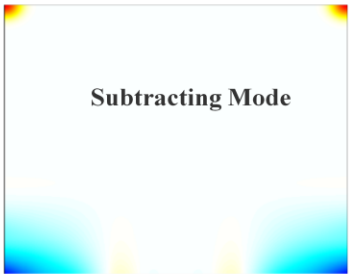
Toggle Diff View:



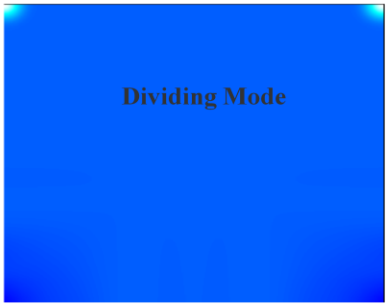
1st Design



2nd Design



Blue: decease
Yellow: increase



Blue: decease
Yellow: increase

Chapter 5 Layer

第 5 章 圖層功能

Layers can be thought of as a piece of drawing paper sheets, the operating concept is independent of each paper in the density distribution respectively, and then draw a design over the drawing paper by overlapping them, that is, into a merged design file. Taking the maximum, minimum or averaging operation to achieve the result you want. Since the layers can be thought of as a piece of drawing paper sheets, it also means that you can add more layers to the density of individual density distribution; so any editor can adjust the density and without affecting other layers, how to effectively manage and quickly modify the job done, it depends on the use of a layer

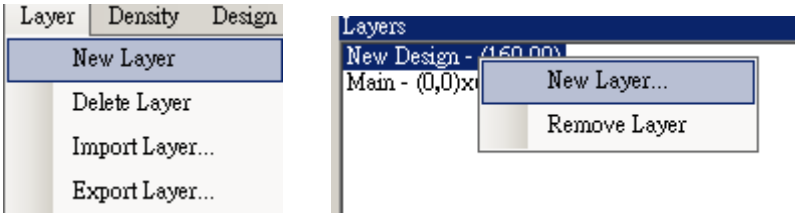
圖層可以被想成是一張張畫紙，其作業概念是於每個獨立的畫紙上分別進行密度疏密分佈，再將一張張經設計過的畫紙重疊起來，也就是合併組合成為一張**設計檔**。而這些畫紙的密度分佈值在合併組合過程中可直接在這一張**設計檔**上進行密度值疊加、取最大值、取最小值或取平均值的運算來達到您要的結果。既然圖層可以被想成是一張張畫紙，也同時意謂著可以新增多個圖層來進行個別獨立的密度疏密分佈；如此便能任意編輯與調整密度值而不會影響到其他圖層，如何有效管理並快速地完成修改作業，便有賴於圖層的善用了

New Layer

新增圖層

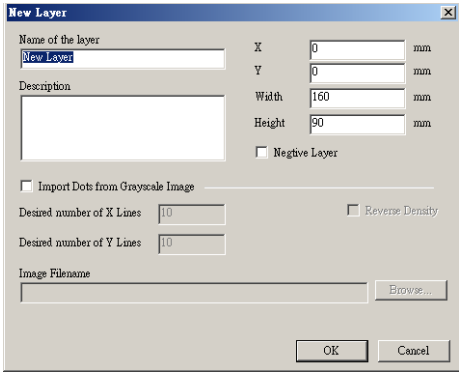
1. Layer / New Layer or select New Design, Frame, and click right button of mouse

檔案 / 圖層 / 新增圖層

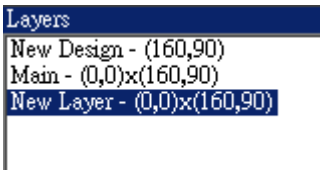


2. Popup window is the same as File/New

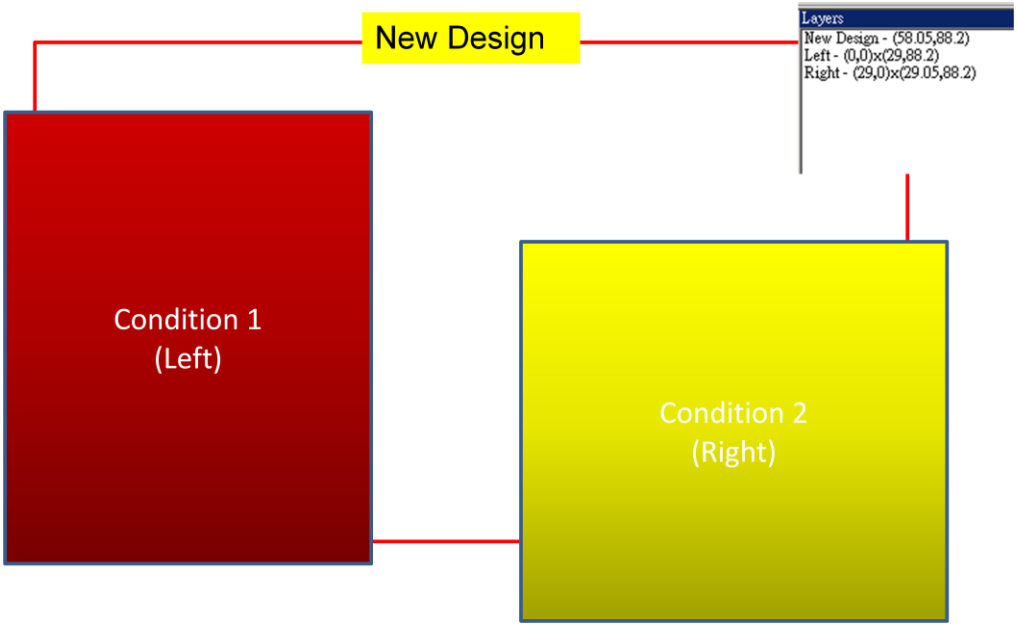
出現新圖層視窗 / 圖層名稱 ： 輸入檔案名稱 / 確定



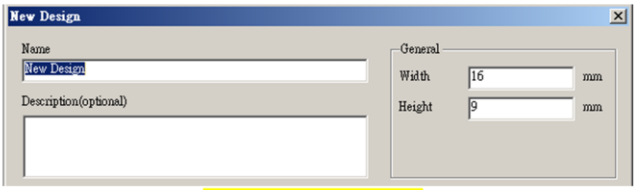
3. In the layers window that is found in the existence of a new layer.
   於圖層面版中即發現新圖層的存在

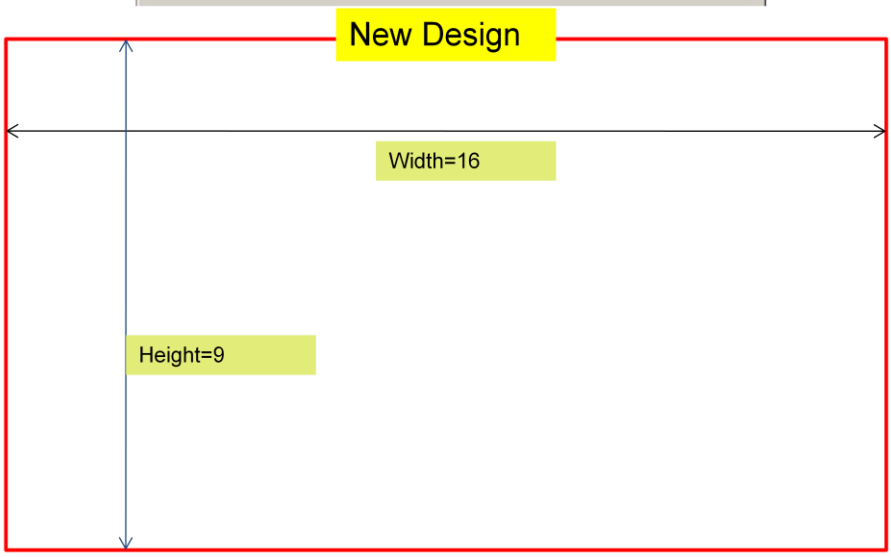


Example: Design of Experiment by multi-layers
範例:利用 multi-layers 來達到實驗設計的目的

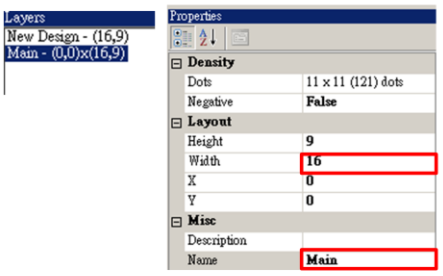


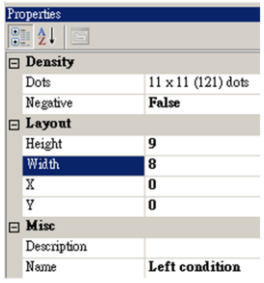
Open a new file

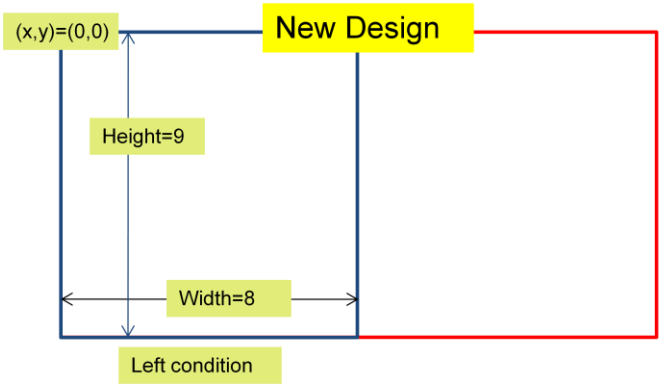


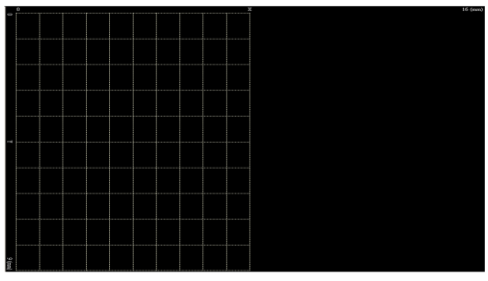


Define Left condition

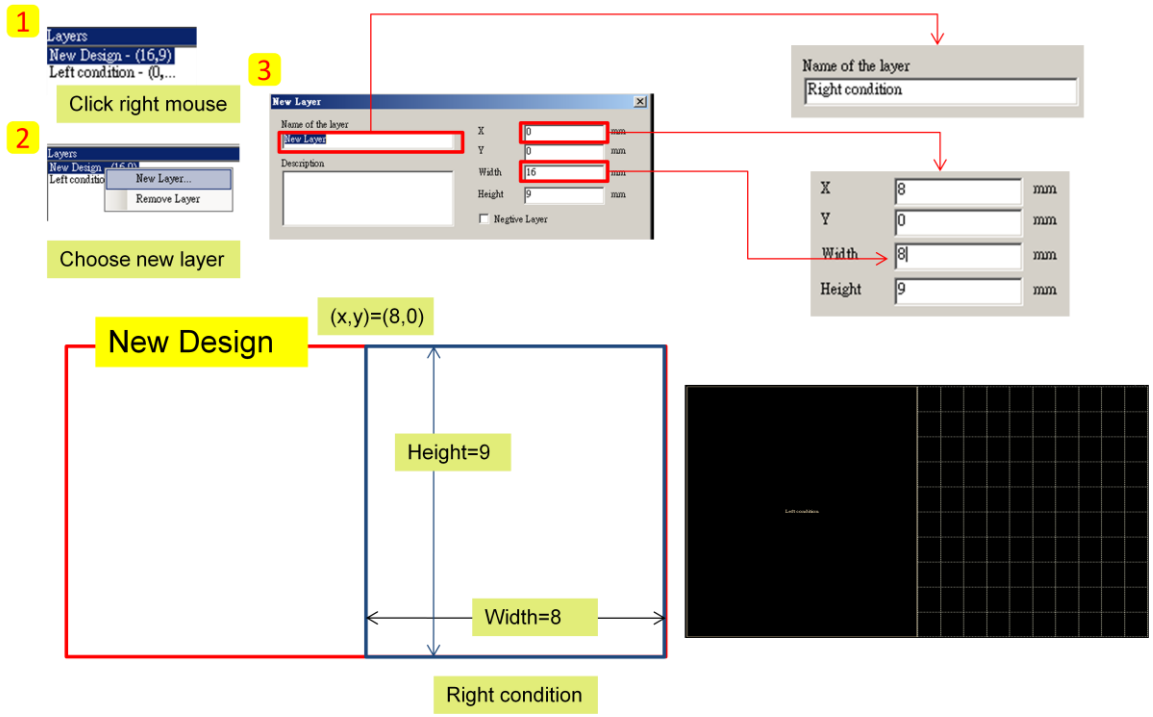




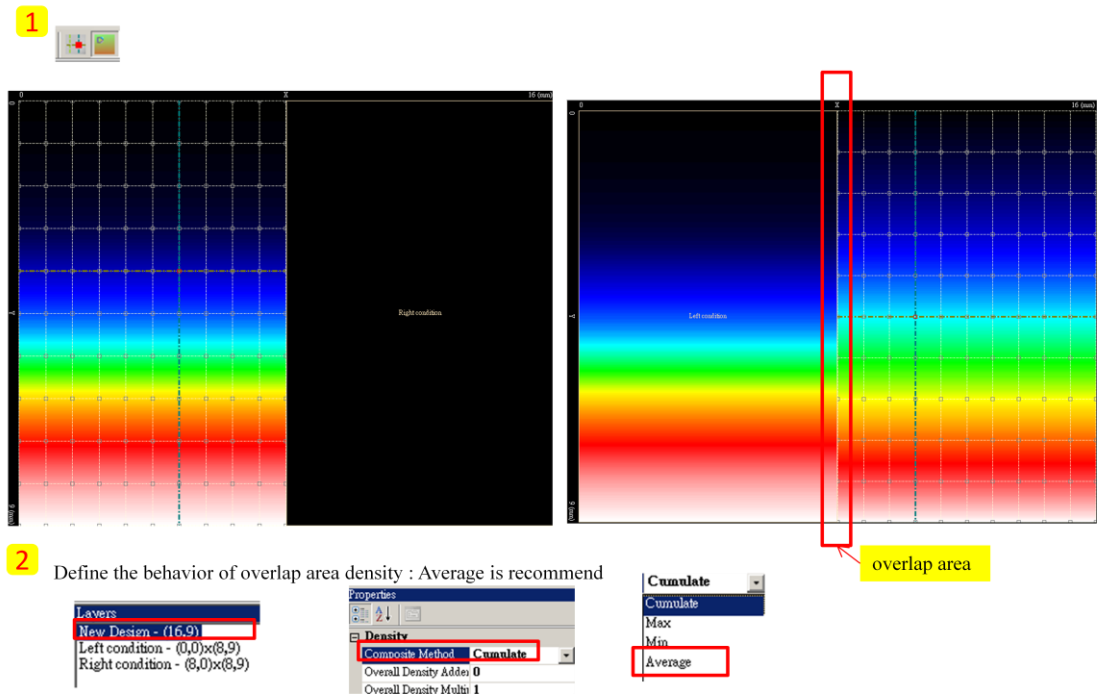




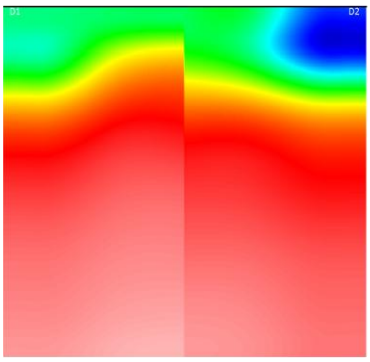
Add right condition



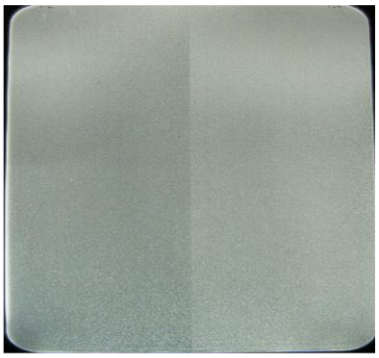
Edit two conditions



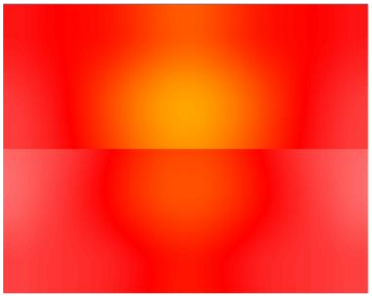
Example



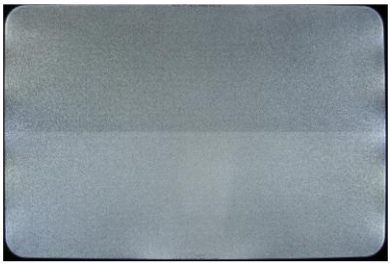
DOE



Response



DOE



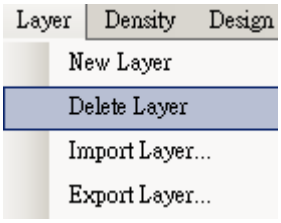
Response

Delete Layer

刪除圖層

1. Select the active layer
   確認目前作用中的圖層

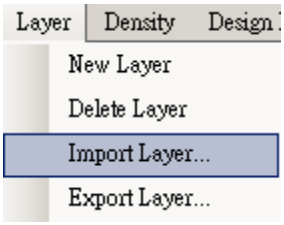
2. Execute delete by select “Layer/Delete Layer” or click “right mouse button”
   圖層 / 刪除圖層或在圖層視窗中,點選作用中的圖層再按滑鼠右鍵



Import layer

匯入圖層

1. Layer /Import Layer
   圖層 / 匯入圖層選單

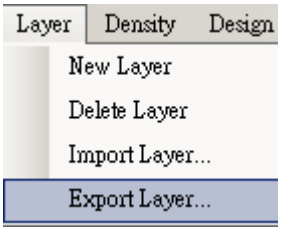


2. Select pre saved SLF file.(please reference export layer)
   出現開啟舊檔視窗 / 點選單一圖層檔案 : *.slf / 開啟舊檔

Export Layer

匯出圖層

1. Layer / Export Layer
   圖層 / 匯出圖層



2. Save this layer design, SLF, to Disk.
   出現另存新檔視窗 / 輸入檔案名稱 : * / 存檔

Chapter 6 density

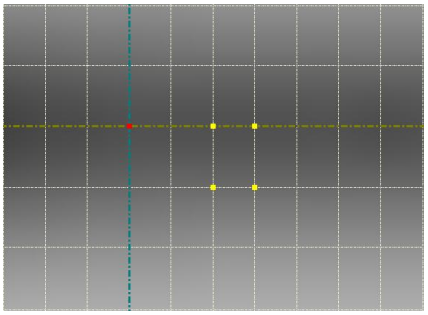
第 6 章密度值調整的功能

Density point:

密度點:

BacklightFly use horizontal and vertical line as design base. The nodes of design lines we called density points. As long as the change in one, some or all of the density points results immediately and directly to change the preview.

BacklightFly 利用在設計檔尺寸大小上的寬度(X 軸方向)與高度(Y 軸方向)分別用同間距或不同間距的數條設計線交叉後產生的節點；我們稱之為「密度點」而每一密度點均有其密度值，只要改變其一、部份或全部密度值，設計結果隨即改變並可直接預覽.



Density points

密度點

Active of point (red)

作用中密度點 (呈紅色)

Selected of points (yellow)

選取中密度點 (呈黃色)

Active Dot	
Density	**0.395203046**
Density(old)	0.395203046
Grayscale	**154**
Grayscale(old)	154
X (0-1)	0.45
X (mm)	72.00
Y (0-1)	0.5
Y (mm)	45.0

Fig 1: Information of active point

圖 1： 作用中的密度點面版-顯示密度值與灰階值 (紅色)

PS: Mouse operating skills: selecting density point of operating skills

註:滑鼠操作技巧：選取密度點的操作技巧

1. Press and hold left mouse button, drag from the upper right to lower left (fig 2).

滑鼠左鍵按著不放，由右上往左下拖曳，如左下圖：

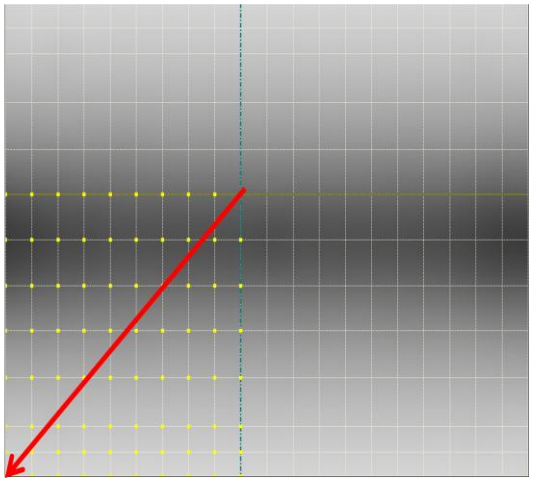


Fig2 : select points

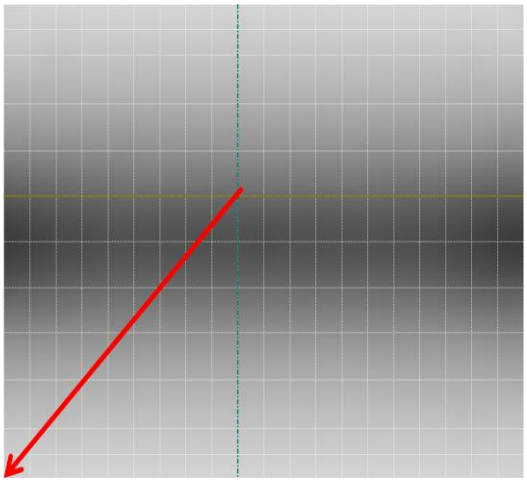


Fig3 : de-select points

Wants to be de-select density points that once again the implementation of drag from the upper right of action under the left(Fig 3)：

若欲取消選取密度點即再執行一次由右上往左下拖曳的動作，如右上圖：

2. Press and hold left mouse bottom, drag from the upper left to lower right (fig 4).

2. 滑鼠左鍵按著不放，由右上往左下拖曳，如左下圖：

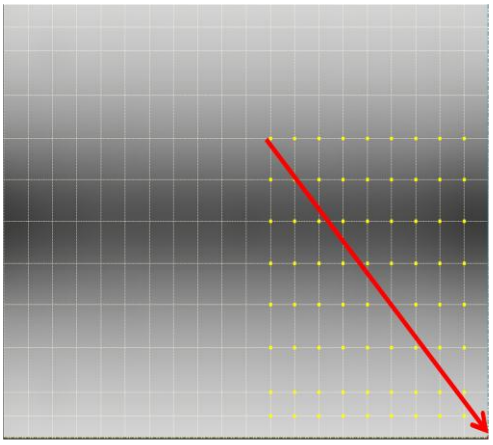


Fig 4: select points

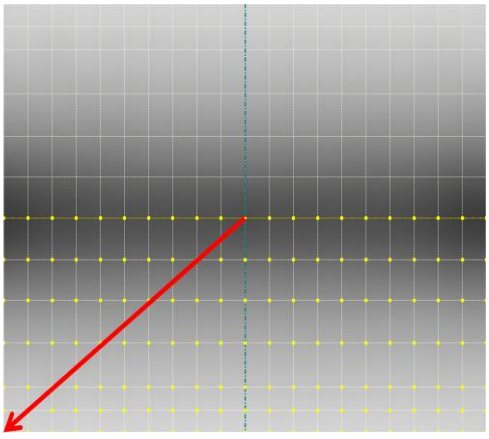


Fig 5: select more points

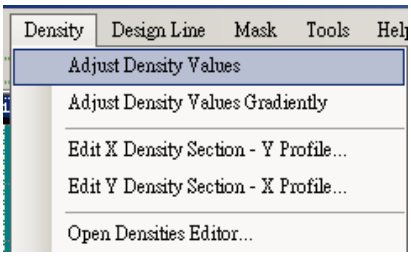
3. Press and hold left mouse bottom, drag from the upper right to lower left (fig 5).

3. 滑鼠左鍵按著不放，由左上往右下拖曳，如右上圖：

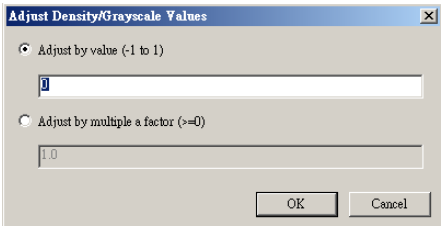
Adjust density values:

調整密度值:

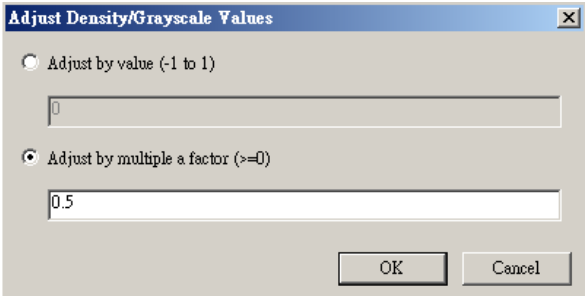
1. Select the pre-revised density points
   選取預修改的密度點
2. Density / Adjust density values
   出現調整密度值視窗 / 勾選依輸入的數值來加減調整



3. Adjust by value:
   加減調整
   Selected points add this setting value (-1~1). The result out of the range from 0 to 1 will be set to 0 or 1.
   增加或減少現有密度值,其結果為 0~1 的新密度值



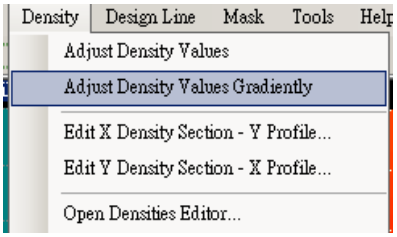
4. Adjust by multiple a factor:
   相乘調整
   Selected points multiple this setting value (>=0). The result out of the range from 0 to 1 will be set to 0 or 1.
   現有密度值乘以設定值,其結果為 0~1 的新密度值



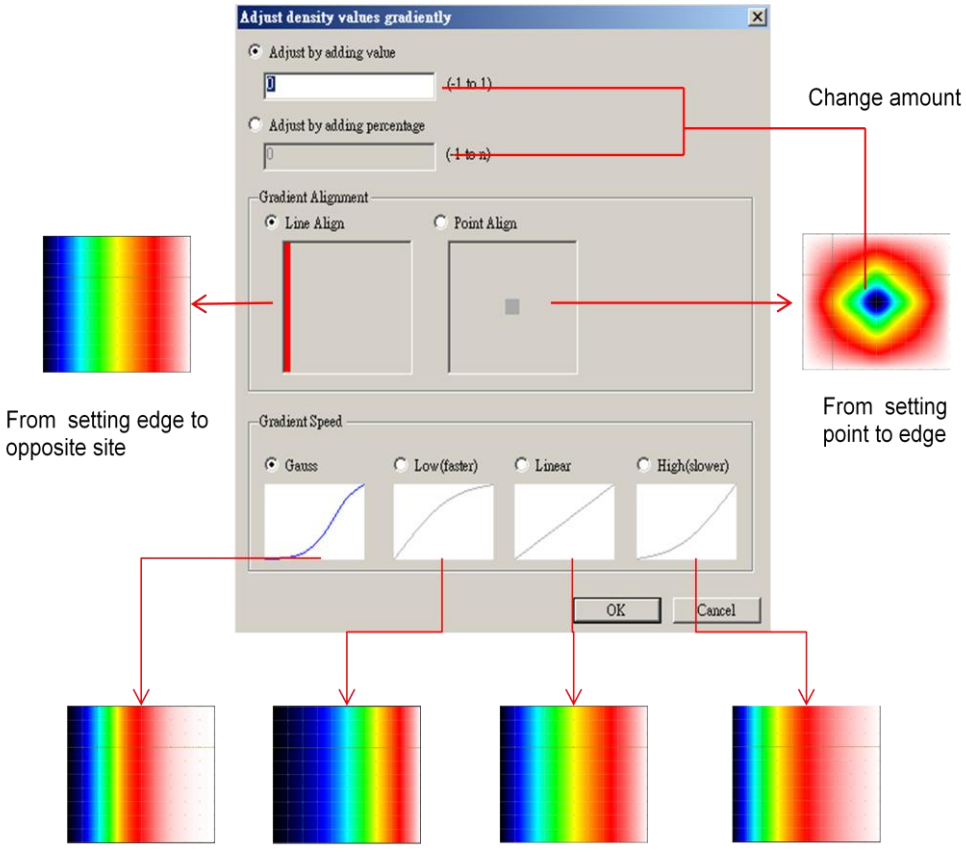
Adjust density values gradient

漸層式調整密度值

1. Select points (at less 3X3)
   框選需要調整的密度點 (呈黃色最少要 3X3)
2. Density / Adjust density values gradient
   密度 / 調整密度值 (漸層)



3. Select gradient direction and method.
   出現漸層式調整密度值視窗



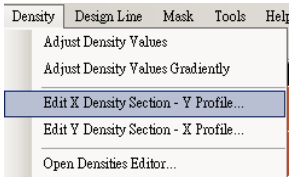
PS: There are 4 options of “Line Align” which are left, right, top, bottom.
在線對齊模式下可以選擇上下左右四個方向
There are 9 options of “Point Align” which are 3 by 3 matrix.
在點對齊模式下可以選擇 9 個起始點.

4. (1)Select adjust value or Multiply factor
   勾選並輸入值加減/勾選並輸入百分比加減
   (2)Select align mode
   選擇漸層對齊方式
   (3)Select gradient profile
   選擇漸層速度
   (4)comfirm
   確定

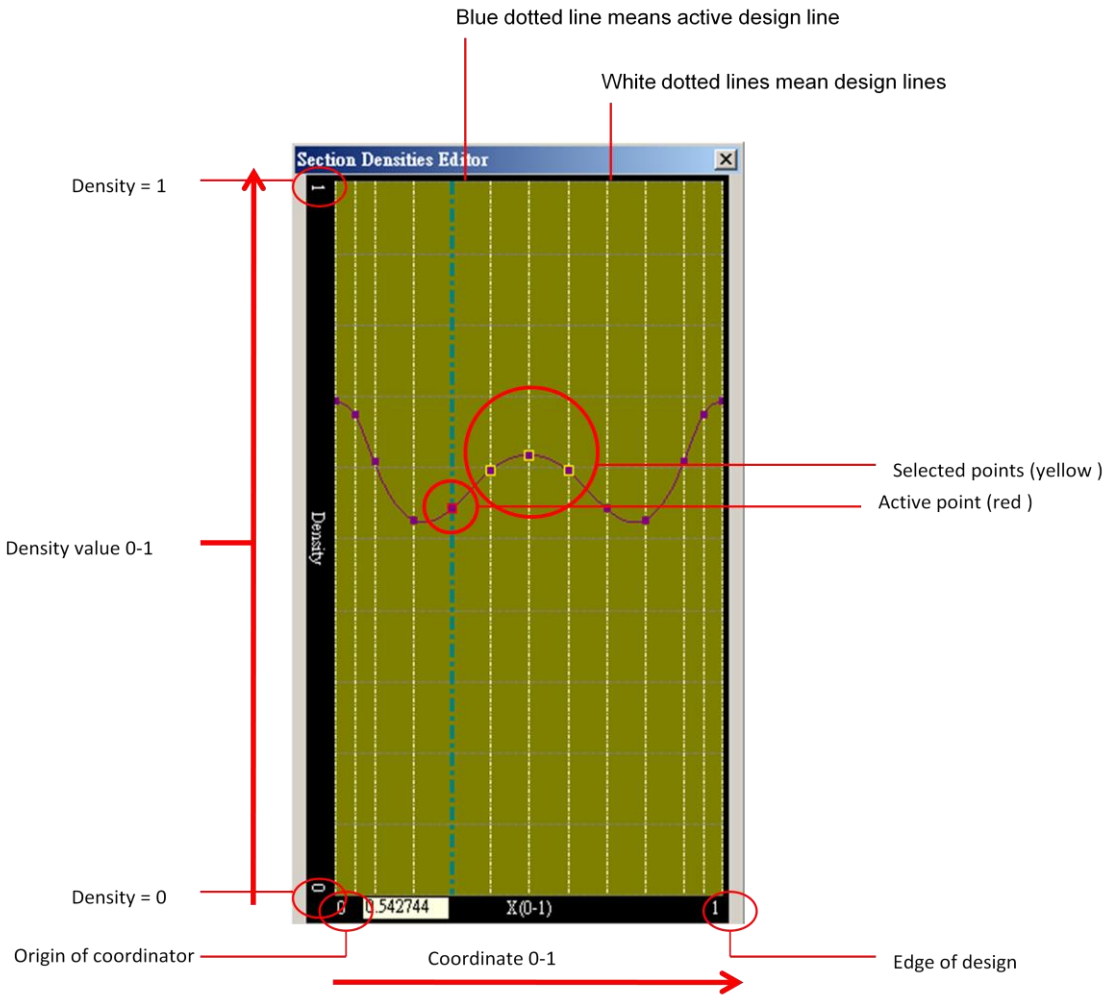
Edit X/Y Density Section Profile

X/Y 斷面密度編輯

1. Active point (red)
   選取預修改的密度點(呈紅色)
2. Density / Edit X/Y Density Section Profile
   密度 / 編輯 X/Y 密度斷面 ，Y/X 密度變化



3. Pop up “section density editor” window
   出現斷面密度編輯視窗
4. Drag the node with the mouse or keyboard up and down keys to change the density
   用滑鼠拖曳節點或鍵盤上下鍵來改變密度值



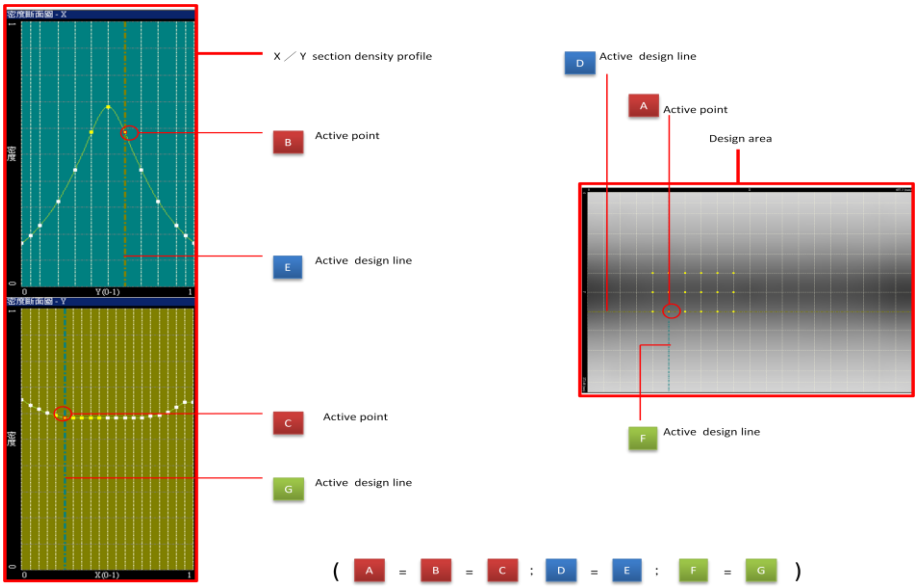
PS: The relationship of **X ／Y** section density profile and design area：

In the X / Y graph can show the density profile role in the density of point of its vertical and horizontal distribution of density curve, as shown below: In the design area in section A and the X-density map in the B and Y density map in the C refers to surface in the figure are the same point, while D and E are referred to the role of the density of points where the Y-axis design line; F and G are referred to the role of the density of points where the line X-axis design line.

註:X ／Y 密度斷面圖與設計區的關係：

1.首先談到密度斷面圖與設計區的關係：

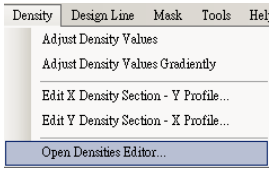
在 X ／Y 密度斷面圖可顯示出作用中的密度點它的垂直及水平密度曲線分佈，如下圖所示：在設計區中的 A 與在 X 密度斷面圖中的 B 和 Y 密度斷面圖中的 C 指的都是同一點，而 D 與 E 指的都是作用中的密度點所在的 Y 軸設計線；F 與 G 指的都是作用中的密度點所在的 X 軸設計線。



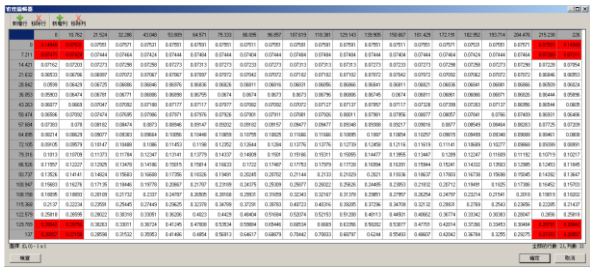
Density Editor

密度編輯器

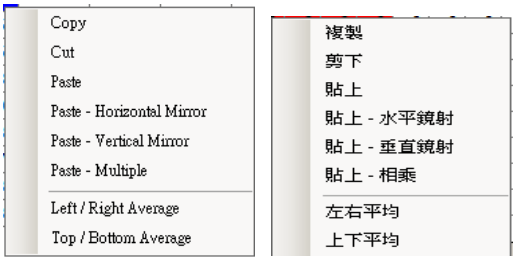
1. density / open density editor
   密度 / 開啟密度編輯器



2. pop up “density editor window “ , red means the points you selected in design area
   出現密度編輯器視窗 /紅色區域 (選取的設計點) 的密度值



3. You can edit, copy and paste in this table, Most experienced users modify the density copied from a spreadsheet (of course, can also be copied to a spreadsheet)
   你可以編輯這個 table, 有經驗的使用者大多直接修改密度表資料,或從試算表複製過來(當然也可以複製到試算表)

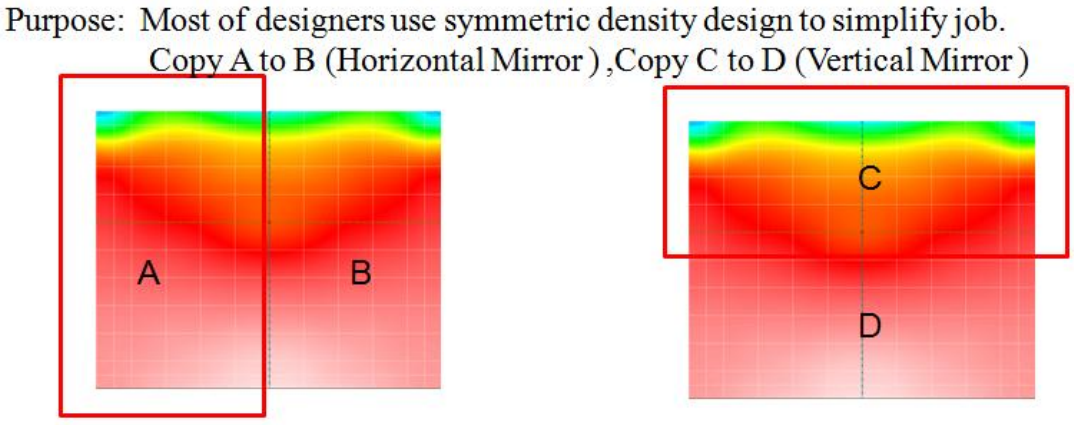


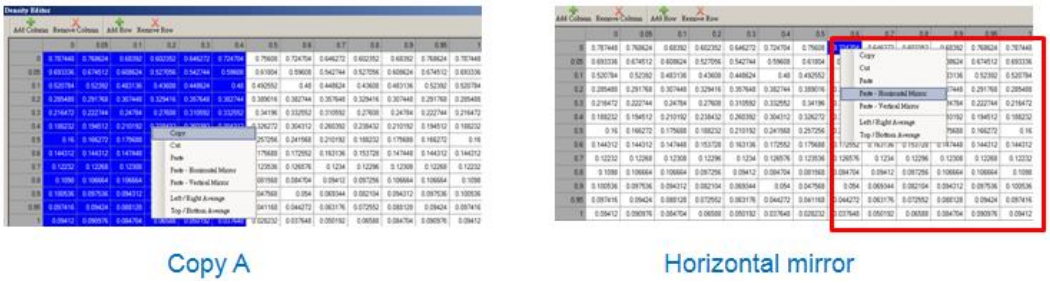
3.1 Copy/Cut/Paste: same as excel

複製/剪下/貼上如同一般試算表

4.2 Paste Horizontal/Vertical Mirror:

貼上—水平鏡射/垂直鏡射





4.3 Paste Multiple: (build 3918 2010/09/23)

貼上-相乘

Purpose: Adjust density with luminance deviation.

目的:根據亮度資料修正密度值

Method: Assume we have we have luminance deviation. We can multiple this data with original design for next design version.

方法:假設我們已經根據亮度值算出每一個密度點需要修正的百分比.我們可以直接將這些值與原有值相乘

There is one example show you how to use it:

您可以參考以下範例:

English version: http://www.febees.com/backlightfly/1011/index.html

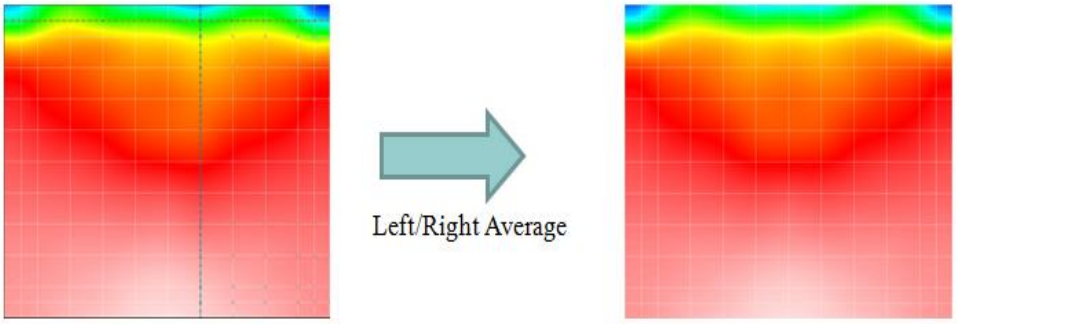
中文版: http://www.febees.tw/backlightfly/1011/index.html

4.4 Left/right or top/bottom average:

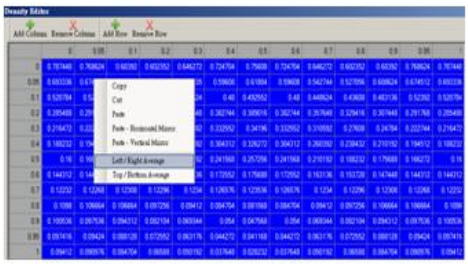
左右平均/上下平均

Purpose: After feedback by luminance we want to keep symmetric again.

Average A and B(Left/Right Average) OR Average C and D(Left/Right Average)



Method: select area points/Left/Right average

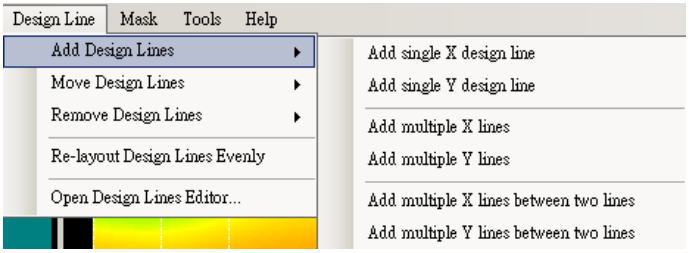


Chapter 7 Design Line

第 7 章 設計線功能

Add Design Lines

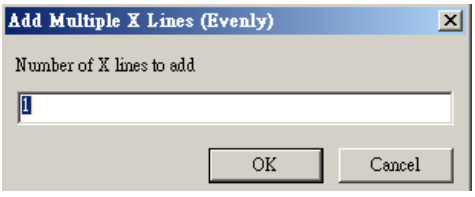
新增設計線



1. Add single X/Y design line:
   增加指定 X 或 Y 位置的設計線

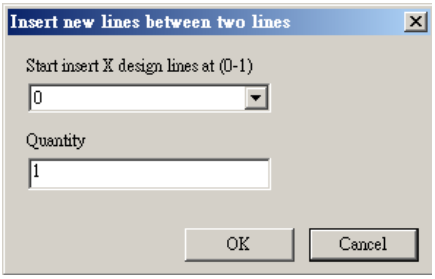
   Key in new location(switch percetage,0~1, and absolute,mm, see tools setting).
   可以在工具選單中更改鍵入絕對單位或 0~1 正規化單位

2. Add multiple X/Y lines
   增加多條 X 或 Y 方向設計線



   Key in number and system will add line automatic(switch percetage and absolute see tools setting).
   鍵入欲增加的數量,系統會自動選擇位置.

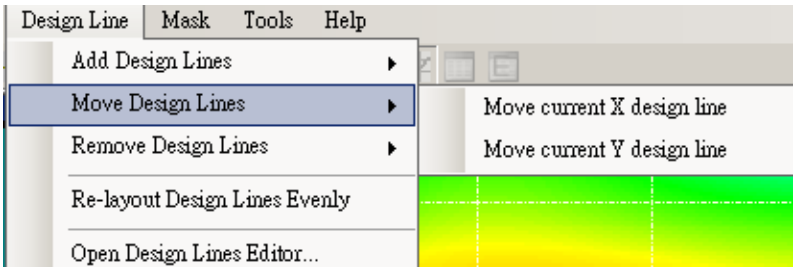
3. Add multiple X/Y lines between two lines
   在原有的兩條 X 或 Y 設計線中增加多條



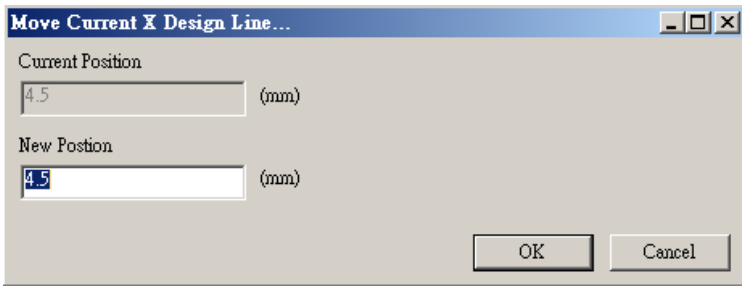
Key in start location and number of add lines(switch percetage and absolute see tools setting).
需要鍵入第條設計線的位置及欲增加的數量

Move Design Lines

移動設計線



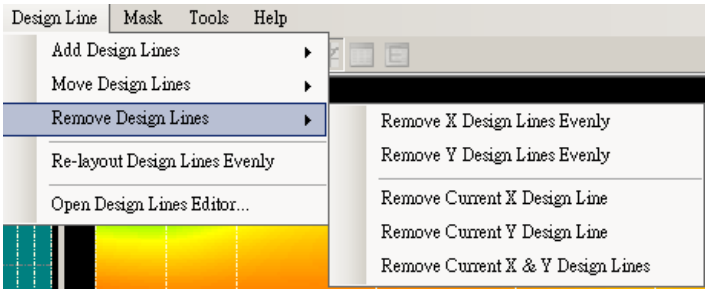
1. Move current X/Y design line(need to active point first)
   移動目前選取的設計線(必須先選取作用網點)



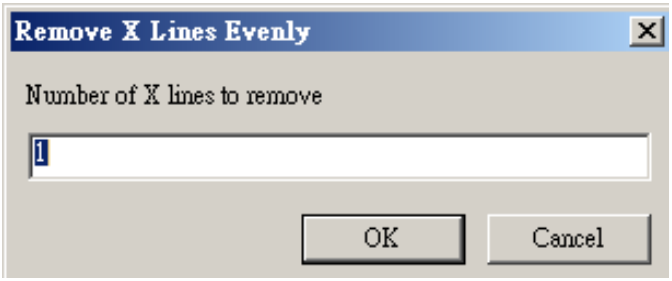
Key in new location, system will give new density value by original design.
鍵入欲移動的新位置,系統會再動帶出新位置的密度值(非原來的密度值).

Remove Design Lines

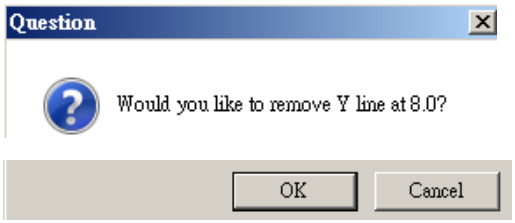
移除設計線



1. Remove X/Y design lines evenly
   移除單條設計線

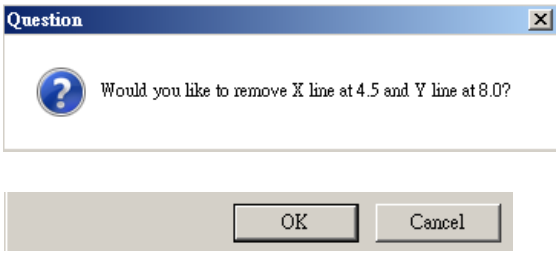


2. Remve current X/Y design line:(need to active point first)
   以除目前作用中的 X 或 Y 方向設計線



   Confirm
   確認

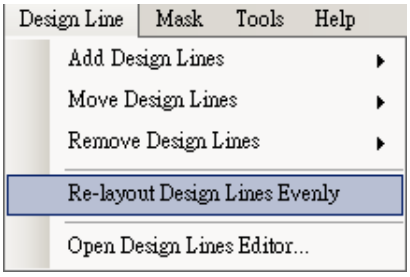
3. Remve current X & Y design lines:(need to active point first)
   以除目前作用中的 X 及 Y 方向設計線



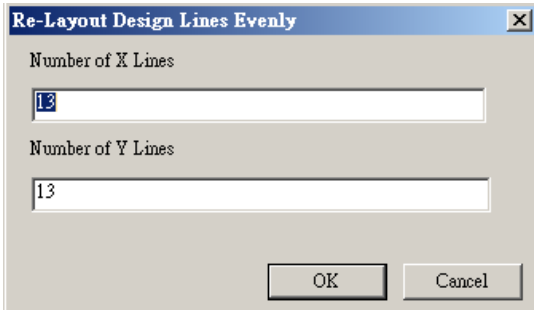
   Confirm
   確認

Re-layout design lines evenly

重新分佈設計線(平均法)



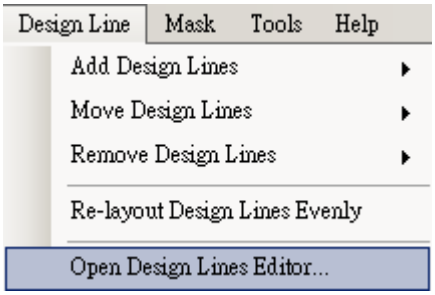
Pop up “re-layout design lines evenly” window
在彈出視窗中輸入欲重新分配的設計線數目



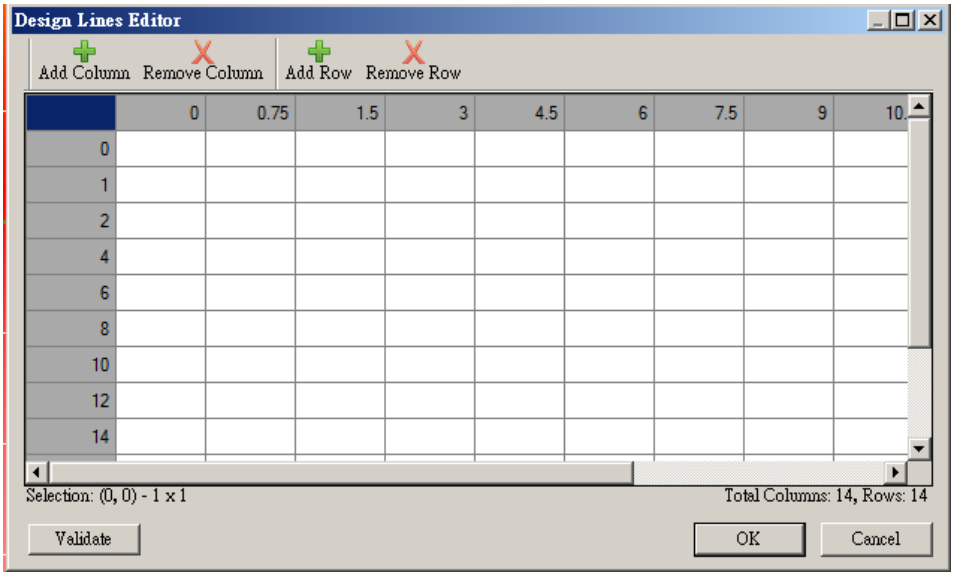
reset design lines evenly.
系統會以等分來處理

Open design lines editor

設計線編輯器



1. Pop up “design lines editor” window：(system will generate new density values by original design)
出現設計線編輯視窗：



1.1.Design Line Editor form, horizontal (X axis design line); vertical (Y-axis design line).
設計線編輯器水平方向為 X,垂直方向為 Y

1.2 The numerical size of the row/column line means that the amount of X/Y axis designline.
編輯器上的欄位的數量就是設計線的數量

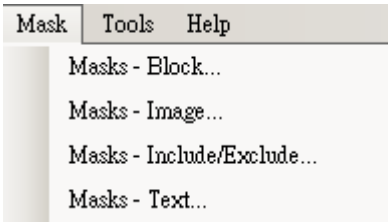
1.3 Row/column values respectively the location of the design line; modify the values that modify the position of the design line.
編輯器上的欄位為設計線的位置,更改數值等同更改設計線的位置.

1.4 Row/column value series must be increasing and maximun number must be 1 or dimension.
編輯器上的欄位值必須從 0 到最大設計寬/高(絕對單位)或 1(正規化設計)

1.5 You can copy excel data and paste here. If source is bigger system will extend automaticly.
你也可以直接複製試算表資料.如果複製資料大於欄位,系統會自動展開.

Chapter 8 Mask

第八章 光罩

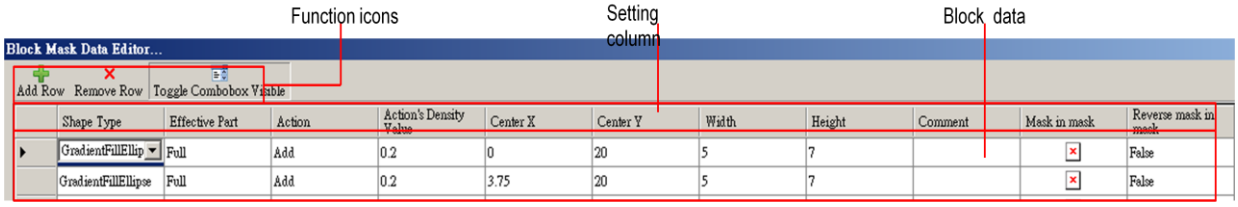


Mask-Block(Build4309—batch process) (Build4336—add block rotation function)

光罩-Block

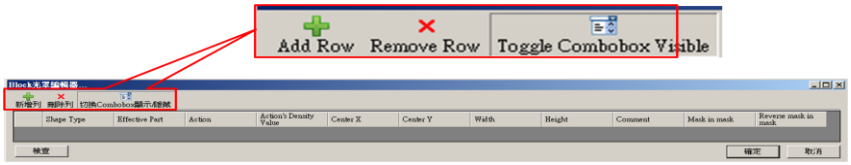
In the design file on to a gradient or solid diamond, ellipse and rectangle as a region to deal with density to directly increase the ratio (add percentage) to increase(add) or replace(paste) the original density.

您可以使用多種光罩作用於原來的設計稿中,block 分為漸層及實心兩種,形狀有矩形,橢圓及菱形三種,作用方式有增加百分比,增加及貼上三種.



1. Function icons:

功能按鈕:

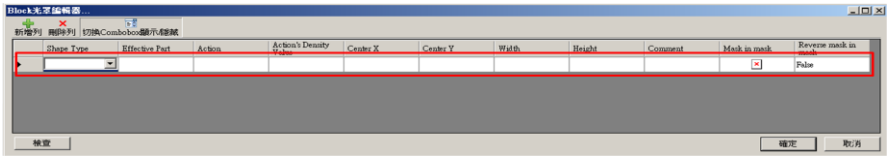


1.1 Add Row:

增加原件欄位

：Add a empty row in block data area and you can edit the block now.

：增加空白列,開始建立新的光罩-Block.

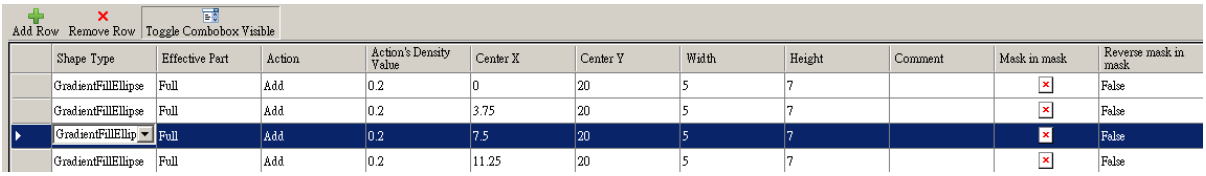


1.2 Remove Row:

移除原有光罩

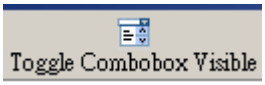
：Delete the selected block data.

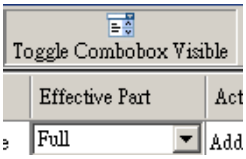
：刪除選擇的光罩列.

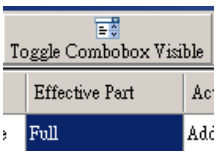


1.3 Toggle Combo box Visible:

切換顯示下拉選單與否







Active: display the drop-down menu

可選取:選取選項

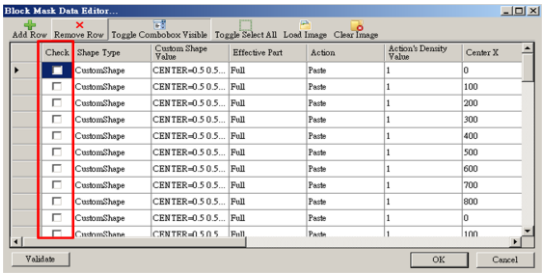
disable:easy for copy paste

不可選取:方便複製/貼上

1.4 Toggle select all: (Version V3.9 Build4309 20111019—batch process)

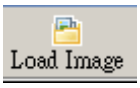
全選切換

Select all



1.5 Batch process/Load image/Clear Image:

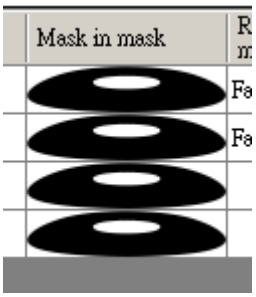
批次匯入或刪除 mask in mask 圖片



:

Select active items or toggle select all.

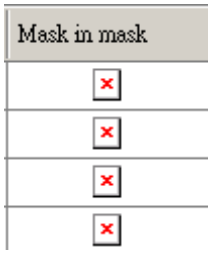
Load pre-saved mask in mask image.



:

Select active items or toggle select all.

Clear image:



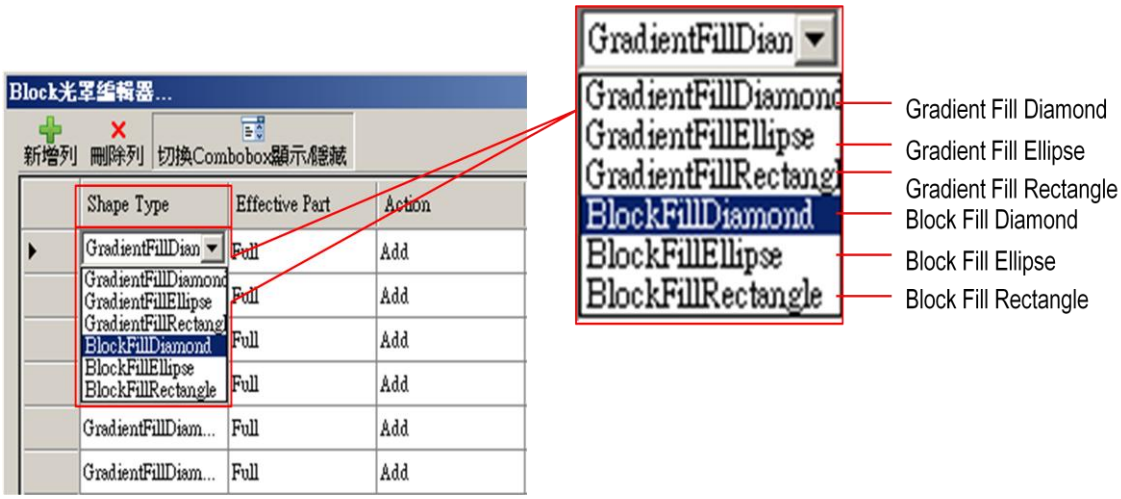
2. Setting column:

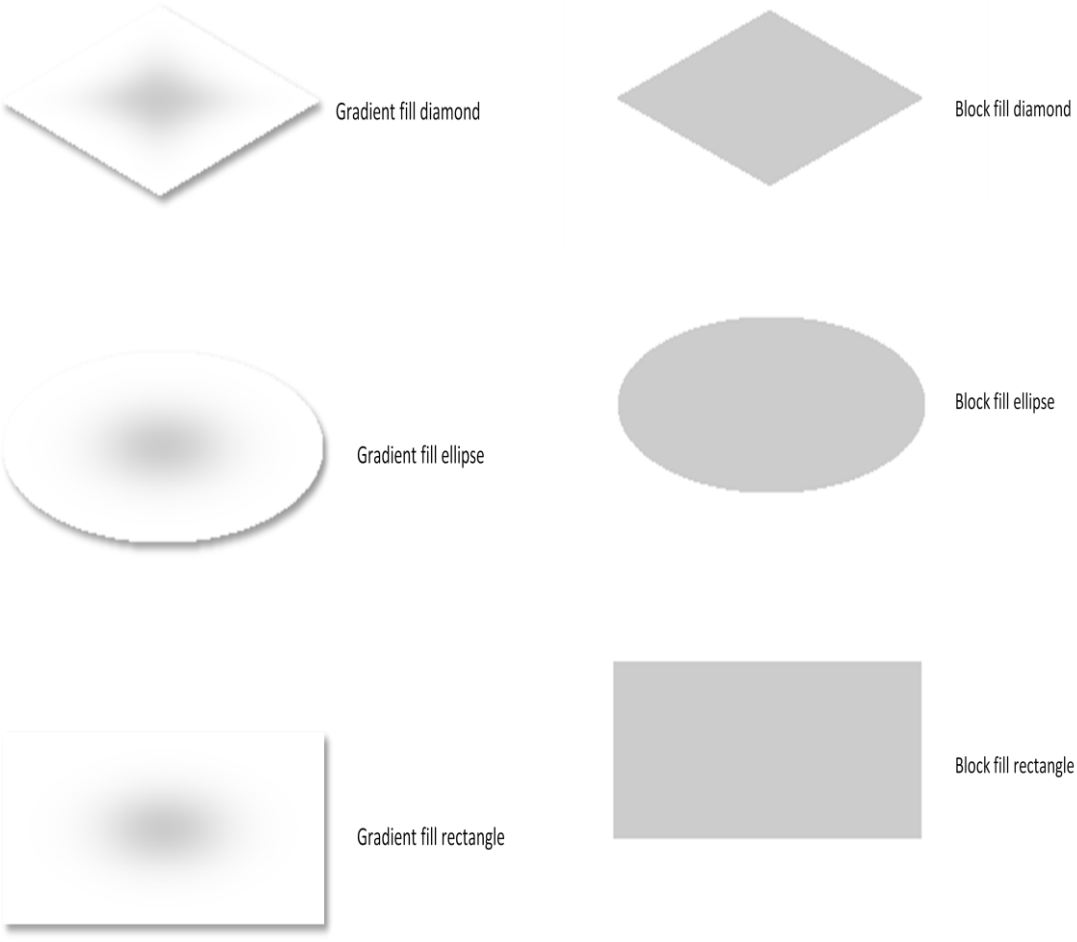
設定欄位

2.1 Shape type: Select right shape to process with design density.

Shape type:選取預作用的圖形與性質共七種:

Typical parts/標準元件:


Block光罩编輯器...
新增列
刪除列
切換Combobox顯示/隱藏
Shape Type
Effective Part
Action
GradientFillDian
Full
Add
GradientFillDiamond
GradientFillEllipse
GradientFillRectangl
BlockFillDiamond
BlockFillEllipse
BlockFillRectangle
GradientFillDiam...
GradientFillDian
GradientFillDiamond
GradientFillEllipse
GradientFillRectangl
BlockFillDiamond
BlockFillEllipse
BlockFillRectangle
Gradient Fill Diamond
Gradient Fill Ellipse
Gradient Fill Rectangle
Block Fill Diamond
Block Fill Ellipse
Block Fill Rectangle


Gradient fill diamond
Block fill diamond
Gradient fill ellipse
Block fill ellipse
Gradient fill rectangle
Block fill rectangle

Custom Shape: Polar Coordinate system (build 3954 2010/10/29)

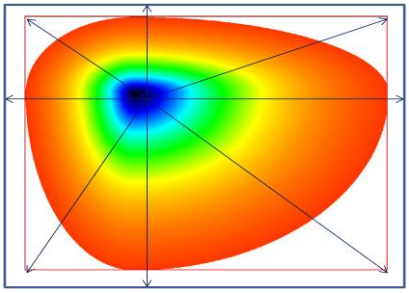
客製化元件:極座標系統.

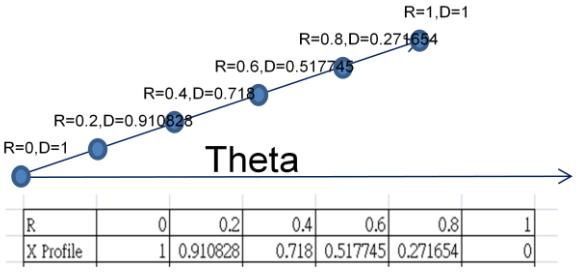
Purpose: It is hard to use Cartesian coordinate to design Mask parts and special shape application like lighting.

目的:解決使用直角坐標系統對於不規則形狀的設計的困難如客製化元件及燈具照明.

Definition:

定義:

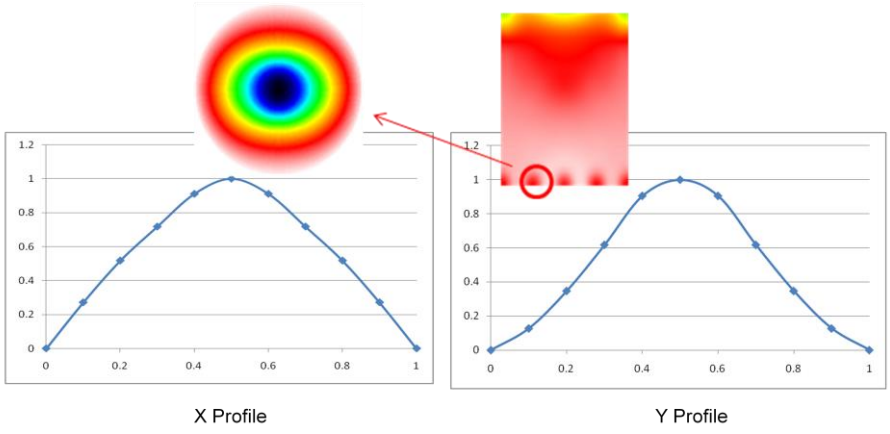




R	0	0.2	0.4	0.6	0.8	1
X Profile	1	0.910828	0.718	0.517745	0.271654	0

1. Blue Box: normalize center to edge from 0~1
   藍色框框為設計檔的範圍,從圓心到四個邊邊接正規化為 0~1
2. Reb Box: dimension is Blue/1.414
   紅色框框為建議使用區域,大小為藍色框框的~0.7
3. 8 arrow lines is normalize to 1.
   定義圖上的 8 個箭頭直線皆為 0~1
4. Theta: angle between horizon line and design line the range is 0~360.
   Theta:設定角度為設計線與水平線的角度 0~360
   Example:範例

Example 1: Create one part to fix hot spot.
Condition: X density profile and Y density profile
Target: To get a smooth circle-like density distribution.

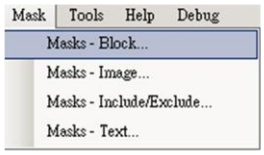


Step 1:
Prepare center to edge density profile data in excel :

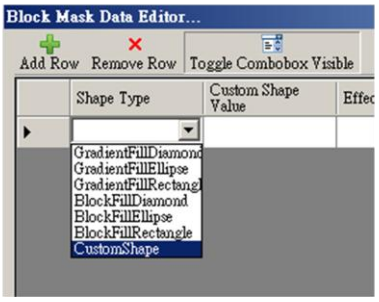
R	0	0.2	0.4	0.6	0.8	1
X Profile	1	0.910828	0.718	0.517745	0.271654	0
Y Profile	1	0.905569	0.617834	0.347134	0.127389	0

Step 2:
Open a new design in BacklightFly and set all of density value to 0.

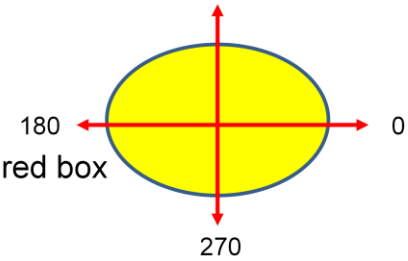
Step 3:
Active project then select Mask-Block



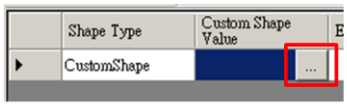
Step 4:
Press Add Row, you will find a new item "CustomShape" in "Shape Type" column.
Please select it.



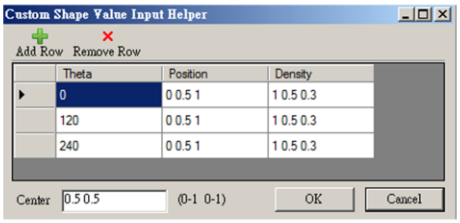
Step 5:
Assume we create 4 lines to design:



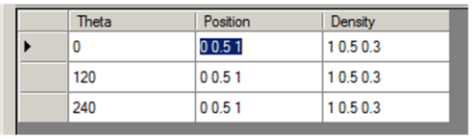
Step 6:
Select "Custom Shape Value" and press red box



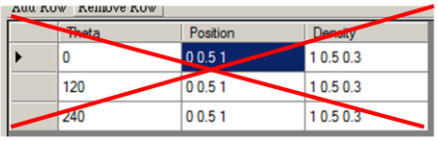
Step 7:
We will see the polar coordinate editor.



Step 8:
Key in Theta =0,90,180,270
Copy excel density data to Position and Density column.
PS.



v edit column content



x edit column

Step 9:

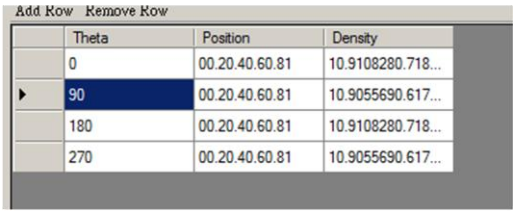
Assume we create 4 lines to design:

PS: Theta must increasing.

Position must from 0 to 1

Density count must be equal to Position.

Density must same at position=0.



	Theta	Position	Density
	0	00.20.40.60.81	10.9108280.718...
▶	90	00.20.40.60.81	10.9055690.617...
	180	00.20.40.60.81	10.9108280.718...
	270	00.20.40.60.81	10.9055690.617...

Step 10:

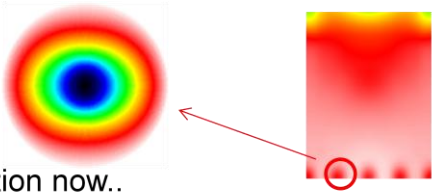
Others is same as normal Mask-block setting.

Press OK after finished.

	Shape Type	Custom Shape Value	Effective Part	Action	Action's Density Value	Center X	Center Y	Width	Height
	CustomShape	CENTER=0.5 0.5...	Full	Paste	1	5	5	10	10

Step 11:

You can see the smooth circle-like density.



Step 12:

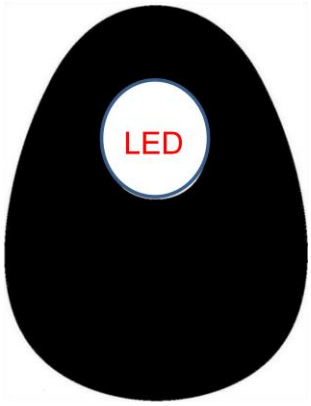
You can copy this part and place in any location now..

	Shape Type	Custom Shape Value	Effective Part	Action	Action's Density Value	Center X	Center Y	Width	Height
	CustomShape	CENTER=0.5 0.5...	Full	Paste	1	5	5	10	10

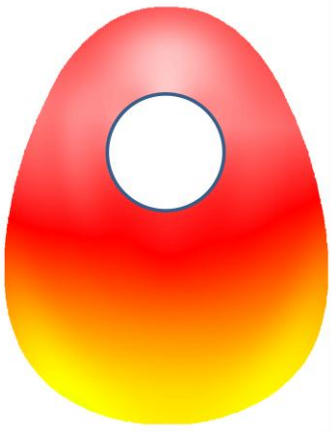
Example 2: Laptop LED lighting

Condition: density profile at 0,45,90,135,180,225,270,315

Target: Smooth density design



Laptop LED lighting



Smooth density design

Prepare data:

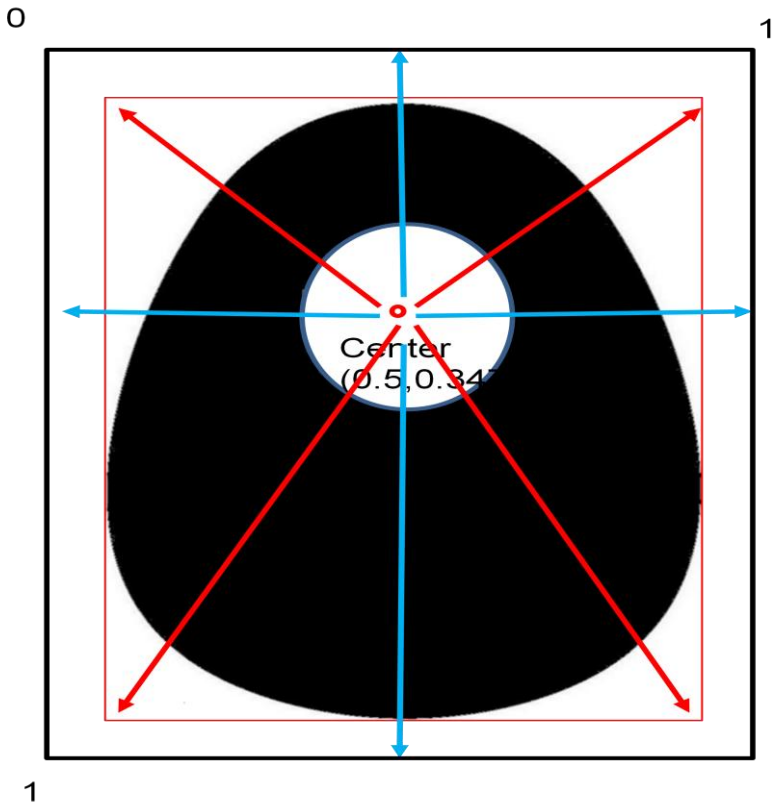
Design area is 0~1 mark by black box.

Assume center locate at (0.5, 0.3476)

We use 8 design lines to construct this project.

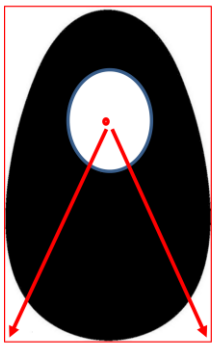
All of these lines are normalize to 0~1.

You must give the density profile of those lines.

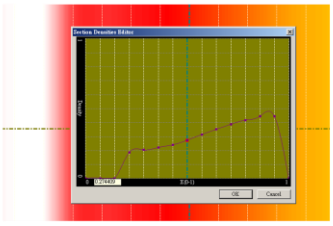


Step 1:
Prepare center to edge density profile data in excel :
Please adjust the curve fitting in Cartesian coordinate mesh first.

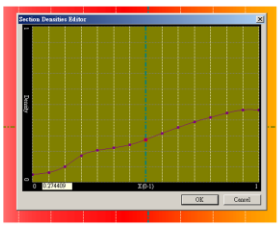
R	0	0.054393	0.108786	0.163178	0.217571	0.271964	0.326357	0.38075	0.435142	0.489535	0.543928	0.598321	0.652714	0.707107	1
Density	0	0	0	0.186175	0.204691	0.221779	0.241108	0.274409	0.314777	0.352365	0.388371	0.417207	0.445073	0.445073	0



Design density at 225 and 315



Check with mesh tool, curve is poor



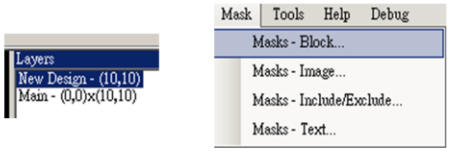
Adjust density value in empty area to get good curve

R	0	0.054393	0.108786	0.163178	0.217571	0.271964	0.326357	0.38075	0.435142	0.489535	0.543928	0.598321	0.652714	0.707107	1
Density	0.05	0.063694	0.102	0.171975	0.204691	0.221779	0.241108	0.274409	0.314777	0.352365	0.388371	0.417207	0.445073	0.464968	0.464968

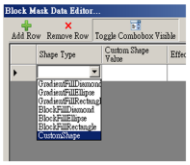
Please use this density design in 225 and 315

Step 2:
Create new design which dimensions multiple SQRT(2)~1.414

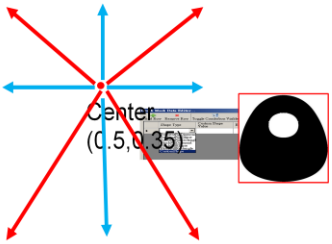
Step 3:
Active project then select Mask-Block



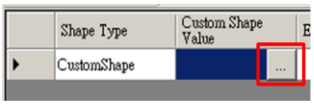
Step 4:
Press Add Row, you will find a new item "CustomShape" in "Shape Type" column. Please select it.



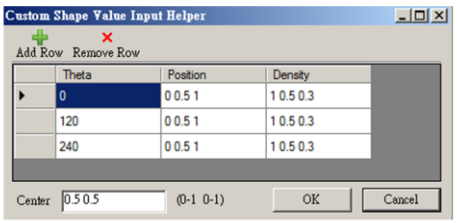
Step 5:
Assume we create 8 lines to design:



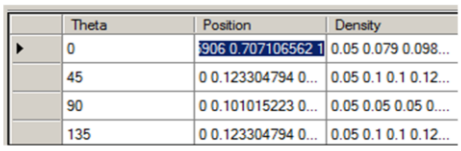
Step 6:
Select "Custom Shape Value" and press red box



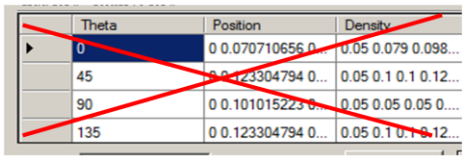
Step 7:
We will see the polar coordinate editor.



Step 8:
Key in Theta =0,45,90,135,180,225,270,315
Copy excel density data to Position and Density column.
PS.

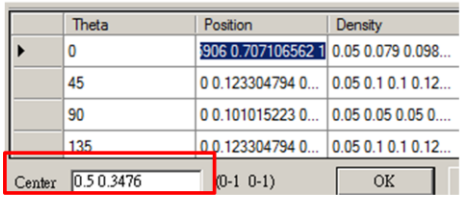


v edit column content

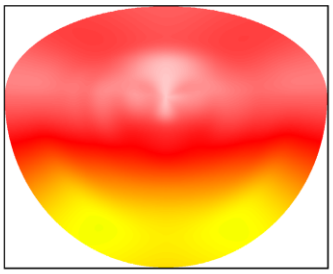


x edit column

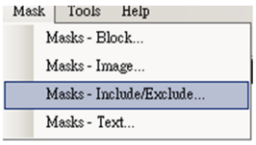
Step 9:
Change Center from(0.5,0.5) to (0.5,0.347).



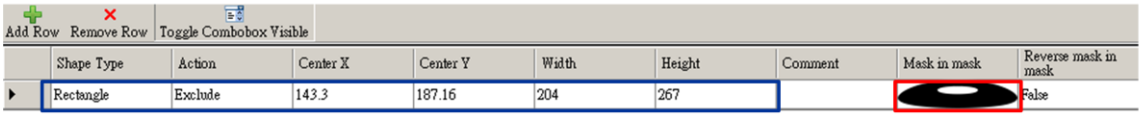
Step 10:
You can see the result design.



Step 11:
Active project then select Mask-exclude



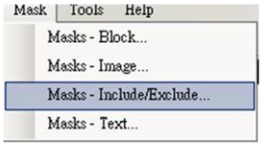
Step 12:
Press Add Row, select rectangle. exclude and key in the center and dimensions. The result like blue box area.



Step 13:
Click mask in mask column and select your design shape as mask. The result like red box area.

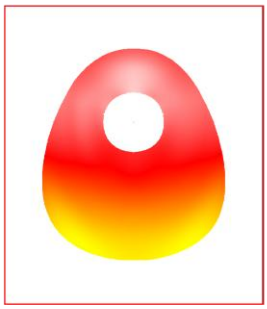
Step 14:
You can see the result design.

Step 15:
Active project then select Mask-include.

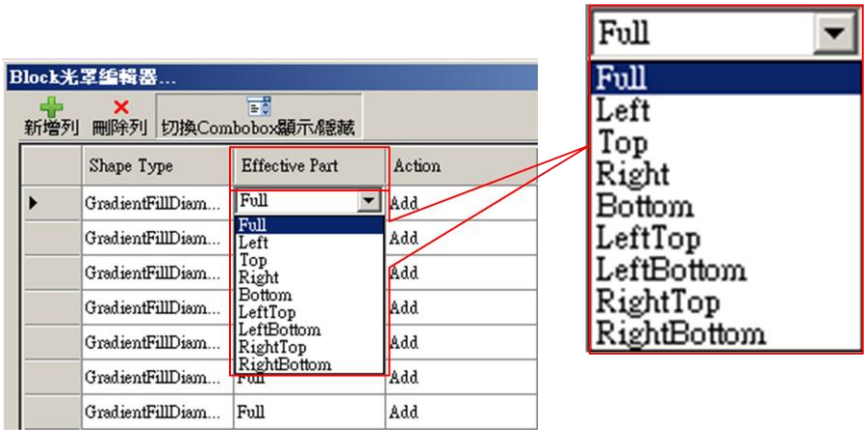


Step 16:
Press Add Row, select rectangle. include and key in the center and dimensions. The result like blue box area.

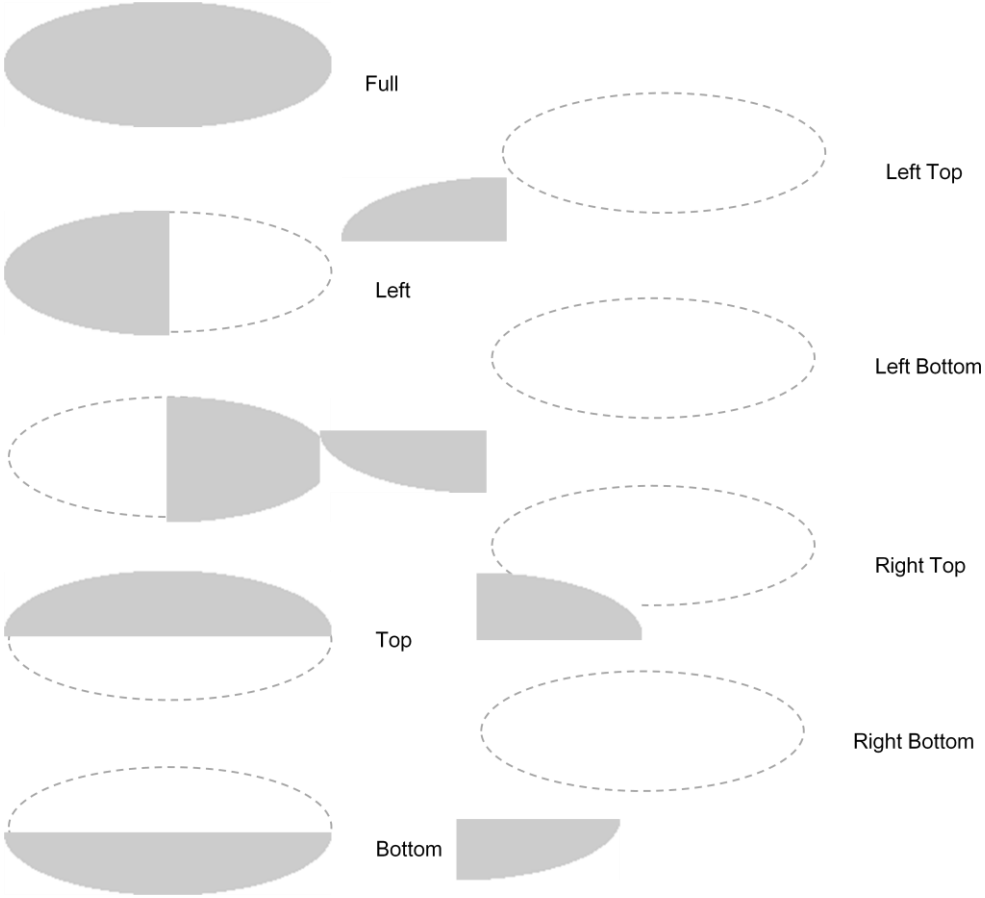
Step 17:
You can see the result design.



2.2 Effective Part ：You can use partial area to process with design density.
Effective Part ：選取作用部分區域,

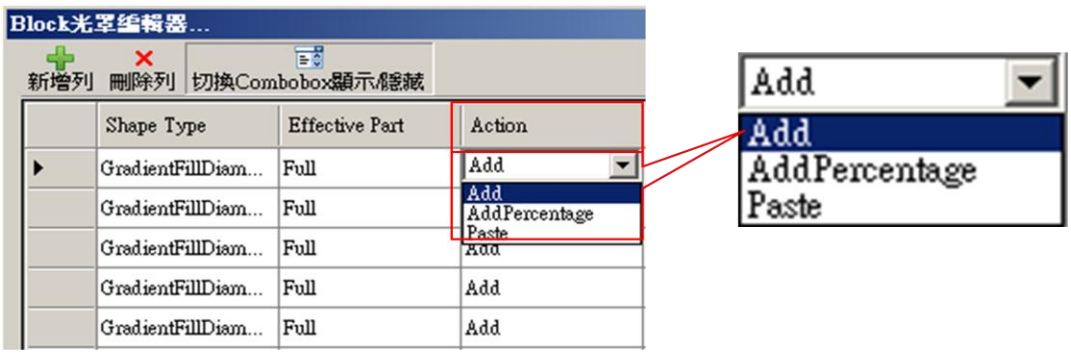


Example for block fill ellipse:
部分區域



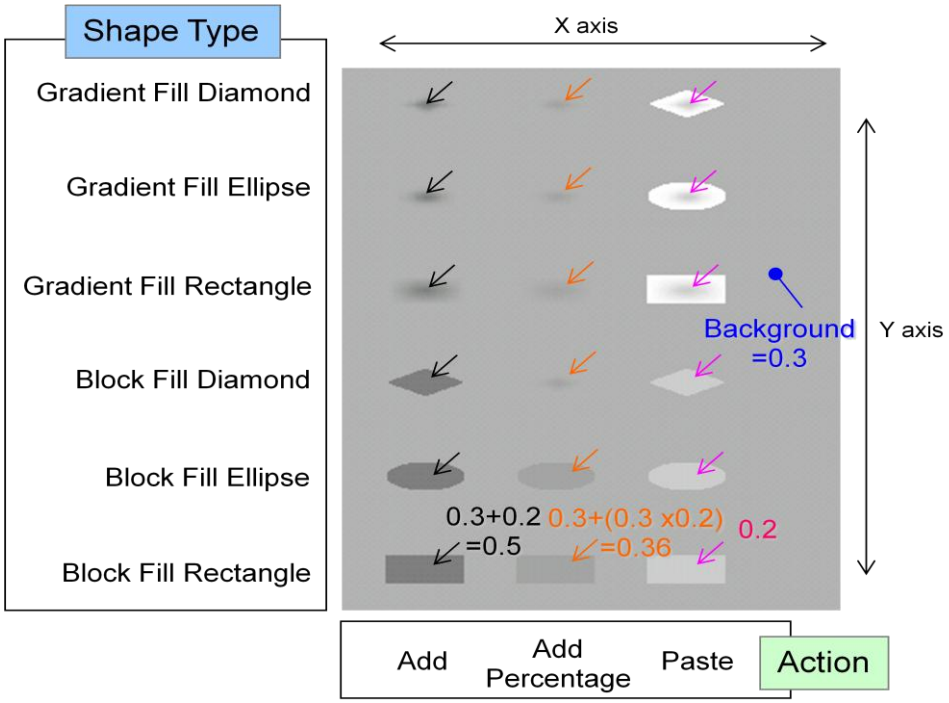
2.3 Action：

運算方式:



Example design density=0.3, Action density value= 0.2

範例: 設計密度=0.3 作用值為 0.2



1. Add： design density+ Action density value =0.3+0.2 =0.5.

增加: 設計密度+作用值=0.3+0.2 =0.5.

2. Add percentage： Design density*(1+Action density value) =0.3*1.2 =0.36.

增加百分比: 設計密度*(1+作用值) =0.3*1.2 =0.36.

3. Paste: Action density value =0.2

貼上: 作用值=0.2

2.4 Location and dimensions:

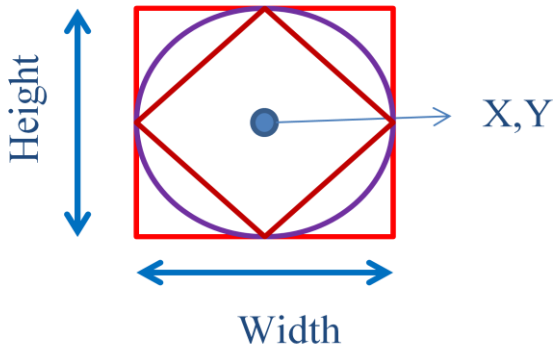
位置與尺寸大小:

Center X/Y：The center of the block the role of X/Y-axis coordinates

Center X/Y：原件要放在設計稿的中心點位置.

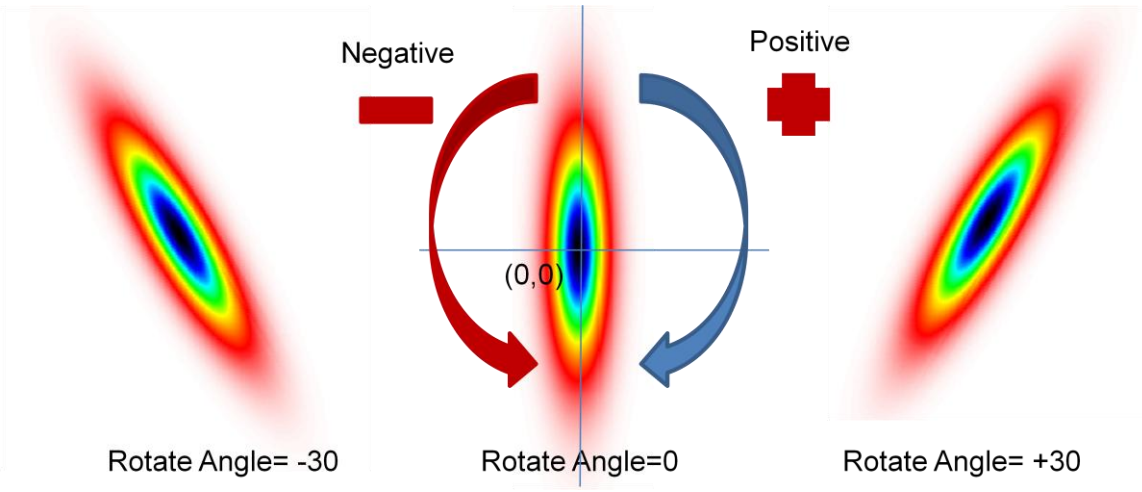
Width/ Height：The width/Height of the block

Width/ Height：元件的作用範圍



2.5 Rotate Angle: (Version V3.9 Build4336 2011/11/15)

選轉角度:



2.6 Comment: The description of block.

Comment: 註解

2.7 Mask in mask: similar with effective part. Select image file as mask of block.

Mask in mask: 作用與 effective part 相似,但是用圖形來遮罩

2.8 Reverse Mask in mask: toggle mask area (color or white)

Reverse Mask in mask: 遮罩有顏色部分或沒有顏色部份

2.9 Exclude in row height calculation: (build 4094 -exclude in row height calculation)

Skip this action for row height calculation to get smooth result. It can improve stripe problem.

Exclude in row height calculation:

忽略此一動作以幫助得到平滑的列高計算結果,這個動作有助於改善佈點的條紋問題.

Mask-Image

光罩—圖片

Mask image file into design file, for example special light article design or hot spot eliminate.

利用圖片檔案來對設計稿加工,此方法可用在藝術燈具及解決特殊亮暗點問題

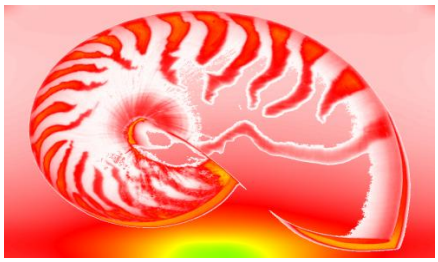
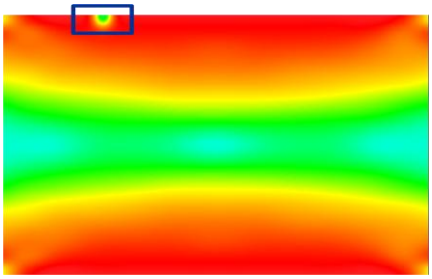
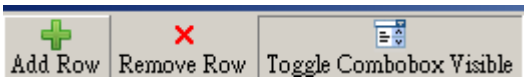


Image processing



hot spot eliminate

1. Function icons: same as Mask block.
   功能按鈕:參見 Mask-Block.



2. Setting column:
   設定欄位:

Action	Image	Is FHD Image	Trim White	Reverse Color	Multiplier	Addder
		False	True	False	1	0

Image Info	Center X	Center Y	Width	Height	Comment	Mask in mask

2.1 Action:Paste,Add,Add percentage (same as Mask block).
Action:參見 Mask-Block

2.2 Image:Select image file(.bmp，.png，.jpg，.tif or *.fhd) .
Image:選取預作用圖檔(.bmp，.png，.jpg，.tif or *.fhd) .

2.3 Is FHD Image:If image is FebeesHighDefinition 64k grascale format) then shows True.
Is FHD Image:如果檔案為飛比高解析格式,該欄會顯示 True.

2.4 Trim White: Skip white color part

2.5 Trim White: 對圖檔空白處不處理.

Origin

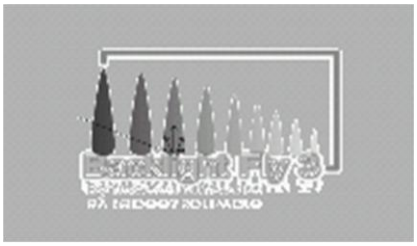
Paste + Trim white

Paste

2.6 Revers color:
反轉顏色
Purpose:We can load CCD luminance image and paste in design density. If we want white means high luminance value and black low. We need to reverse color.
目的:當我們載入 CCD 亮度照片時,白色通常代表高輝度,但轉換成密度卻是 0,所以當我們要用密度來表示輝度時,可以選擇反轉顏色來達到此一目的.

Origin

Reverse + Paste + Trim white



Paste + Trim white

2.7 Multiplier and Adder

Purpose:We can adjust the densiy value of grayscale .

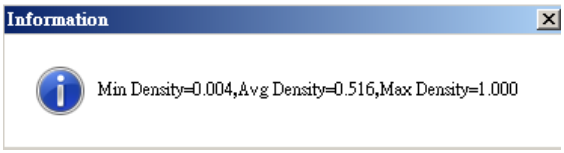
目的:我們可以利用線性公式來調整密度值.

New = Adder + Multiplier*Old

輸出密度= Adder + Multiplier*匯入密度

2.8 Image Info: Show basic information.

Image Info: 按此鍵可以達到實際輸出的密度資訊



2.9 **Location ,dimensions and comment:**

Center X：The center of the block the role of X-axis coordinates

Center Y：The center of the block the role of Y-axis coordinates

Width：The width of the block

Height：The Height of the block

Comment: Same as Block

參見:Mask-Block

2.10 **Mask in mask:** same as Block.

Mask in mask: 參見 Mask-Block

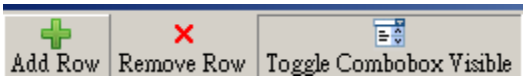
Mask-Include/Exclude

光罩-- Include/Exclude

Use mask to include or exclude partial of design

利用光罩來保留或刪出部份設計稿

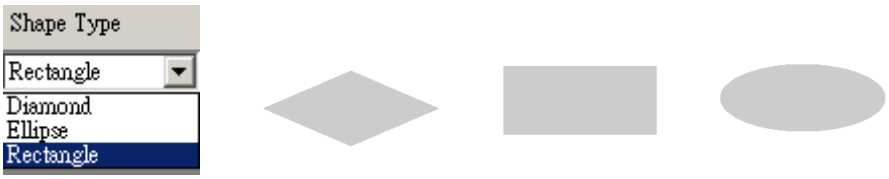
1. Function icons: same as Mask block.
   功能按鈕:參見 Mask-Block.



2. Setting column:
   設定欄位:

Shape Type	Action	Center X	Center Y	Width	Height	Comment	Mask in mask	Reverse mask in mask
Rectangle	Exclude	25.46	36.345	50	72			False

2.1 Shape Type: Select shape to mask design density.
   Shape Type: 選取欲遮罩的圖樣



Diamond Rectangle Ellipse

2.2 Action:
   遮罩動作

2.3 Location and dimensions and comment:

Center X：The center of the block the role of X-axis coordinates

Center Y：The center of the block the role of Y-axis coordinates

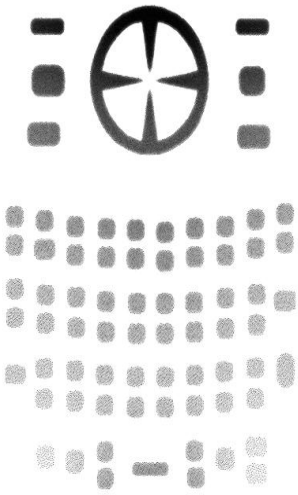
Width：The width of the block

Height：The Height of the block

Comment: Same as Block

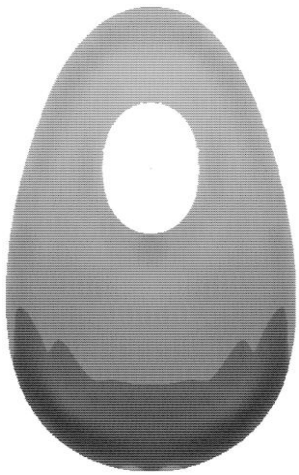
參見 Mask-Block.

2.4 Mask in mask: same as Block
   Mask in mask: 參見 Mask-Block



Keypad image to mask

用來保留鍵盤部份

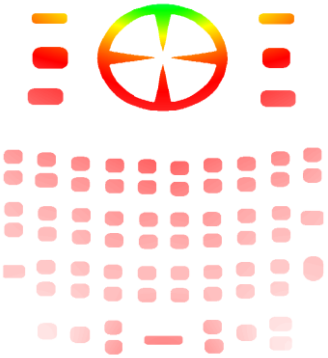


Special design

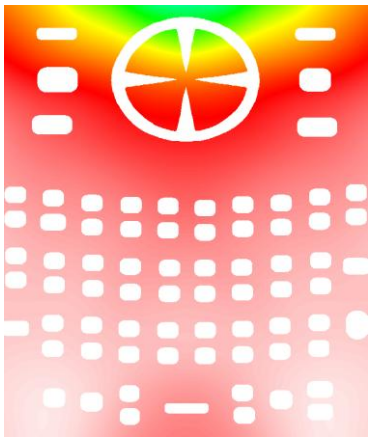
用來保留燈具

2.5 Reverse mask in mask: setting mask color or no color.

Reverse mask in mask: 參見 Mask-Block



True



False

Mask-Text

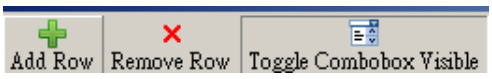
光罩--Text

Mark some txt in design.

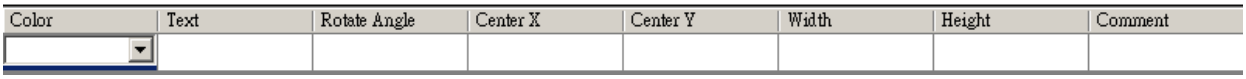
標註文字

1. Function icons: same as Mask block.

   Function icons: 參見 Mask block.

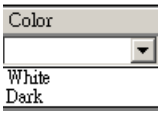


2. Setting column:



2.1 Color: Select shape to mask design density.

Color: 選擇鏤空文字或填滿文字



White: Skip dots Dark:density=0.785

2.2 Text:

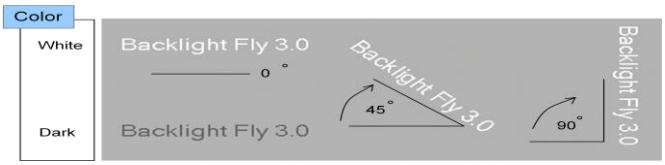
Mark txt like STD001-01

文字內容如: STD001-01

2.3 Rotate Angle:

Mark txt like Backlight Fly 3.0

旋轉文字



2.4 Location and dimensions and comment:

Center X/Y：The center of the block the role of X/Y-axis coordinates

Width：The width of the block

Height：The Height of the block

Comment: Same as Block

參見 Mask-Block

Chapter 9 Labels(build 4035 2011/01/18 new release)

第九章 標籤

Labels-Pattern

標籤-圖形

Purpose: post add pattern in anywhere.

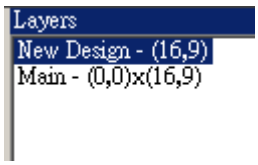
您可以在任何地方增加圖形,

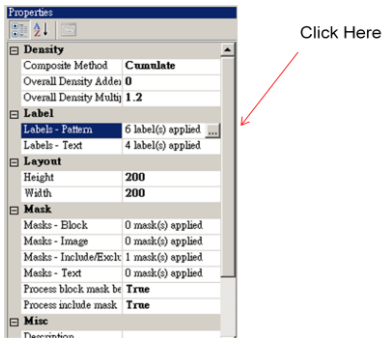
Method: Define pattern (circle or…) size center x,y

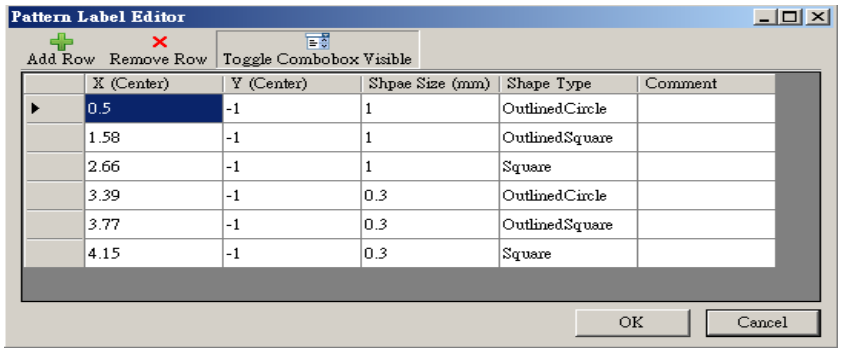
藉由定義圖形種類,尺寸及座標來達到目的

1. Open function:

開啟功能:







2. Icons:

快捷鍵:

2.1 Add Row:

增加元件欄位

：Add a empty row in block data area and you can edit the block now.

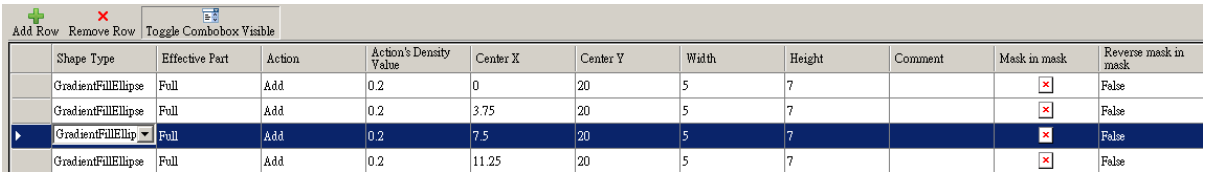
：增加空白列,開始建立新的光罩-Block.

2.2 Remove Row:

移除元件欄位

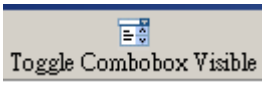
：Delete the selected block data.

：刪除選擇的標籤.



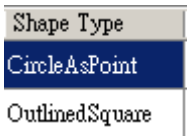
2.3 Toggle Combo box Visible:

切換顯示下拉選單與否



Active: display the drop-down menu

可選取:選取選項

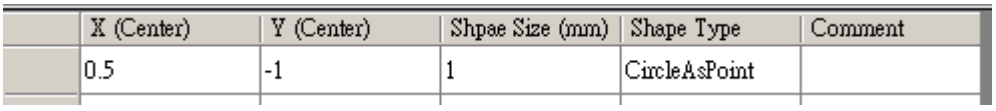


disable:easy for copy paste

不可選取:方便複製/貼上

3. Setting column: (the unit is mm)

設定欄位(單位為毫米)



	X (Center)	Y (Center)	Shpae Size (mm)	Shape Type	Comment
	0.5	-1	1	CircleAsPoint	

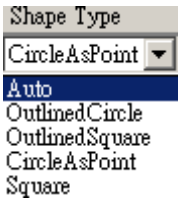
3.1 X/Y(center): X coordinator of pattern.

預加圖形的中心點 X/Y 座標.

3.2 Shape Size: Size of pattern.

預加圖形的大小(直徑).

3.3 Shape Type:



3.3.1 Auto: same as output setting.

Auto:與輸出圖形相同

3.3.2 OutlinedCircle: circle.

OutlinedCircle:空心圓

3.3.3 OutlinedSquare:Square.

OutlinedSquare:空心方塊

3.3.4 CircleAsPoint:point.

CircleAsPoint:點

3.3.5 Square: Solid square.

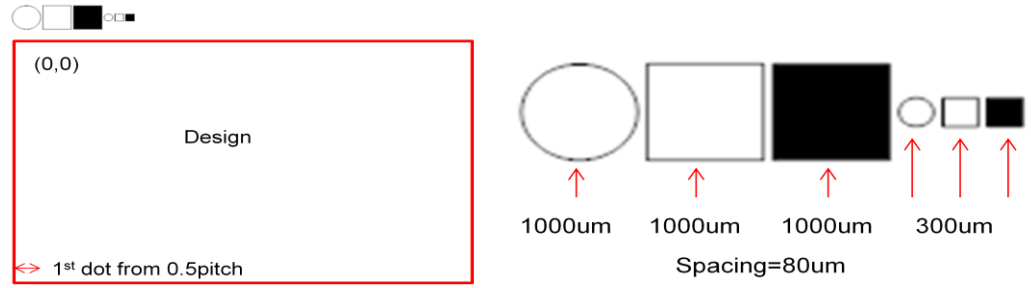
Square: 實心方塊

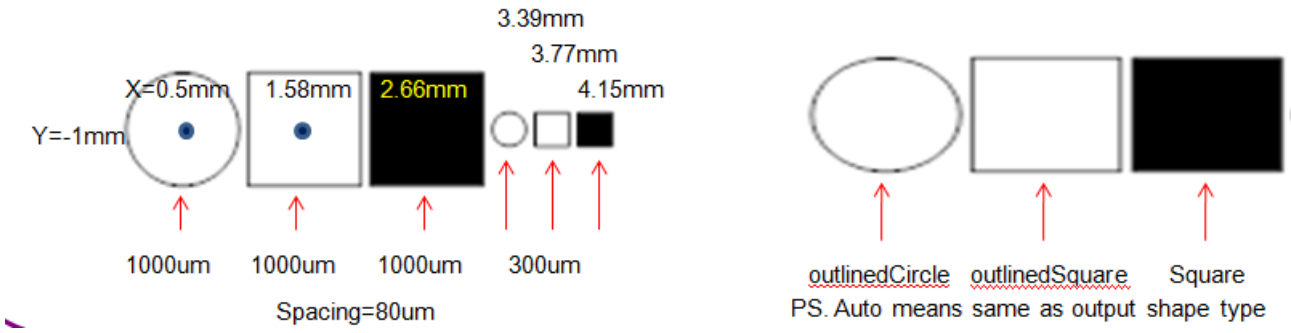
3.4 comment: nots.

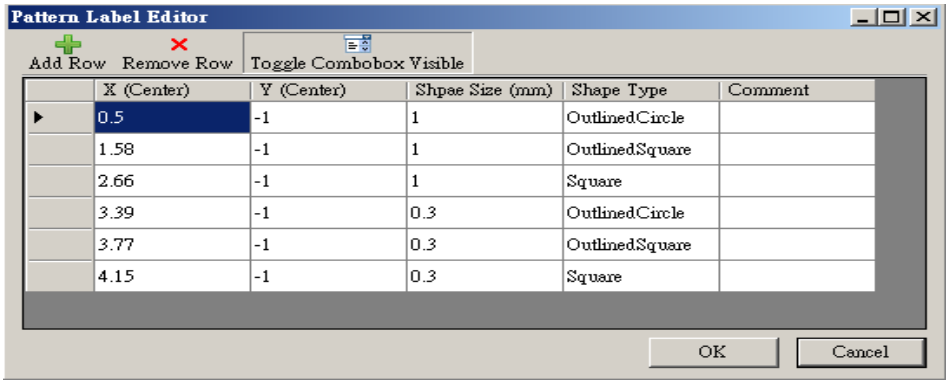
comment: 註解.

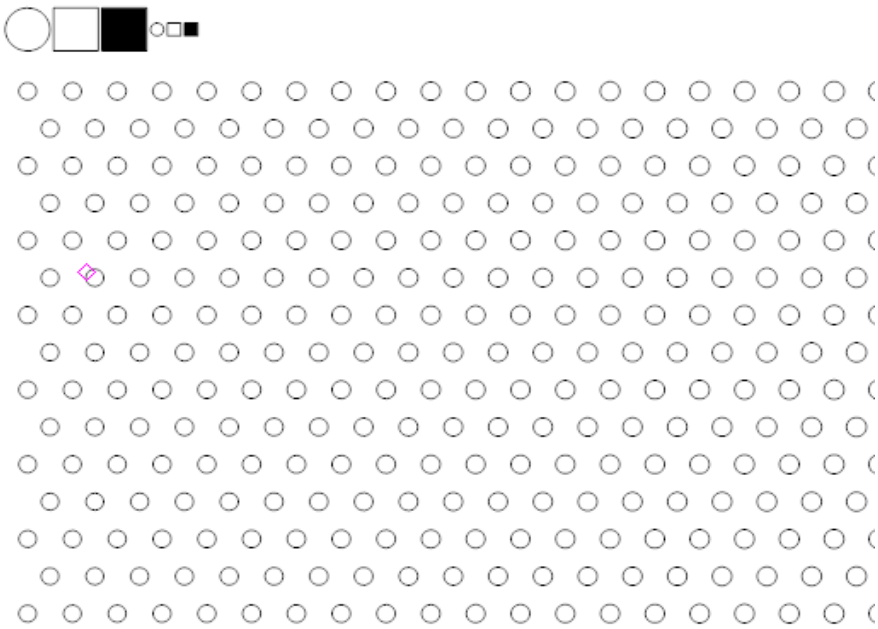
Example: Post 6 patterns on left top.

我們以要在設計稿的左上角加六個圖形來做範例









Labels-TXT

標籤-文字

Purpose: post add TXT in anywhere.

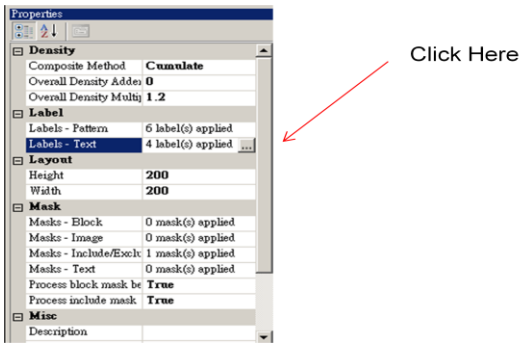
您可以在任何地方增加文字,

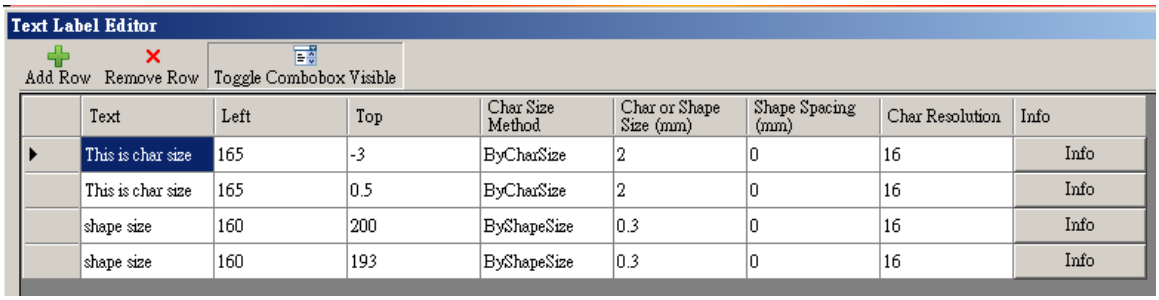
Method: Define char size or dots size to build notes.

藉由定義字的高度或是點的大小來建立註解

1. Open function:

開啟功能:





2. Icons(same as Lebels-pattern)
   快捷鍵(請參考標籤-圖形):

3. Setting column: (the unit is mm)

設定欄位(單位為毫米)

Text	Left	Top	Char Size Method	Char or Shape Size (mm)	Shape Spacing (mm)	Char Resolution	Info
This is char size	165	-3	ByCharSize	2	0	16	Info

3.1 Text: content of notes.

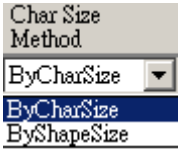
Text:欲加的文字內容.

3.2 Left/Top: The Left top coordinator of text.

定義預加文字的左上角座標.

3.3 Char Size Method:

文字大小定義方式



3.3.1 ByCharSize: define the height of TXT.

ByCharSize:定義文字的高度

3.3.2 ByShapeSize: Define the dot size which wil form the texts.

ByShapeSize:定義構成文字的球體大小

3.4 Char or Shape Size: the setting value of 3.3.

Char or Shape Size:根據 3.3 定義的設定值

3.5 Shape Spacing: Dot and dot spacing.

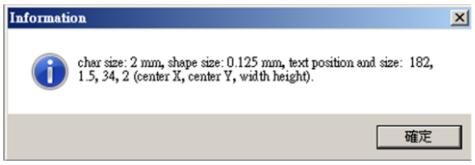
Shape Spacing:構成文字的球間距.

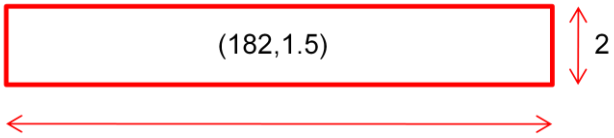
3.6 CharResolution: How many dots to form a character.

CharResolution:構成文字球數目.

3.7 Info: Provide TXT area.

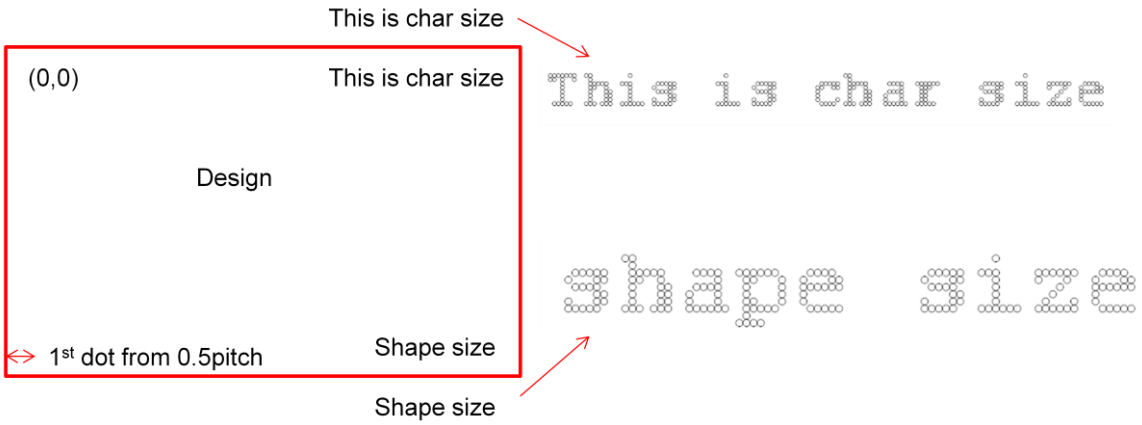
Info:提供文字所占的空間大小.





Example: Post Text on right top and right bottom.

我們要在設計檔的右上及右下加上一些文字

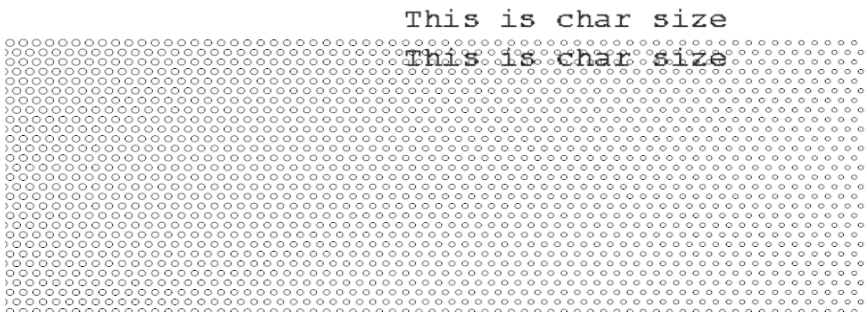


PS. The setting of char resolution will larger than output TXT for example set 16 output might be 12.

Text Label Editor

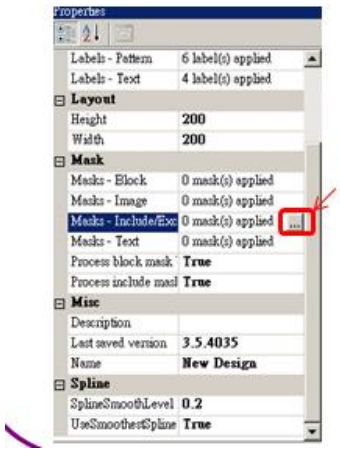
Add Row Remove Row Toggle Combobox Visible

	Text	Left	Top	Char Size Method	Char or Shape Size (mm)	Shape Spacing (mm)	Char Resolution	Info
▶	This is char size	165	-3	ByCharSize	2	0	16	Info
	This is char size	165	0.5	ByCharSize	2	0	16	Info
	shape size	160	200	ByShapeSize	0.3	0	16	Info
	shape size	160	193	ByShapeSize	0.3	0	16	Info

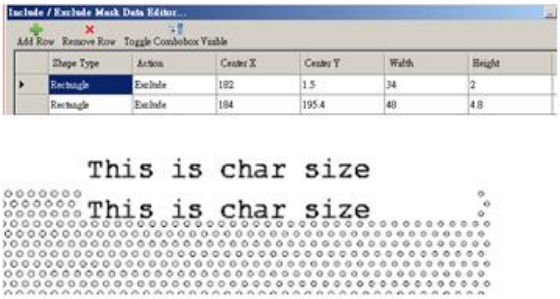


PS:You can use Info data and Mask-Exclude function to empty text area.

Mask-Include/Exclude

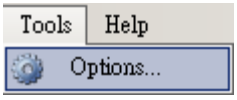


Click Info



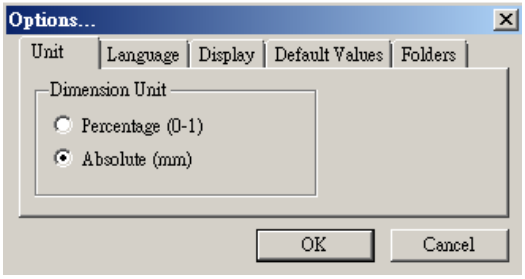
Chapter 10 Tools

第十章 工具選單



Unit

單位



Design units are as follows:

設計檔的尺寸單位如下 ：

(1) Percentage (0-1)

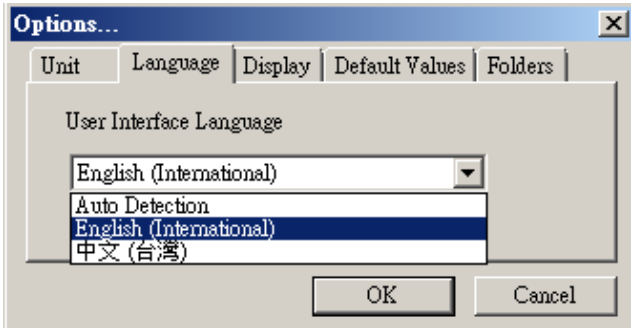
百分比(0-1)

(2) real size (mm)

真實尺寸(mm)

Language:

語言



User interface language:

使用者介面的語言 ：

(1) Automatic detection

自動偵測

(2) English (International)

英文(國際)

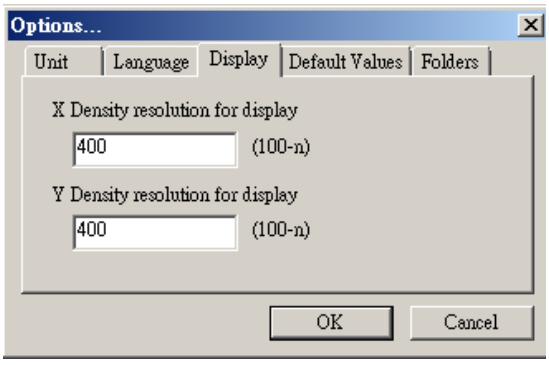
(3) Chinese tradition

繁體中文(台灣)

PS. Some EURO country needs to select English for some reason as Decimal point. “,” “.”

Display

畫面



Set display design area resolution. This setting is only for screen display. Value of resolution must larger than the number of design lines.

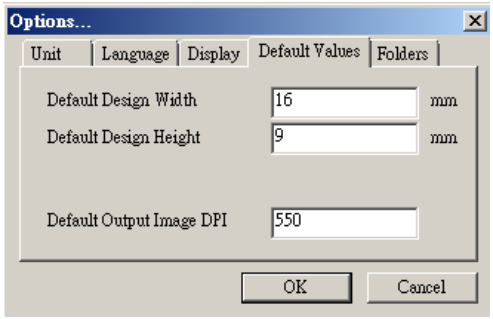
設定畫面中設計稿的解析度,解析度必須大於設計線的數量

There is no relation with output result.

此設定僅影響畫面對設計及輸出沒有關聯

Default Value

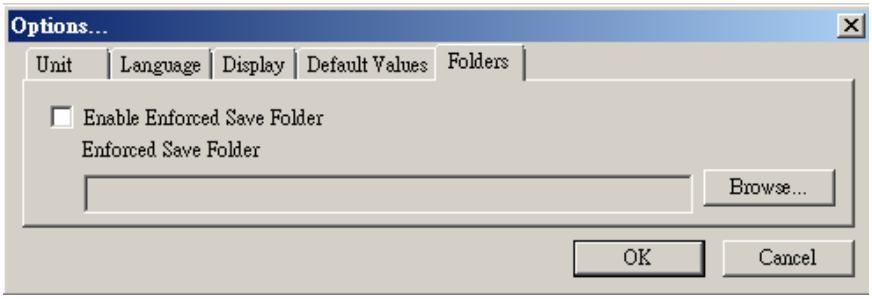
預設值



Default setting for design dimension and output grayscale image resolution.
預設值的設定 ：
1. 預設設計寬度 ： 10 (mm)--預設設計圖檔的寬度
2. 預設設計高度 ： 10 (mm)--預設設計圖檔的高度
3. 預設輸出 Image DPI ： 550—預設輸出影像時解析度高低 ， 解析度單位 ： DPI

Folders

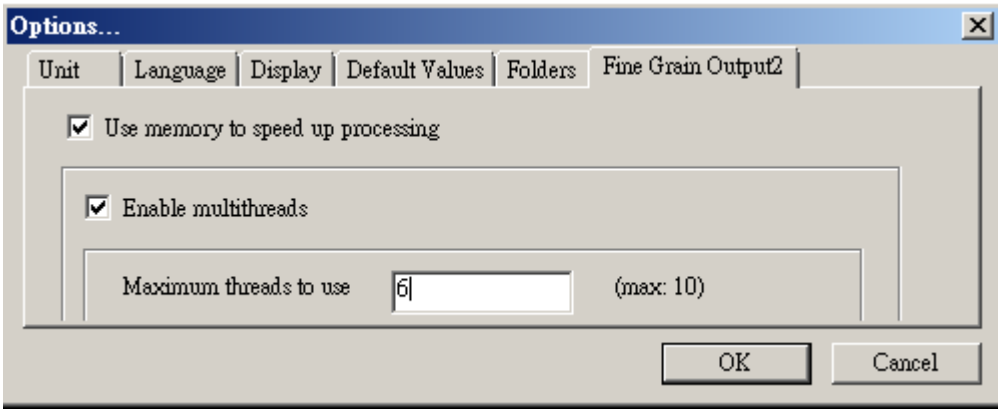
資料夾



Select working path.
選擇輸出工作路徑

Fine Grained 2(V3.9 Build4241 2011/08/12 add multithreads)

細緻輸出 2

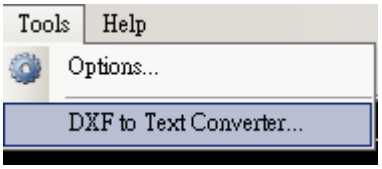


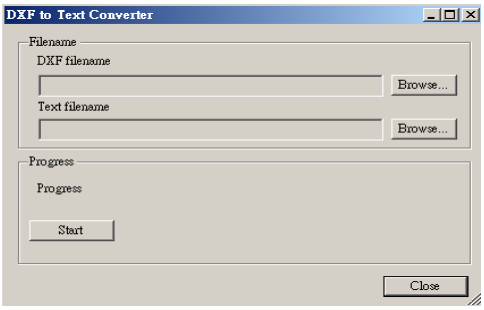
Use memory to speed up processing: If memory is shortage will pop up “out of memory” error message.
使用記憶體來加速執行速度:如果記憶體不足將會產生錯誤訊息並結束程式.
Enable multithreads:
啟用多工處理

Maximum threads to us➔according purchasing version and less than loop counts.
最大多工數量➔根據不同版本有不同大小,實際多工不大於細緻輸出的回歸數量.

DXF to TXT converter(build 4078 2011/03/02)

DXF 轉換成 TXT 格式(build 4078 2011/03/02)





DXF filename : Select source DXF file
DXF filename : 選擇欲轉換的 DXF 檔
TXT filename : Select target TXT file
TXT filename : 選擇欲轉換的目的 TXT 檔
Start: start convert.
Start:開始轉換

Update information

更新訊息

Output/SPEOS format (build 3981 2010/11/25-- general editor)

輸出 SPEOS 模擬軟體 (同大小,同間距及精緻輸出)

Purpose : Create a general editor to meet SPEOS format.

目的:試用編輯器以符合 SPEOS 所需的檔案格式

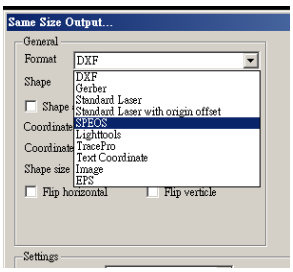
Method :

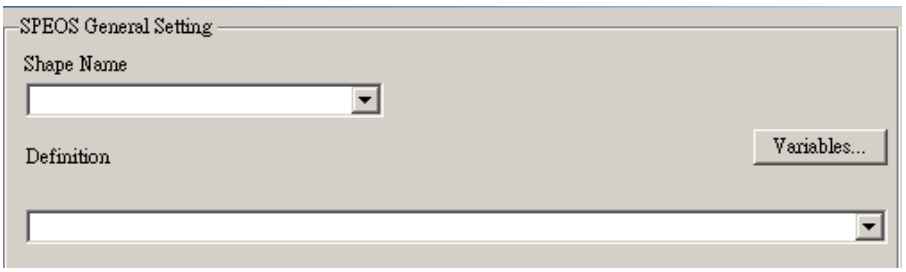
方法:

1. Select SPEOS format in same size, same pitch or fine grained output.
   再輸出選單中選擇輸出格式為 SPEOS.

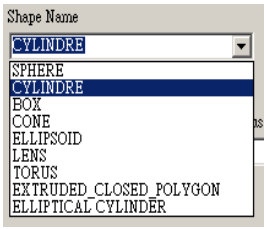
The SPEOS general setting will appear.

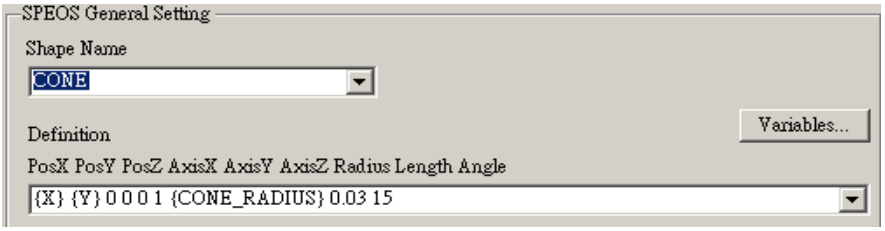
你會看到 SPEOS 通用格式的畫面



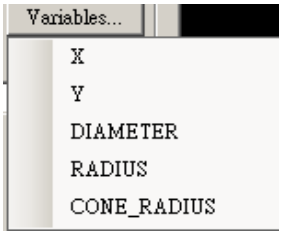


2. Select “Shape Name” then the Definition will popup setting parameters like SPEOS manual.
   選擇所要輸出的圖形名稱,名稱定義與 SPEOS 相同





3. You can select or edit “Shape Name” to create new shape for SPEOS.
   你可以自行編輯圖形名稱來達到自行定義的目的
4. You can select Variable and insert to definition:
   你可以按右邊參數按鈕輸入內定參數到定義欄中.



Each parameter must separate with space.

定義欄中的每一個參數必須用空格隔開.

X,Y, is output location, Diameter is shape size, Radius is half shape size,

X,Y 代表輸出點的座標, Diameter 是輸出的圖形大小, Radius 是輸出大小的一半

Cone_radius is radius of cone by calculating from cone definition.

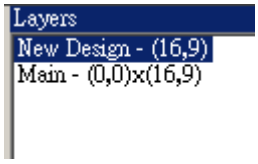
Cone_radius 是指使用角錐時所換算得到的小圓半徑

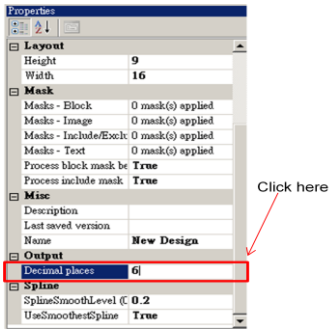
Output decimal place(build 4064 2011/02/16)

輸出的小數點位數定義

1. Open function:

   開啟功能:





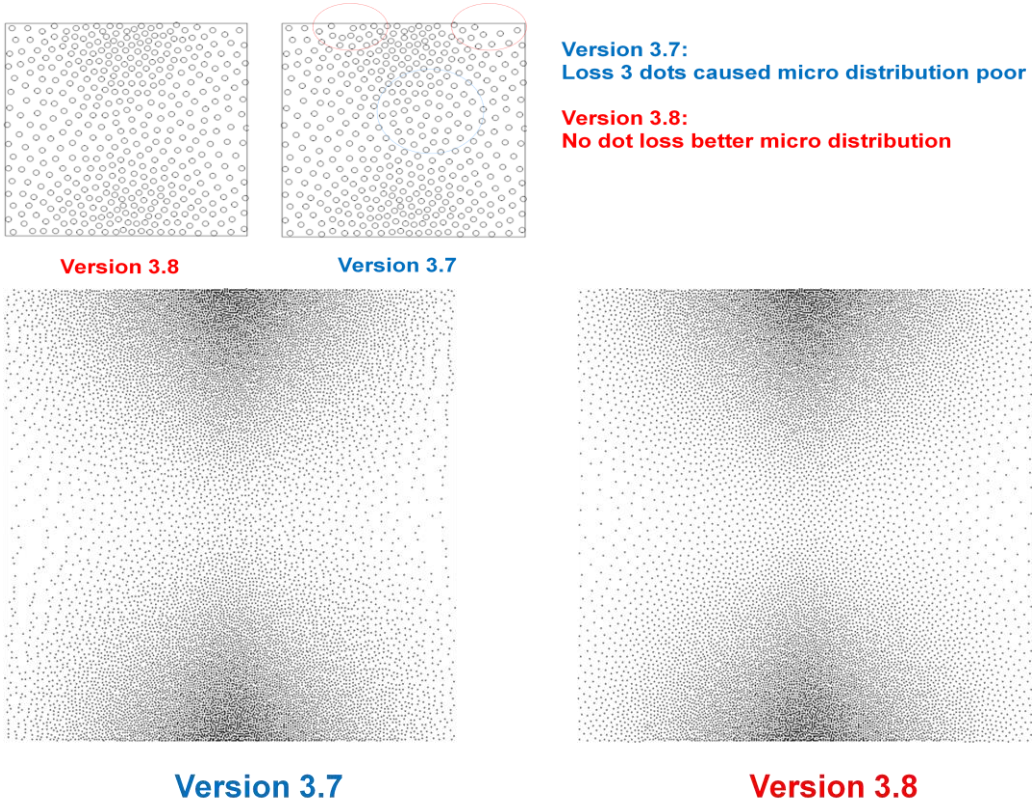
Directly modify the decimal number of output data.

直接修改輸出小數點位數

Enhance fine grained output quality (Ver 3.8 B4163)

Improve the dot loss rate to 0.

改善推點過程中產生的掉點問題



Add fine grained processing (V3.8 B4163)

Add fine grained processing (please reference same size output FG3/FG/Regular description)
新增細緻輸出(參見同大小輸出/細緻輸出相關說明).

Add enhaced low density distribution option in Rasterization (V3.8 B4163 2011/05/26)

Enhance low density distribution: improve dot distribution low density(<0.1)
低密度分散加強:改善低密度分散效果

Output PDF format (Build4170)

Support PDF format
支援 PDF 格式輸出

Output/TracePro format (Build4287 20110927-- general editor)

輸出 TracePro 模擬軟體 (同大小,同間距及精緻輸出)

Purpose : Create a general editor to meet TracePro format.

目的:試用編輯器以符合 TracePro 所需的檔案格式

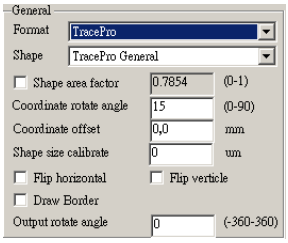
Method :

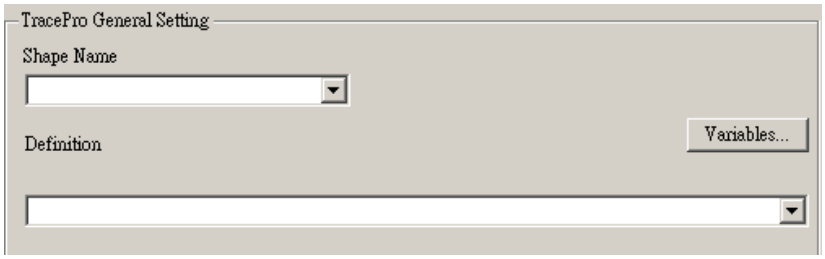
方法:

1. Select TracePro format in same size, same pitch or fine grained output.
   再輸出選單中選擇輸出格式為 TracePro.

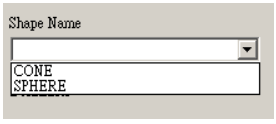
The TracePro general setting will appear.

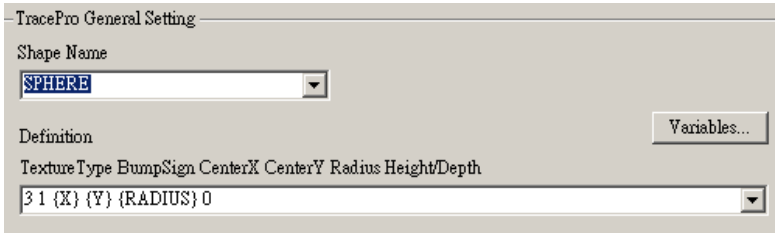
你會看到 TracePro 通用格式的畫面



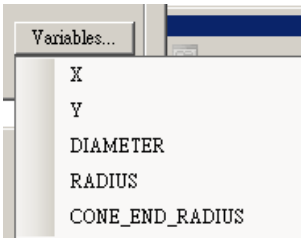


2. Select “Shape Name” then the Definition will popup setting parameters like TracePro manual.
   選擇所要輸出的圖形名稱,名稱定義與 TracePro 相同





3. You can select or edit “Shape Name” to create new shape for SPEOS.
   你可以自行編輯圖形名稱來達到自行定義的目的
4. You can select Variable and insert to definition:
   你可以按右邊參數按鈕輸入內定參數到定義欄中.



Each parameter must separate with space.

定義欄中的每一個參數必須用空格隔開.

X,Y, is output location, Diameter is shape size, Radius is half shape size,

X,Y 代表輸出點的座標, Diameter 是輸出的圖形大小, Radius 是輸出大小的一半

CONE_END_RADIUS is radius of cone by calculating from cone definition.

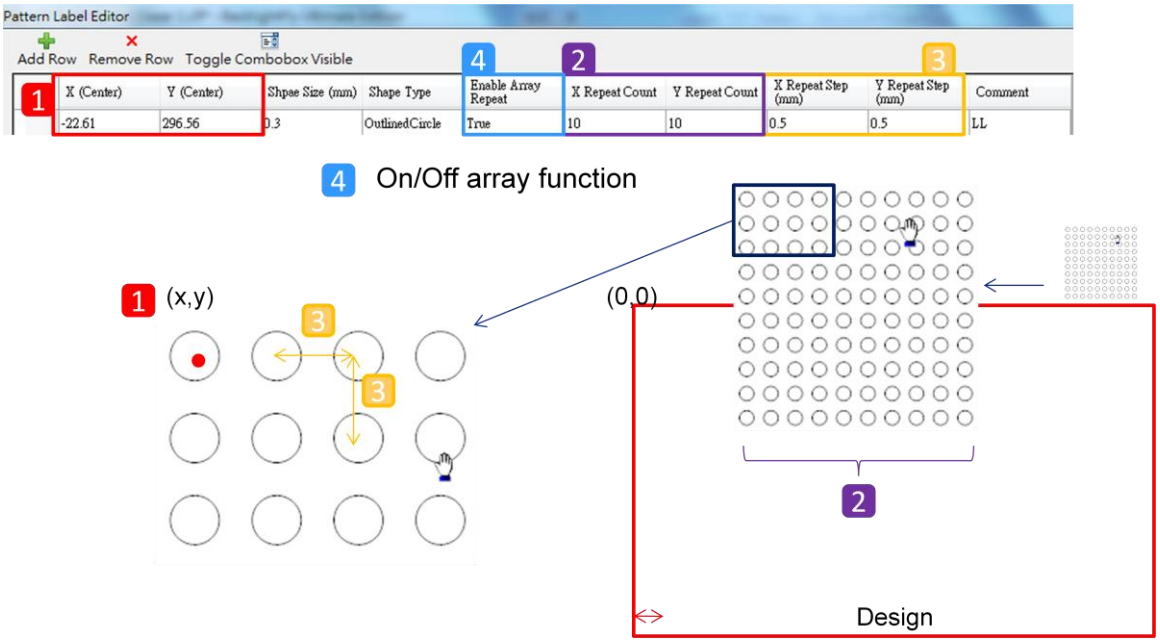
CONE_END_RADIUS 是指使用角錐時所換算得到的小圓半徑

Add taste adjust option for Fine Grained output(B4342 2011/11/21)

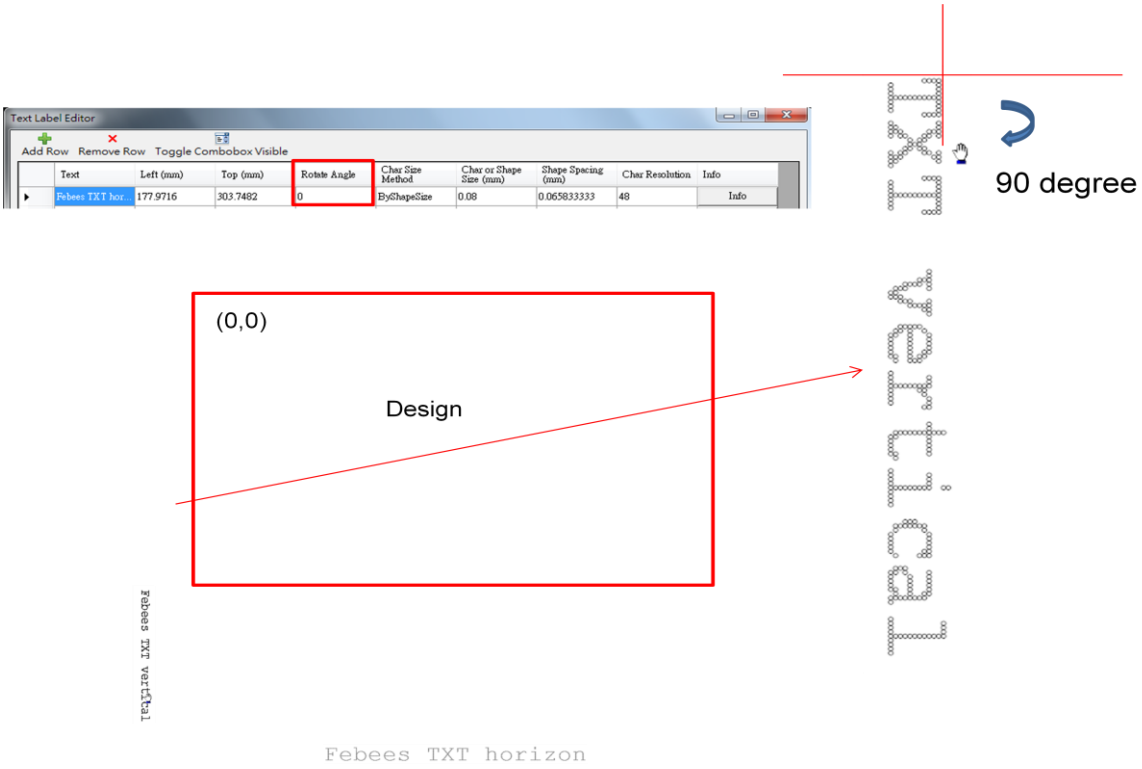
Add taste adjust option(please reference FG2 description)

新增品味調整參數(參見細緻輸出 2 說明).

Labels Pattern enhanced--Add array pattern function (V4.1 B4443 2012/03/01)



Labels-TXT enhanced -- 1.Add TXT rotation option (V4.1 B4443 2012/03/01)



Added preview function for label and mask (Build4468 20120326)

在標籤及光罩設定中提供預覽功能

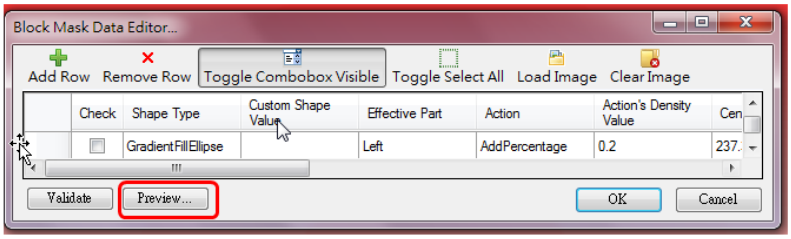
Purpose : Easy to check label and mask position

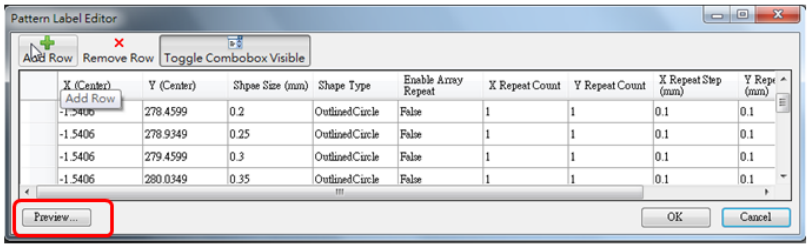
目的:方便設計者確認輸出結果

Method :

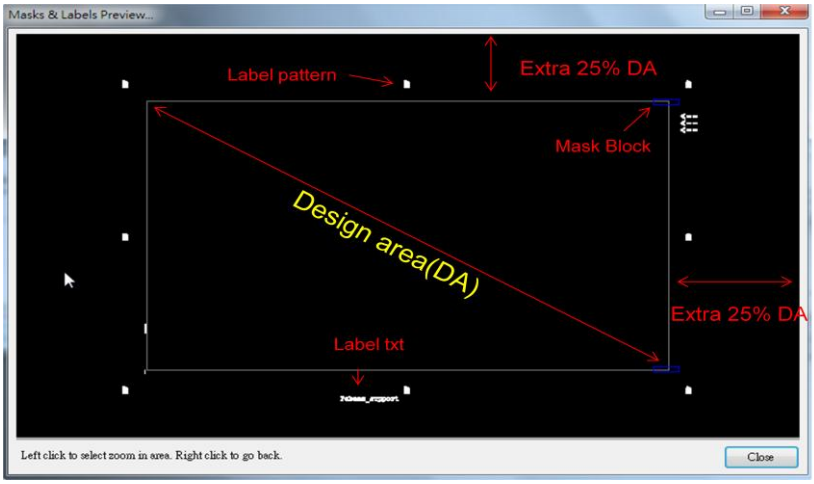
方法:

1. You can find Preview button
   你可以在設計畫面中找到預覽的功能按鈕

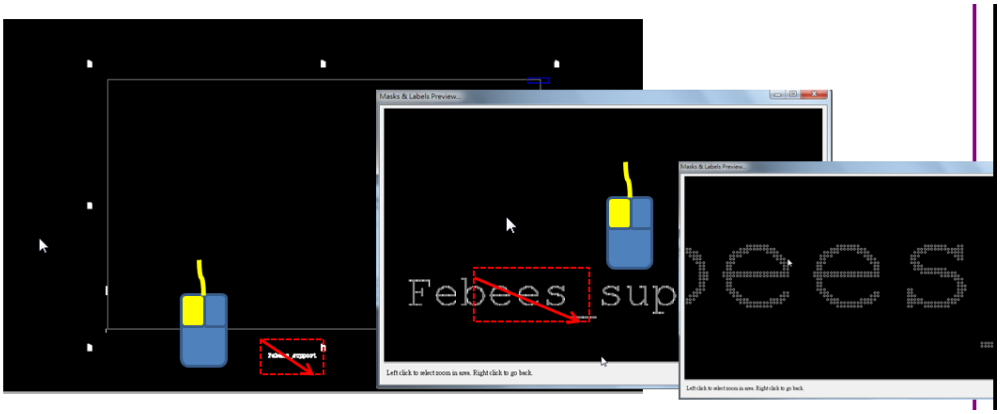




2. Click Preview button you can see popup window
   點選預覽按鈕，螢幕將會跳出一個視窗



3. You can zoom in the detail by holding left button and dragging(You can repeat to zoom in)
   你可以按住左鍵並拖拉點選區域達到局部放大的功能(你可以重複多次這個方式達到最佳狀況)



4. You can click right button to roll back(zoom out):
   你按滑鼠右鍵返回原來的畫面(縮圖).

Output/Gerber format (Build4566 20120702)

輸出 Gerber 格式 (同大小,同間距及精緻輸出)

Purpose : To use the maximum Dcodes of setting.

目的:增加取樣率以接近到設定的 Dcode 值

Old: The real output Dcode number is about 70% of setting

舊版:實際輸出的種類為設定的 70%左右.

New: The real output Dcode number is above 90% of setting (most case)

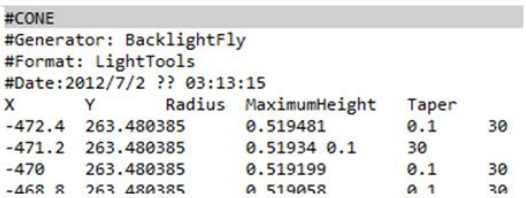
新版:實際輸出的種類為設定的 90%以上(正常情況).

Output/LightTool format (Build4566 20120702)

輸出 LightTool 模擬軟體格式 (同大小,同間距及精緻輸出)

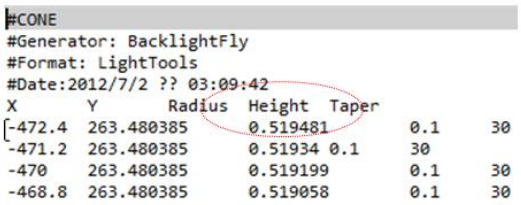
Purpose : Modify title of light tools cone output

目的:修改輸出檔頭的文字(cone 物件)



```
#CONE
#Generator: BacklightFly
#Format: LightTools
#Date:2012/7/2 ?? 03:13:15
X       Y       Radius  MaximumHeight   Taper
-472.4  263.480385      0.519481        0.1     30
-471.2  263.480385      0.51934 0.1     30
-470    263.480385      0.519199        0.1     30
-468.8  263.480385      0.519058        0.1     30
```

Old~MaximumHeight



```
#CONE
#Generator: BacklightFly
#Format: LightTools
#Date:2012/7/2 ?? 03:09:42
X       Y       Radius  Height  Taper
-472.4  263.480385      0.519481        0.1     30
-471.2  263.480385      0.51934 0.1     30
-470    263.480385      0.519199        0.1     30
-468.8  263.480385      0.519058        0.1     30
```

New~Height

Old: MaximumHeight

舊版: MaximumHeight

New: Height

新版: Height

Customer License Agreement

License Type

BacklightFly Software Usage Right

(a) Trial License

After you obtain a copy of this software, you are granted:

- Install and use the software on your computer until the trial software expires.
- Make backup of the software.

(b) Single User License

After you purchase a license of this software, you are granted:

- The permanent right to use the software.
- Make backup of the software.

Transfer

You may not transfer the software license to any third-parties.

Copyright