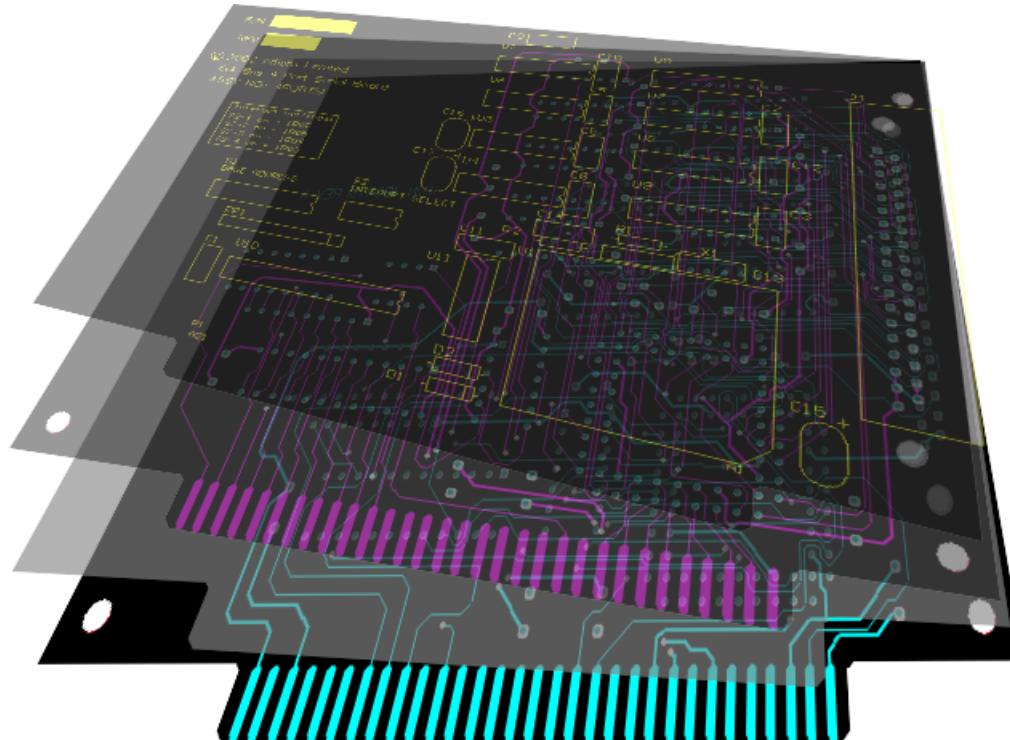
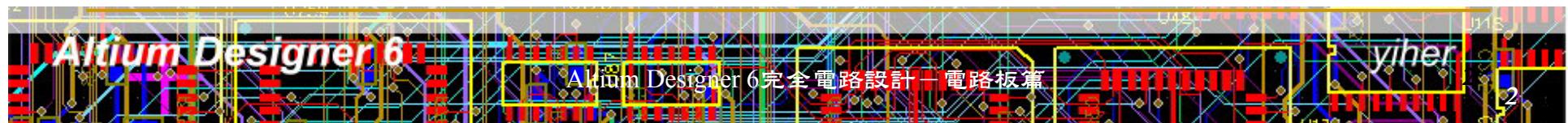
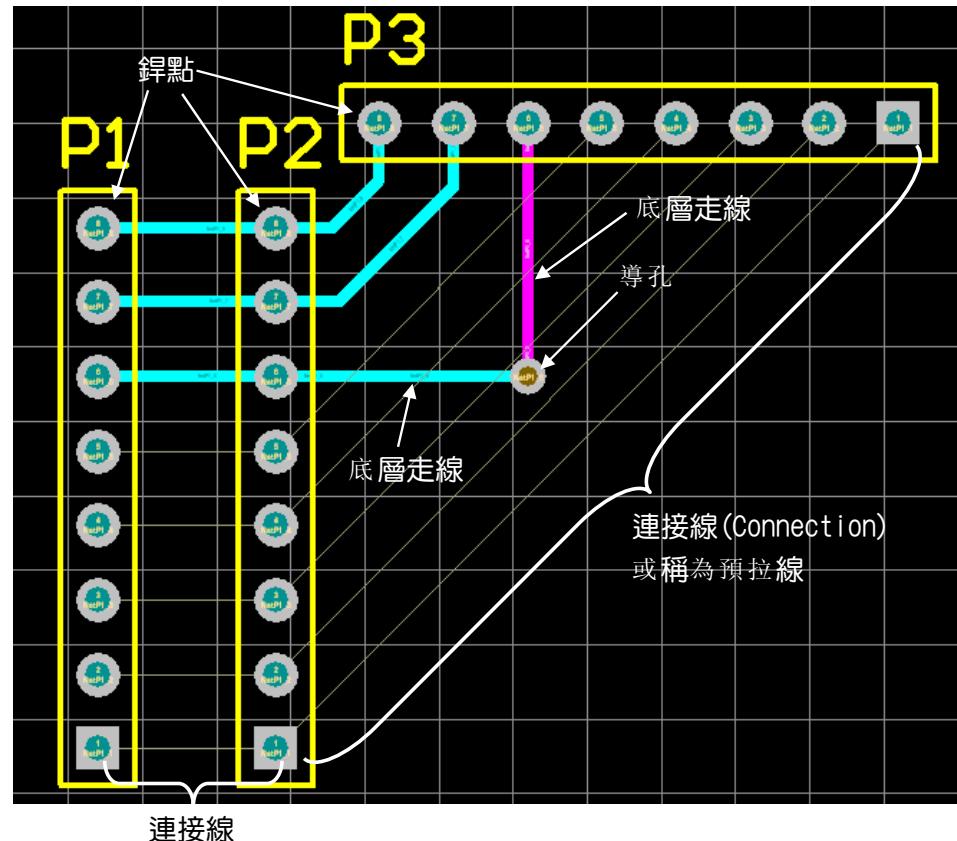


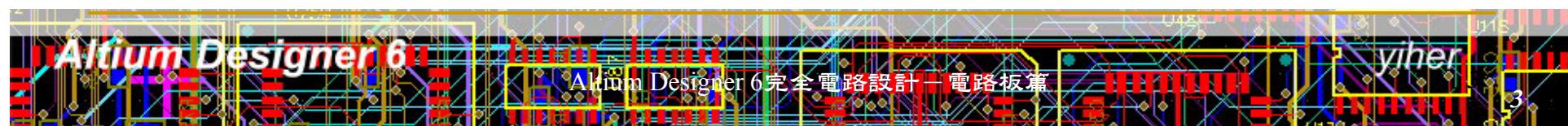
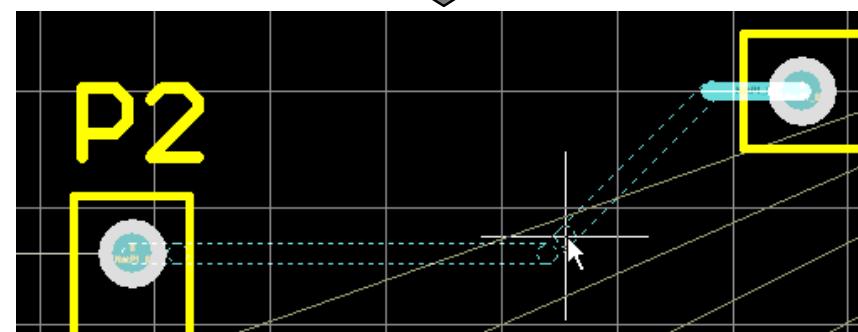
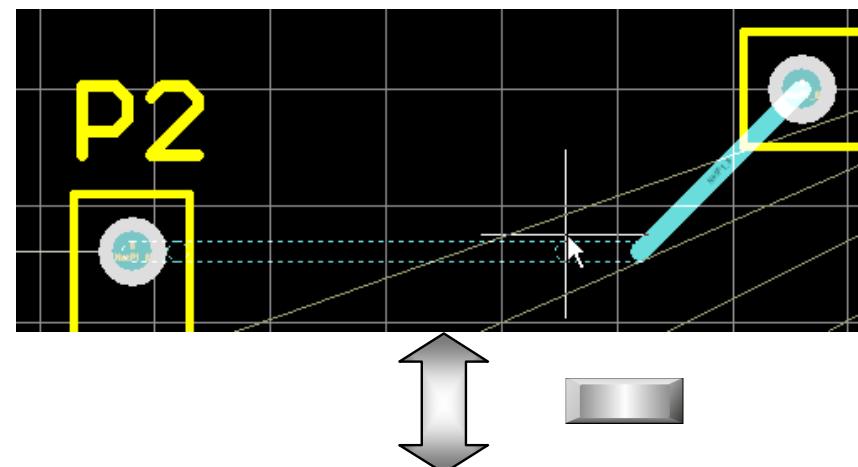
# 第七章

# 電路板圖件操作

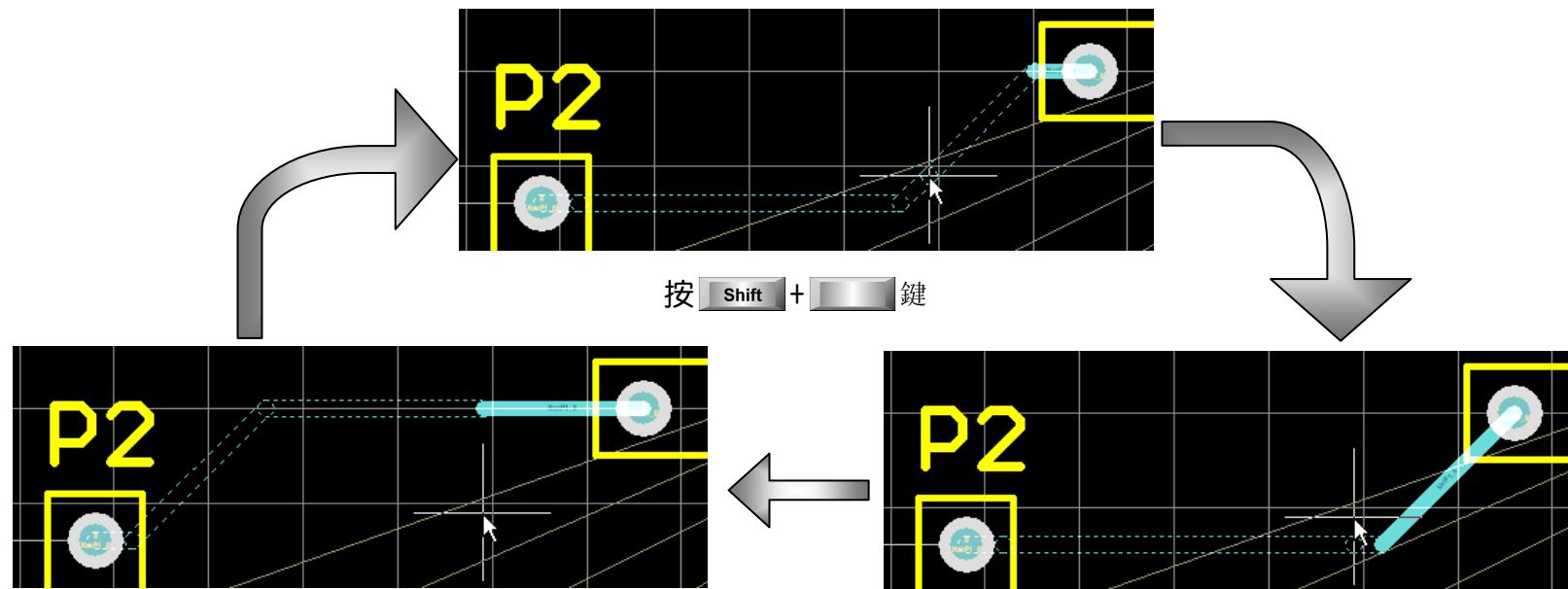


# 電路板上的主要電氣圖件

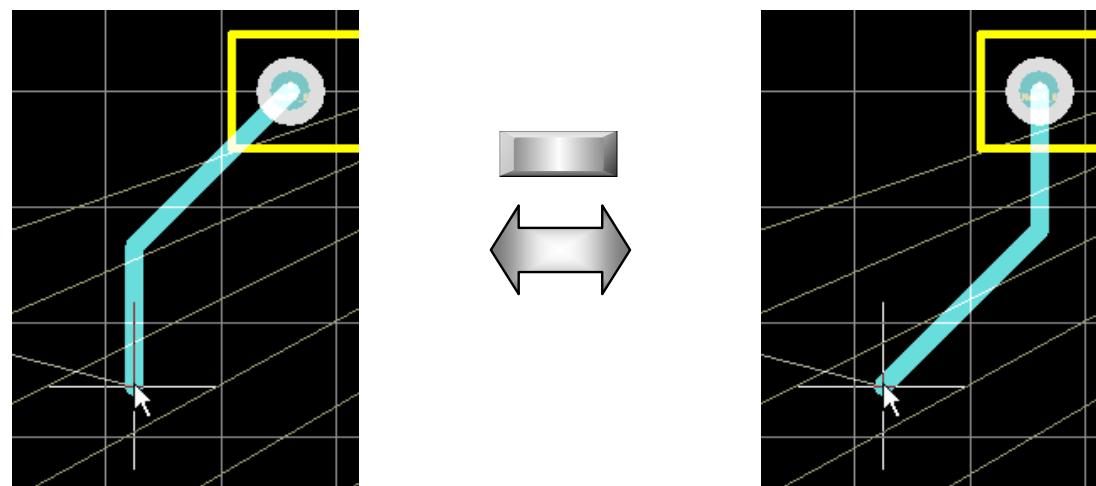




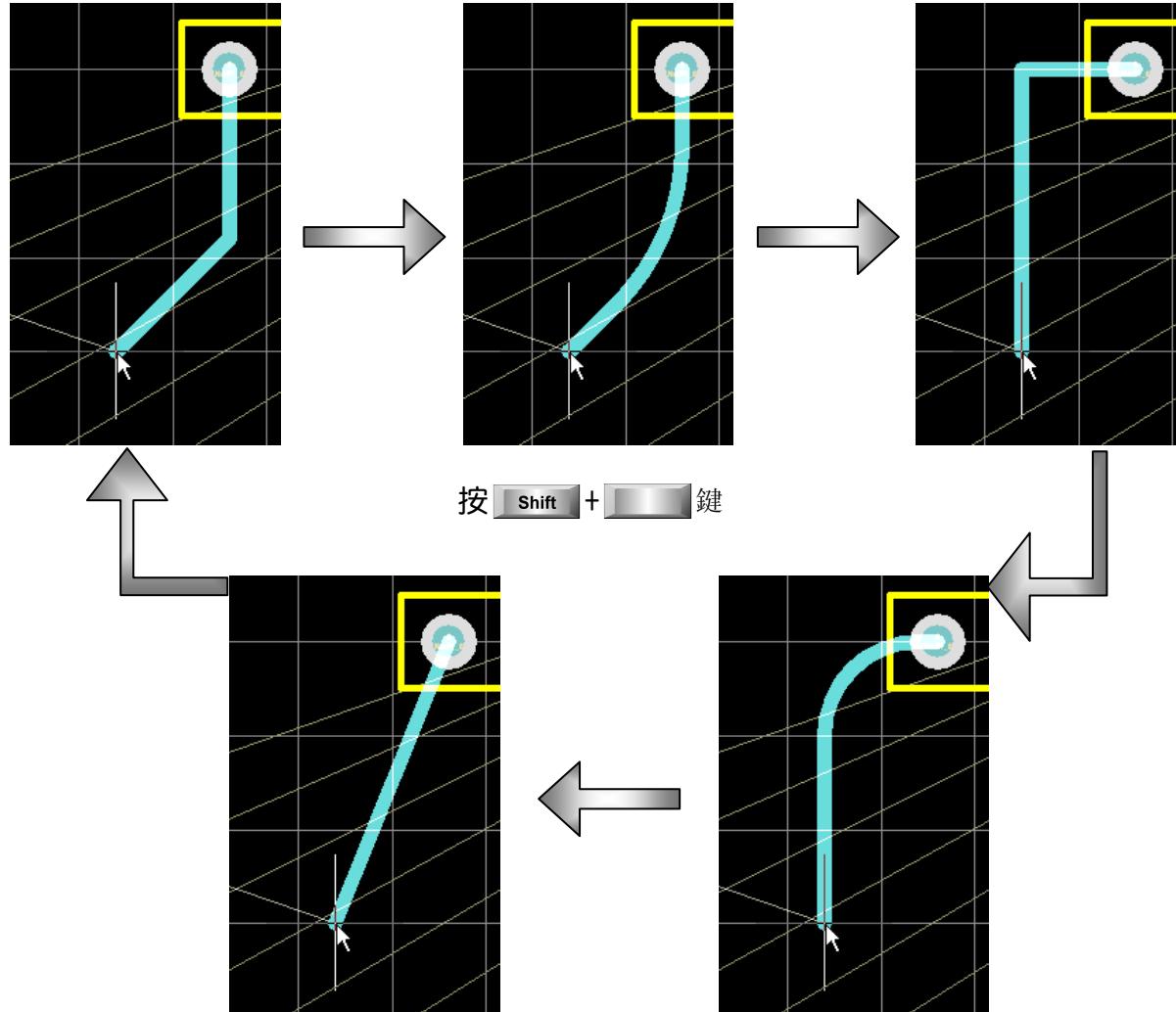
# 切換智慧型走線之走線形狀



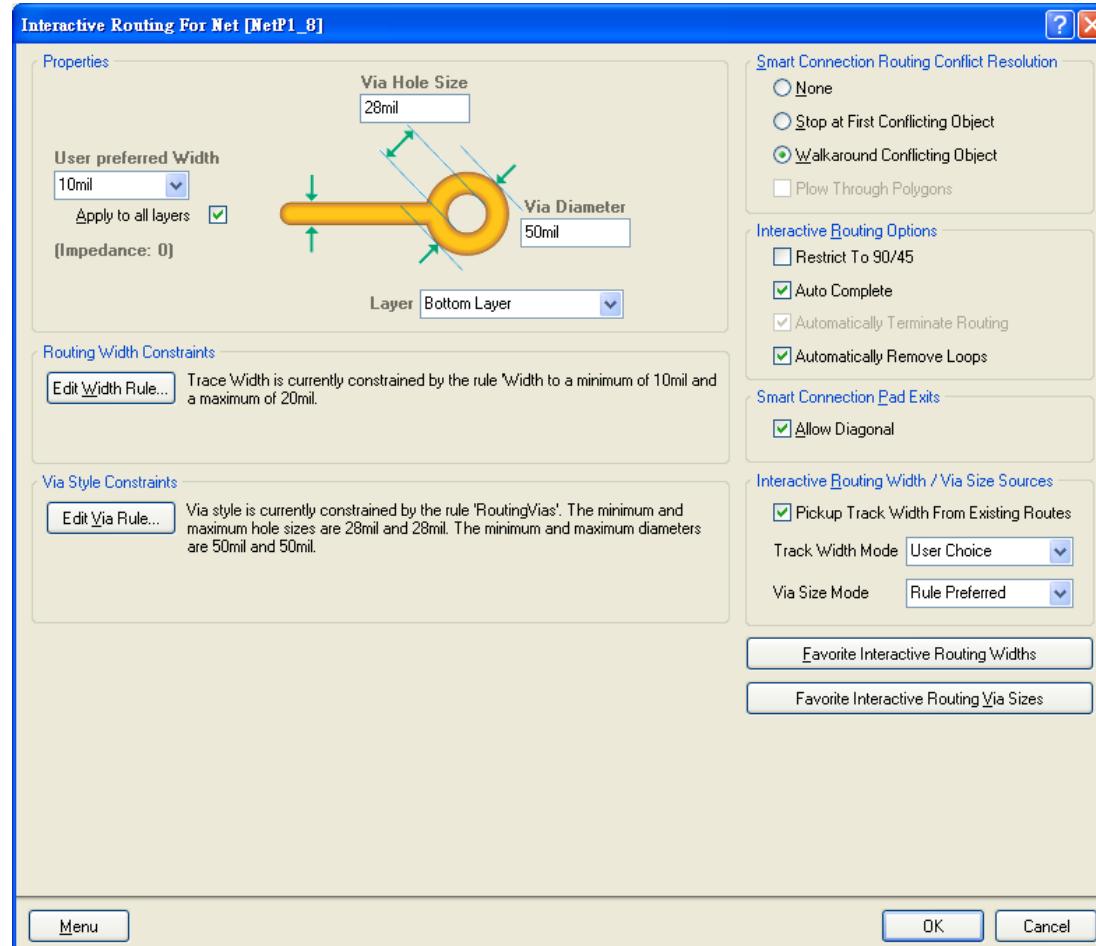
# 切換互動式走線之走線方向



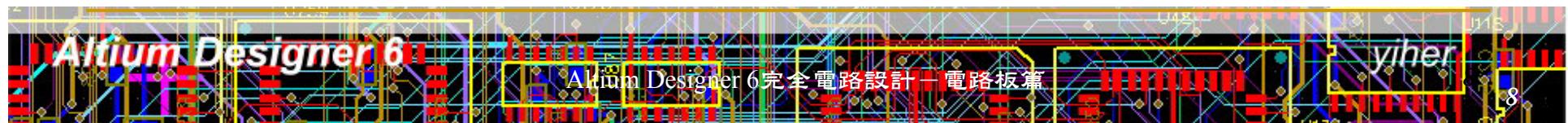
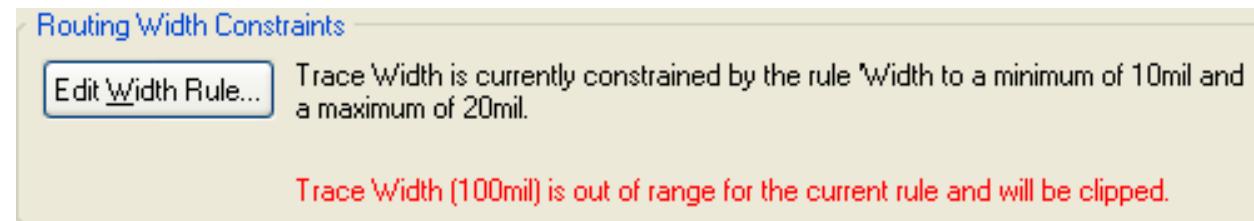
# 切換互動式走線之走線模式



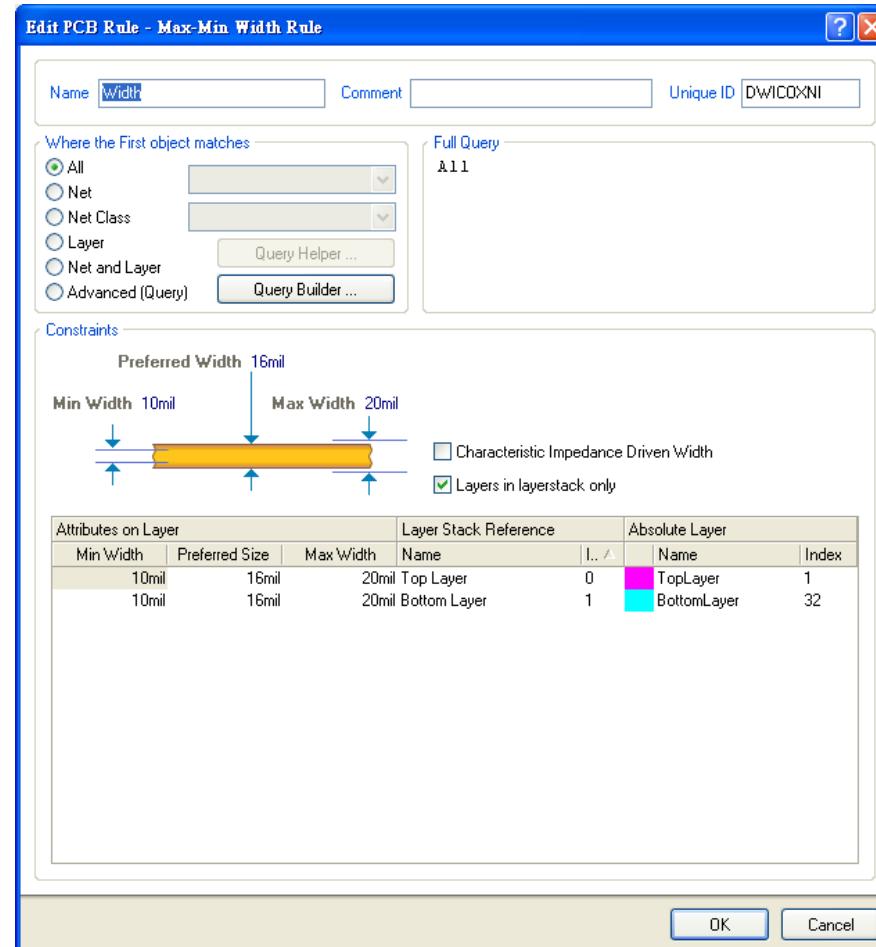
# 互動式走線屬性對話盒



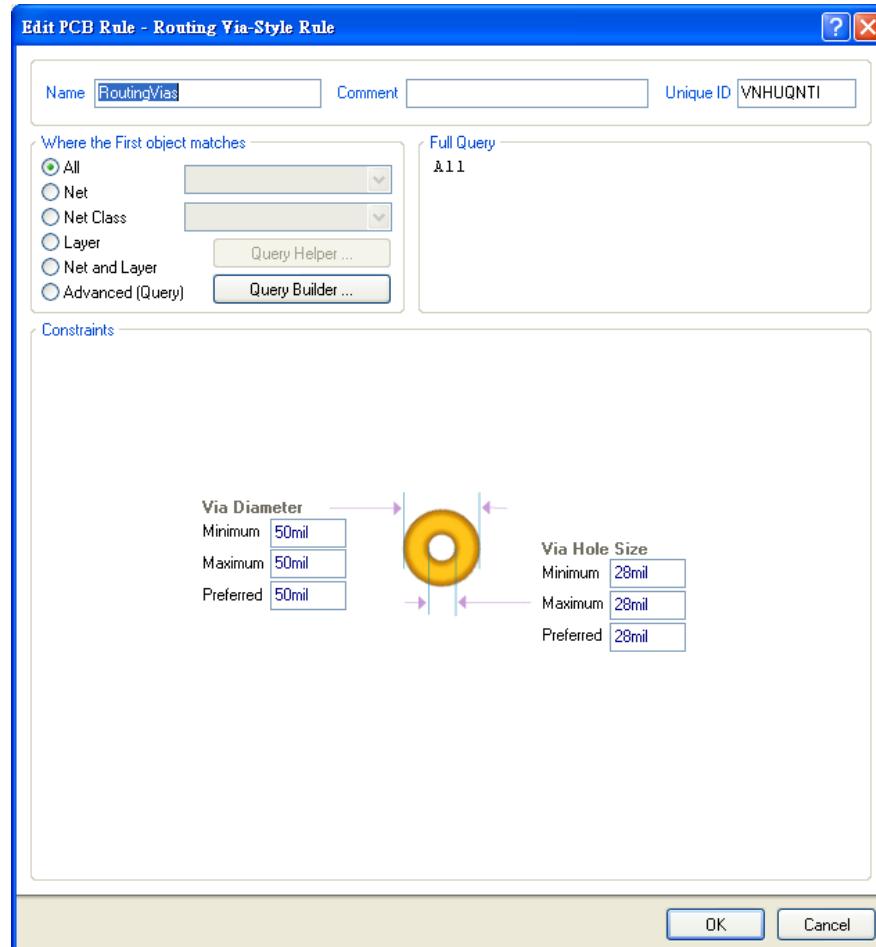
# 顯示走線線寬超過設計規則之範圍



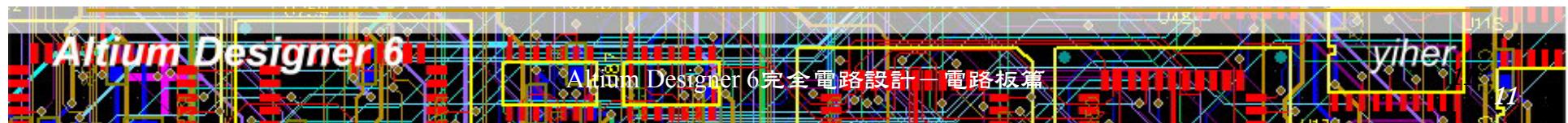
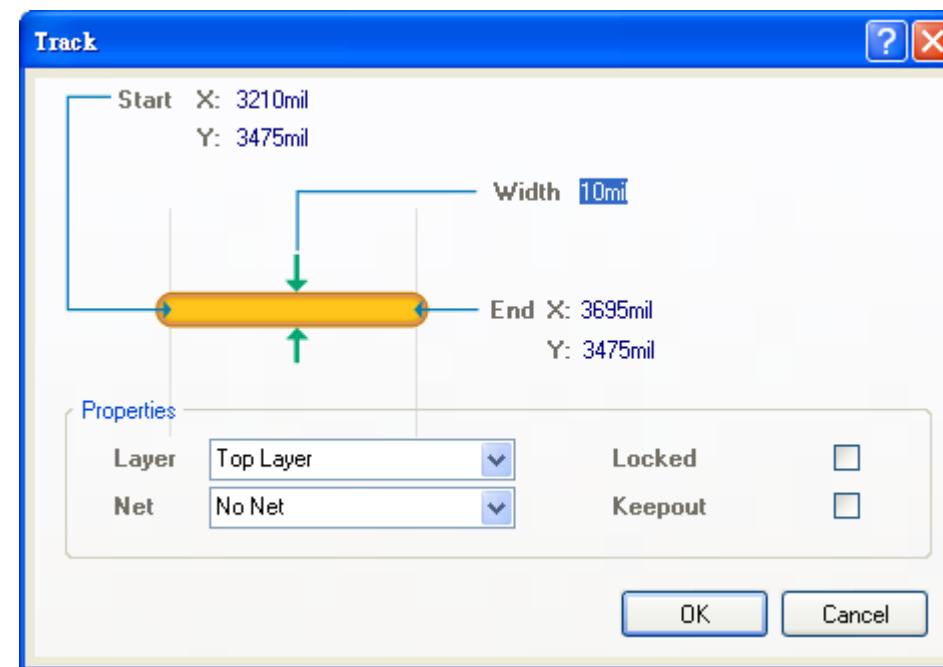
# 走線線寬設計規則設定對話盒



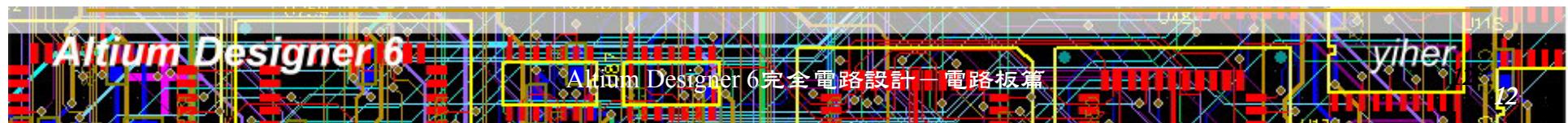
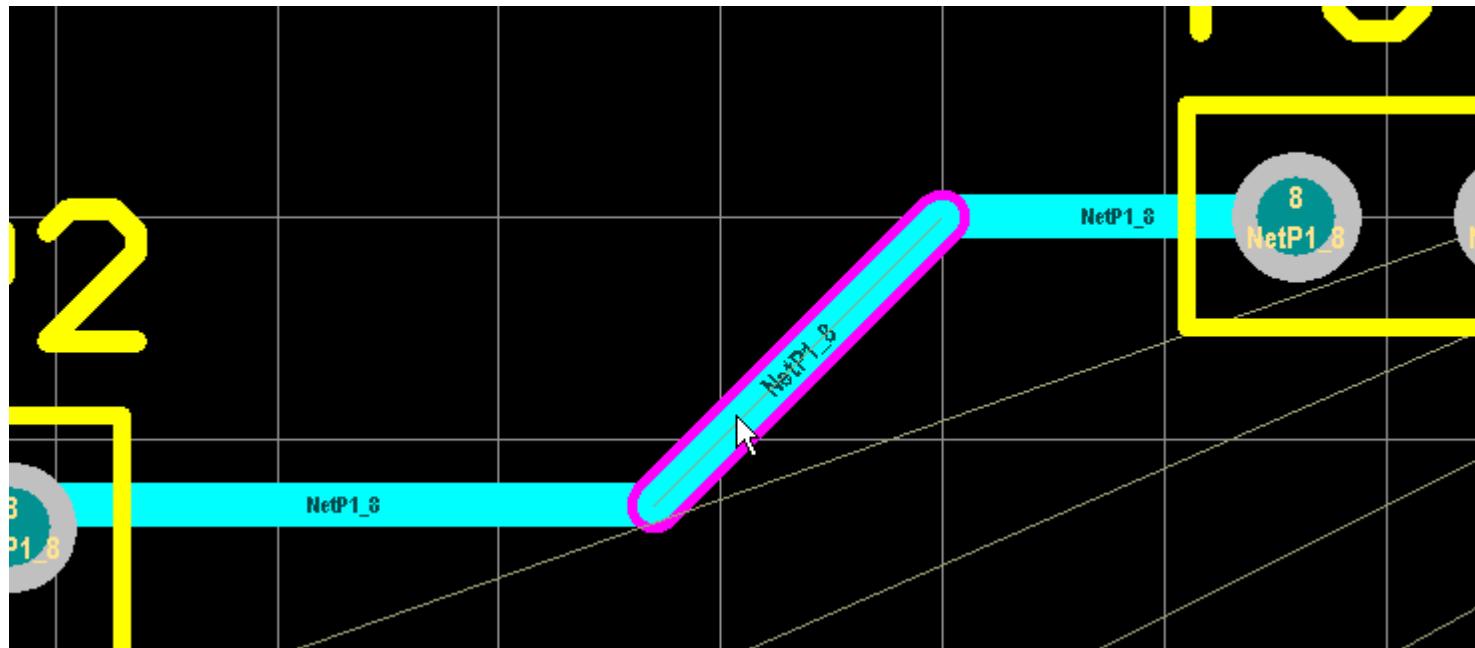
# 導孔樣式設計規則設定對話盒



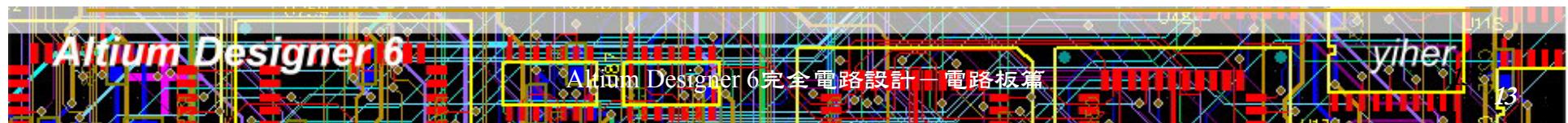
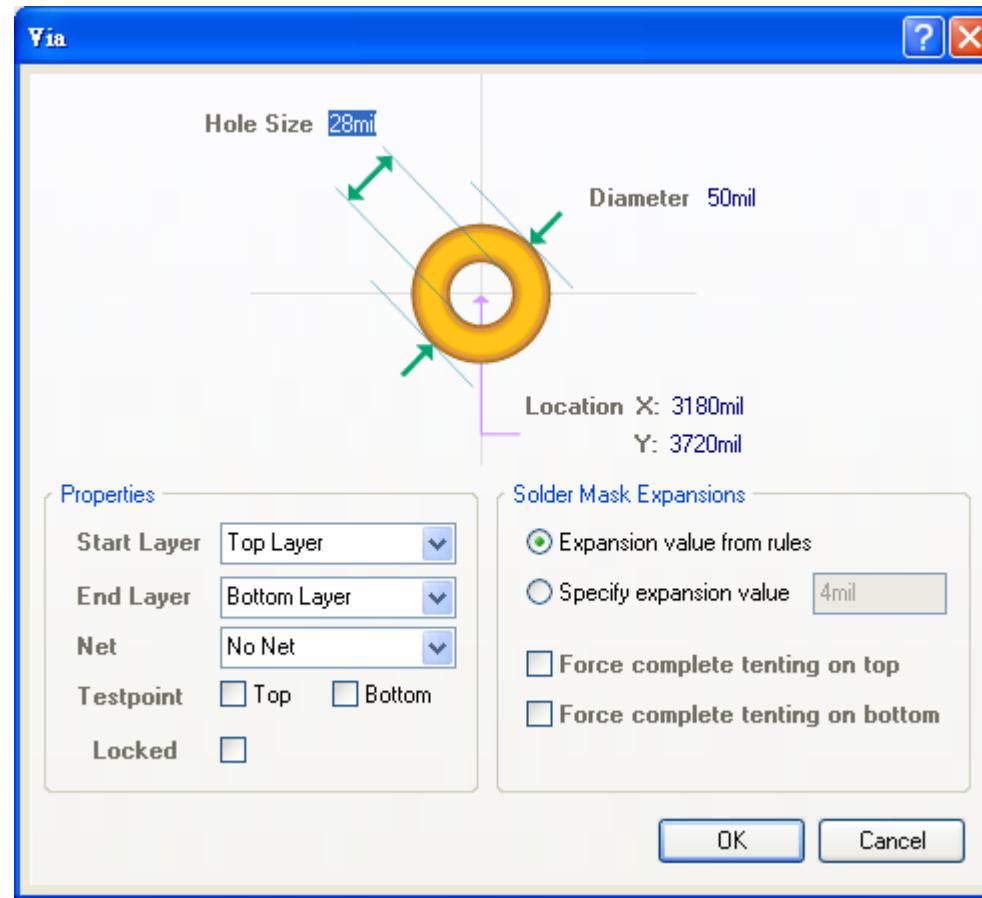
# 線寬屬性對話盒



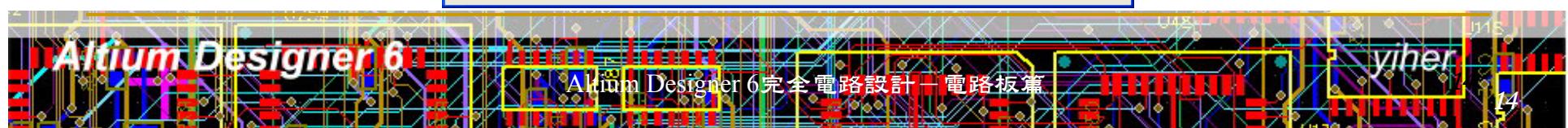
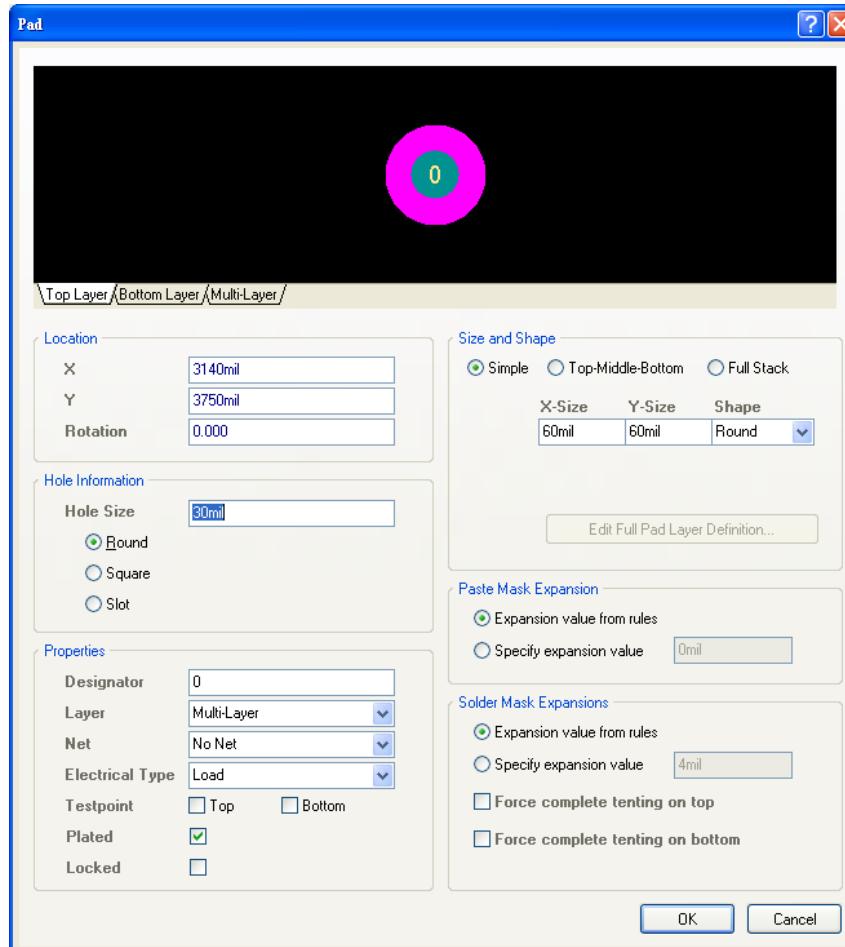
# 禁置圖件



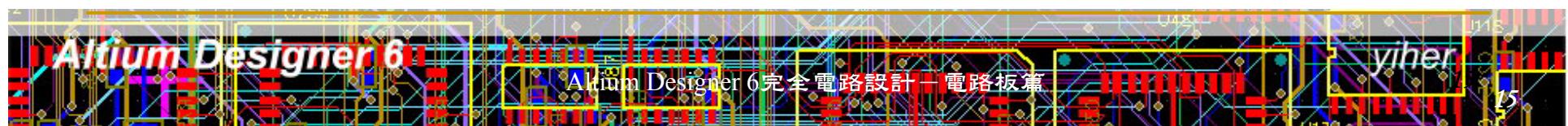
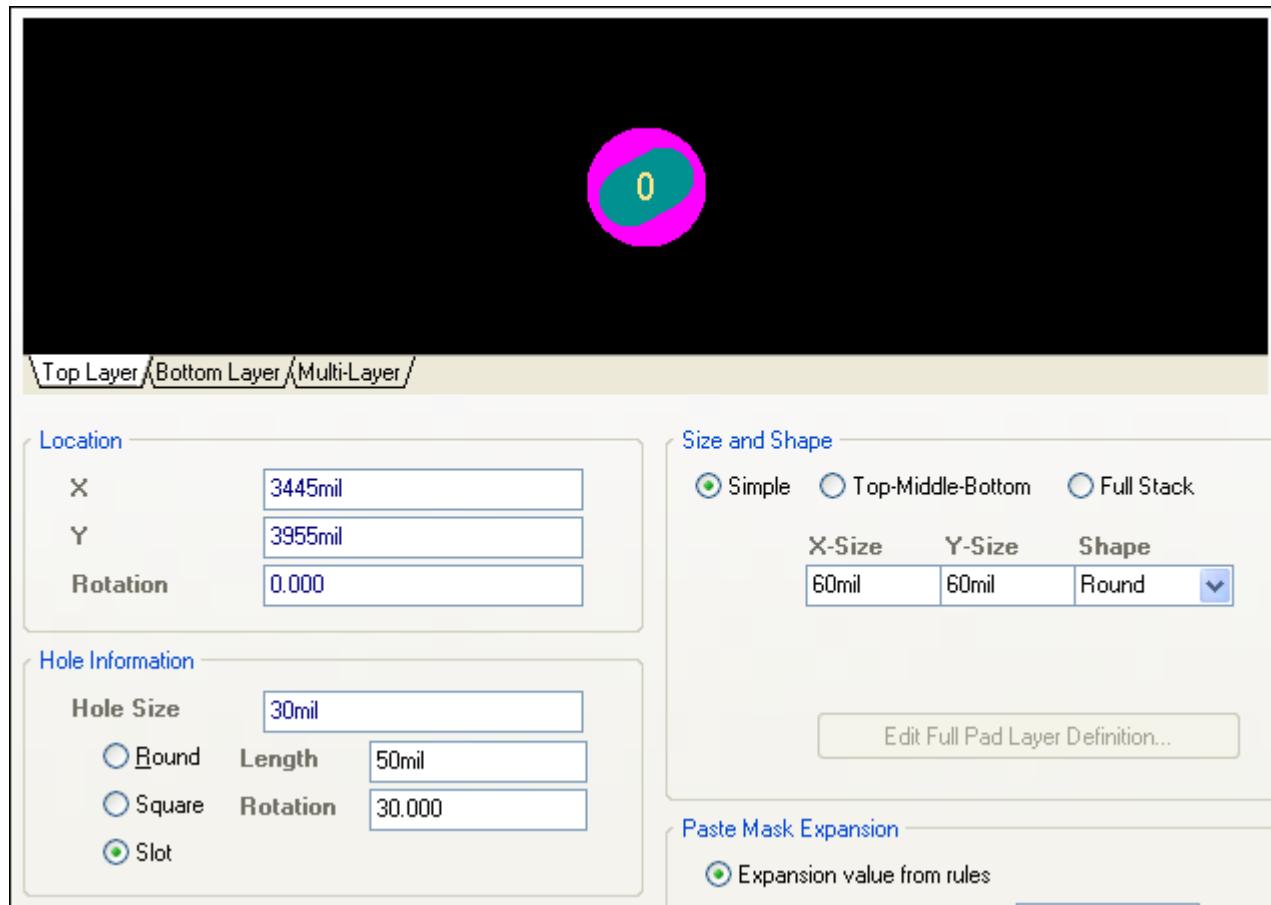
# 導孔屬性對話盒



# 錨點屬性對話盒



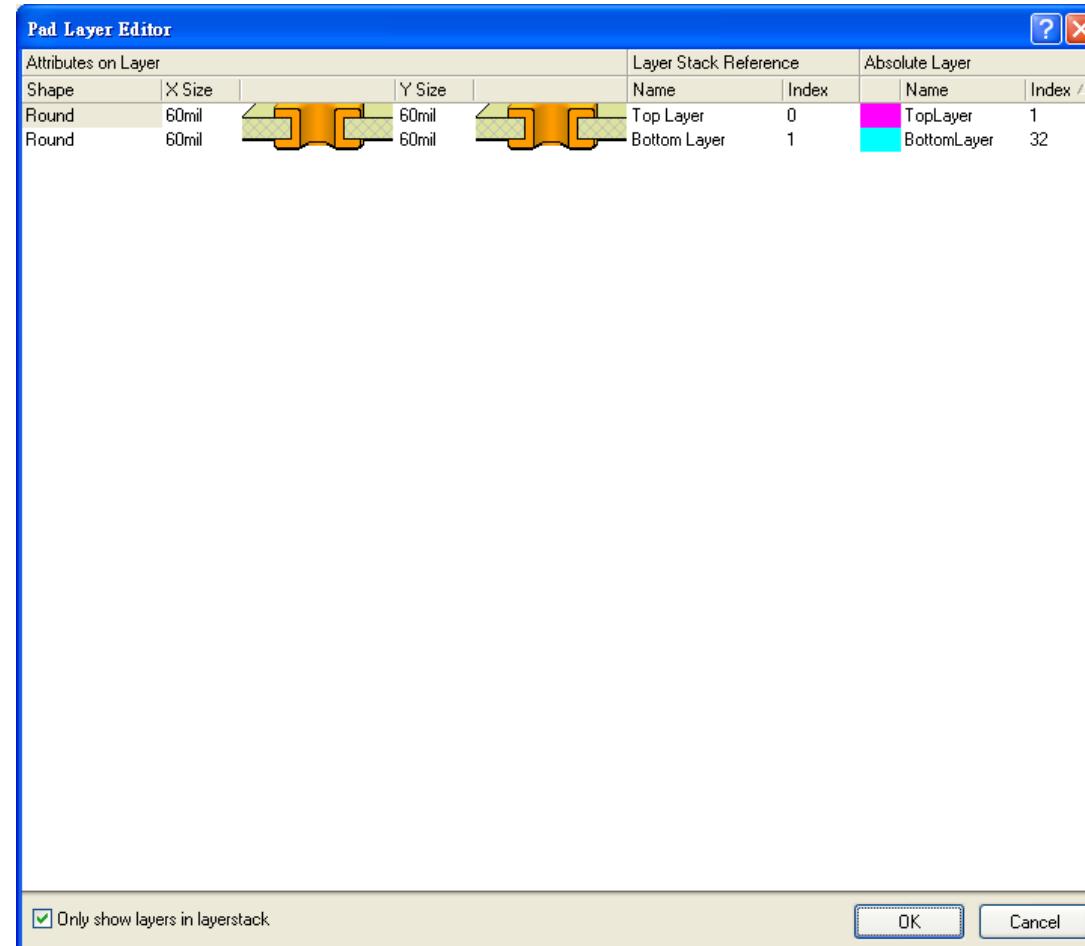
# 槽孔



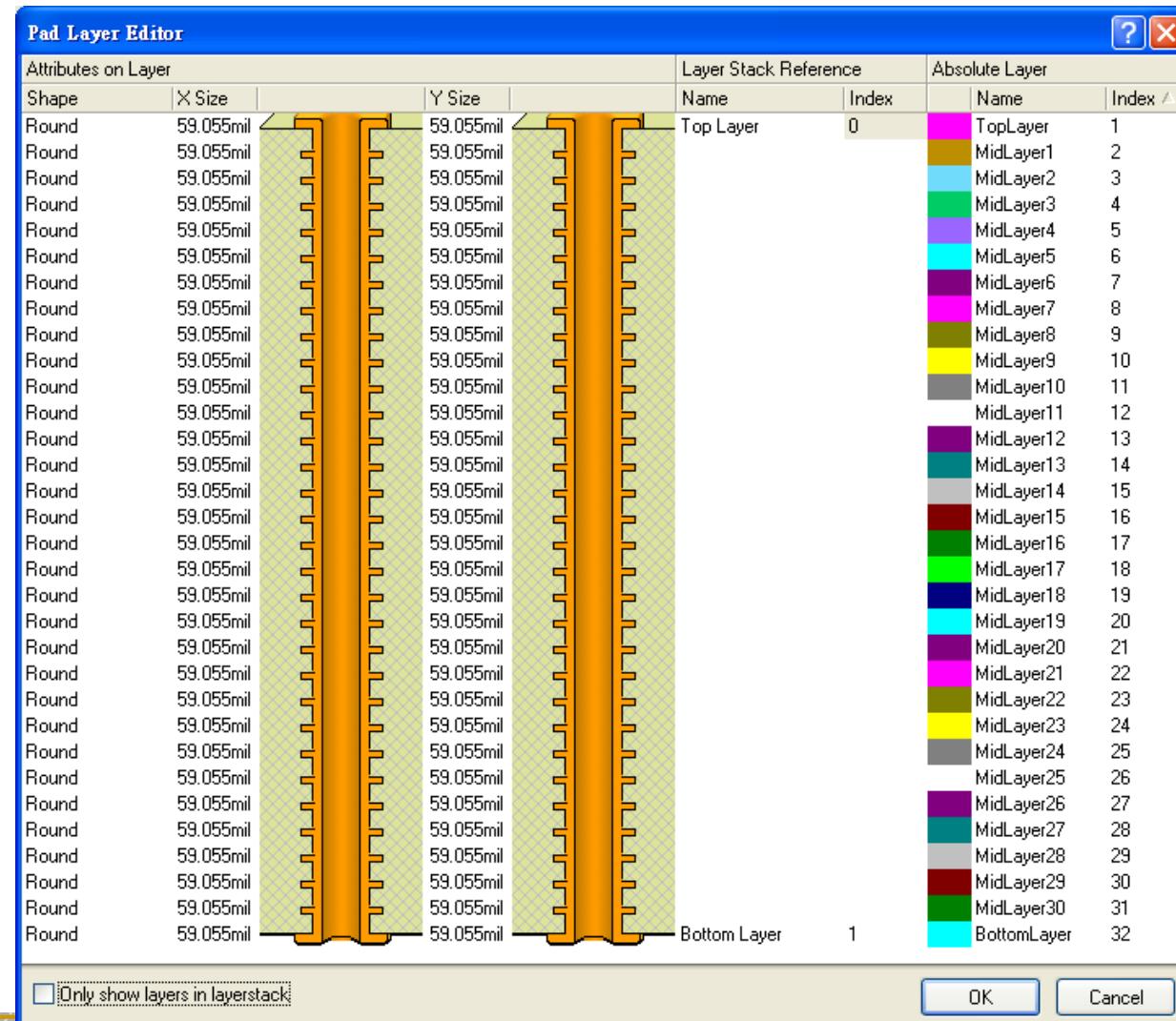
# 複合式錨點設定



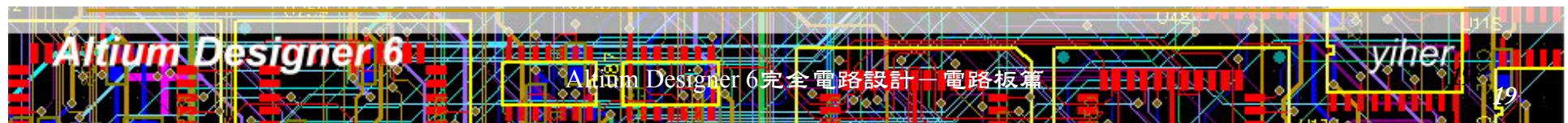
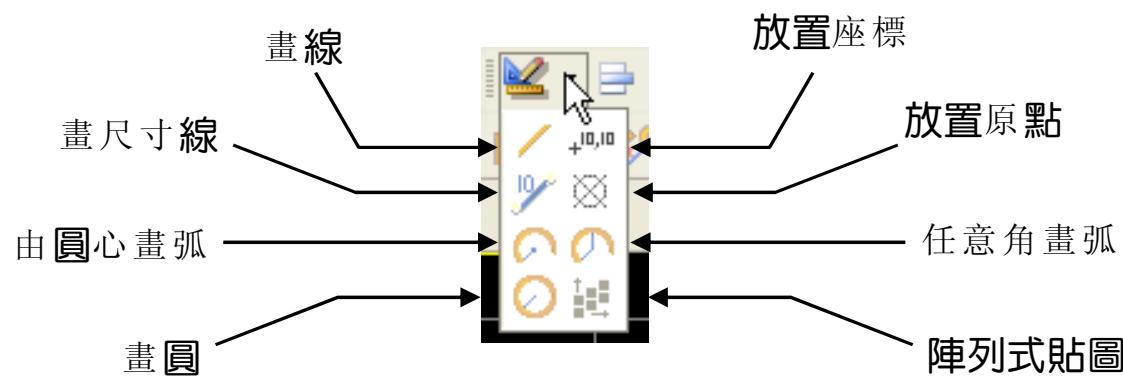
# 錐點堆疊設定(顯示使用的板層)



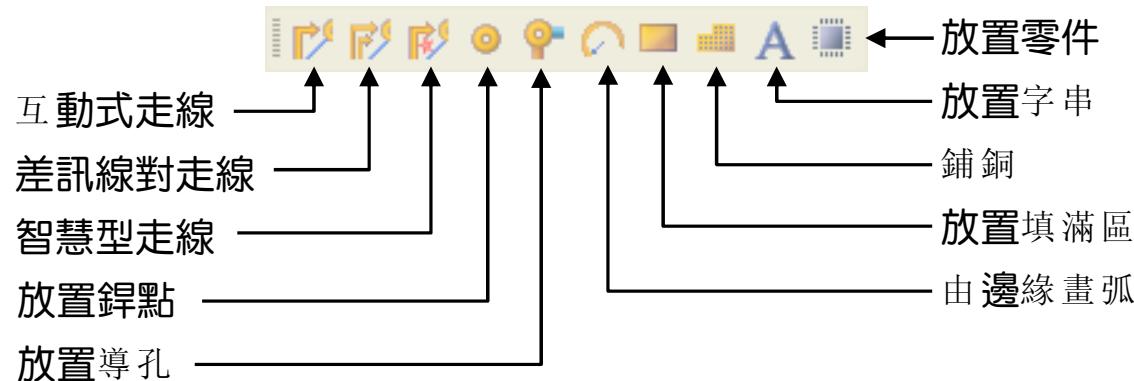
# 鍍點堆疊設定(顯示全部板層)



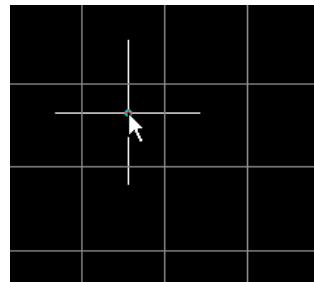
# 電路板之公用工具列(Utilities)



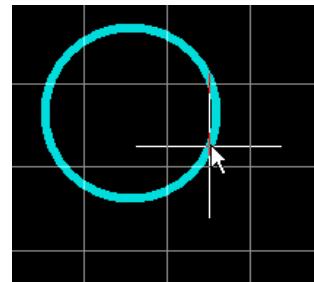
# 電路板之電路繪圖工具列(Wiring)



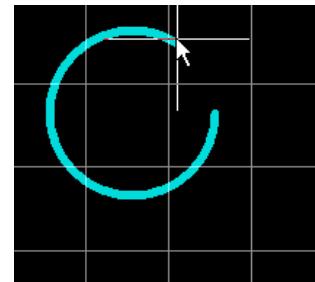
# 由圓心畫弧線



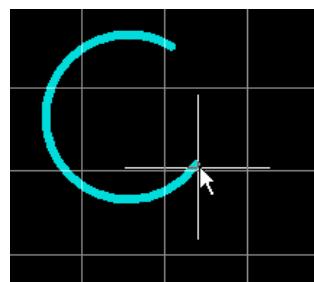
1. 指向圓心位置  
按滑鼠左鍵



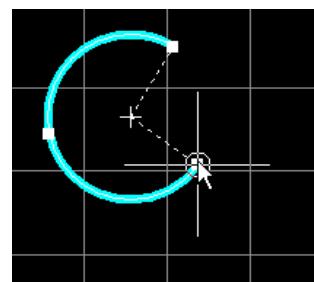
2. 移動滑鼠拉出圓  
按滑鼠左鍵



3. 移至弧線起點  
按滑鼠左鍵



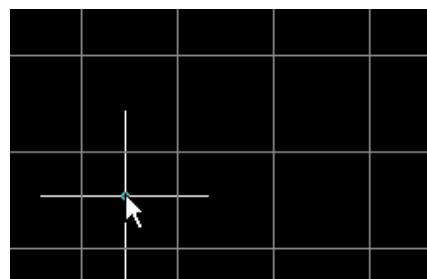
4. 移至弧線終點  
按滑鼠左鍵



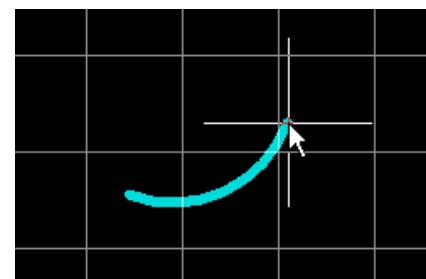
完成弧線



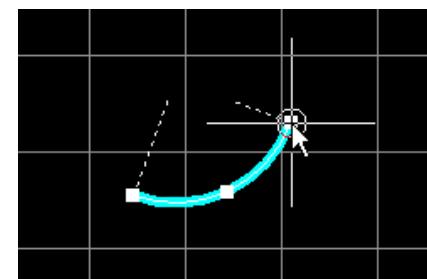
# 由邊緣畫弧線



1. 指向弧線端點位置  
按滑鼠左鍵

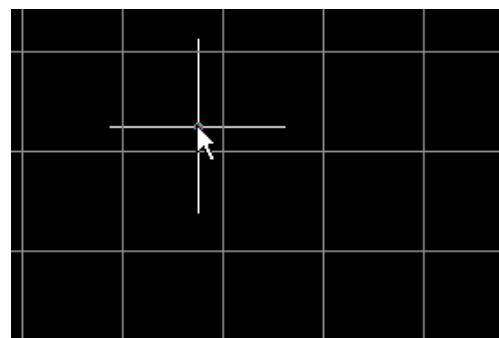


2. 移至弧線另一端點位置  
按滑鼠左鍵

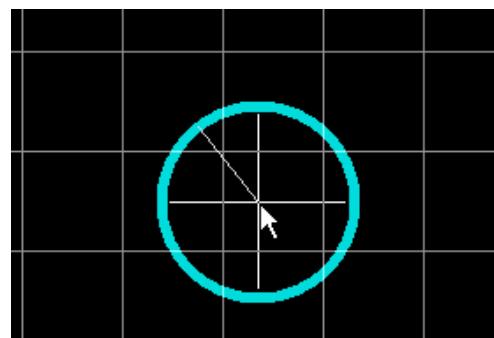


完成弧線

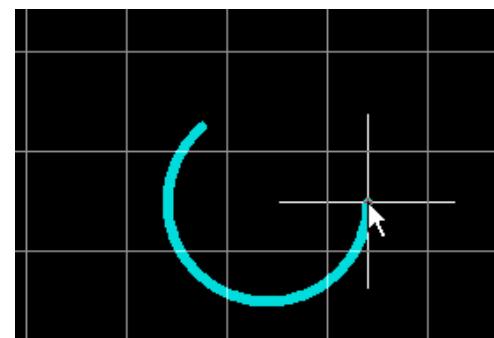
# 任意角畫弧線



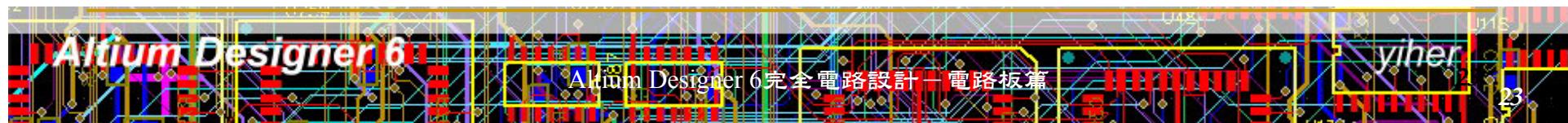
1. 指向弧線圓心位置  
按滑鼠左鍵



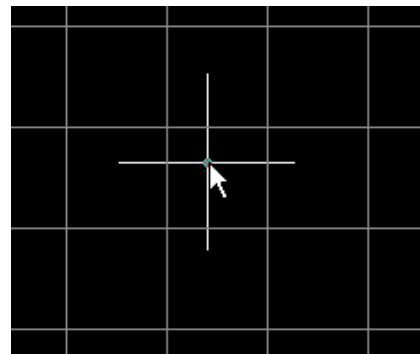
2. 移動滑鼠展開一個圓  
按滑鼠左鍵



3. 移至另一個端點  
按滑鼠左鍵

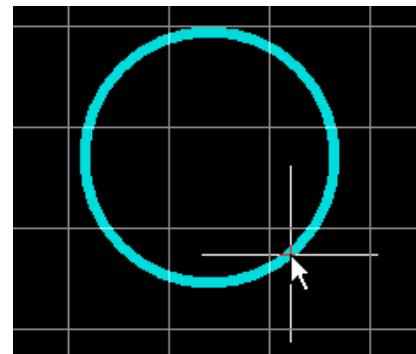


# 畫圓形



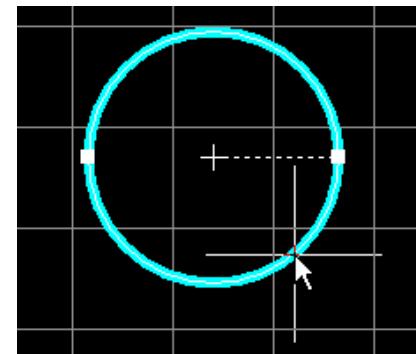
1. 指向圓心位置

按滑鼠左鍵



2. 移動滑鼠展開一個圓

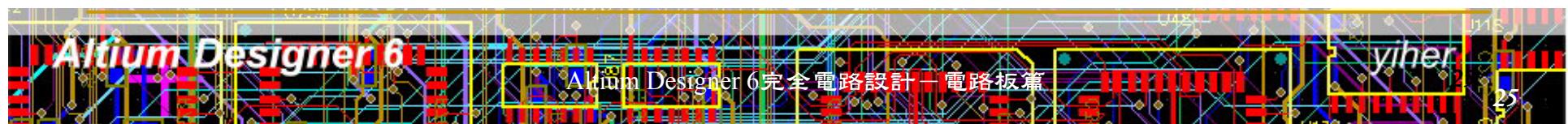
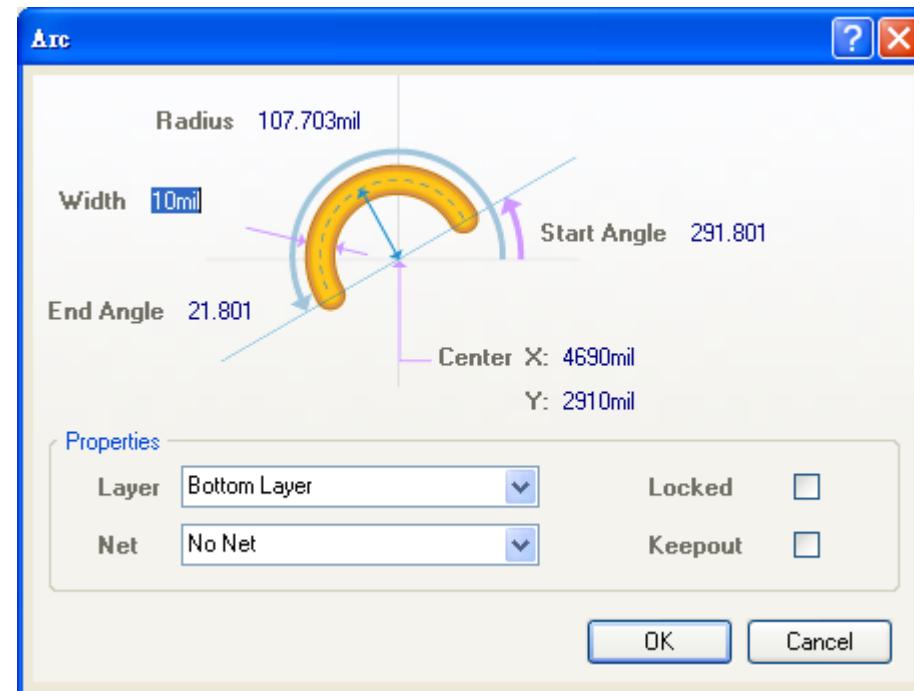
按滑鼠左鍵



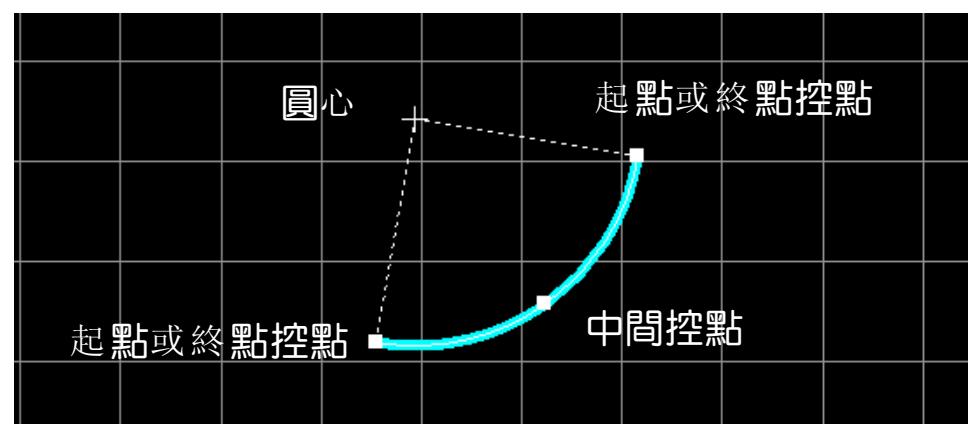
完成一個圓



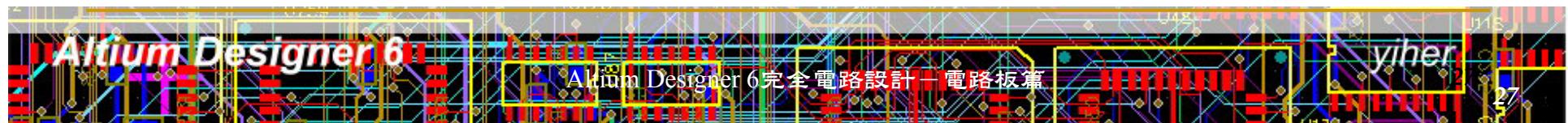
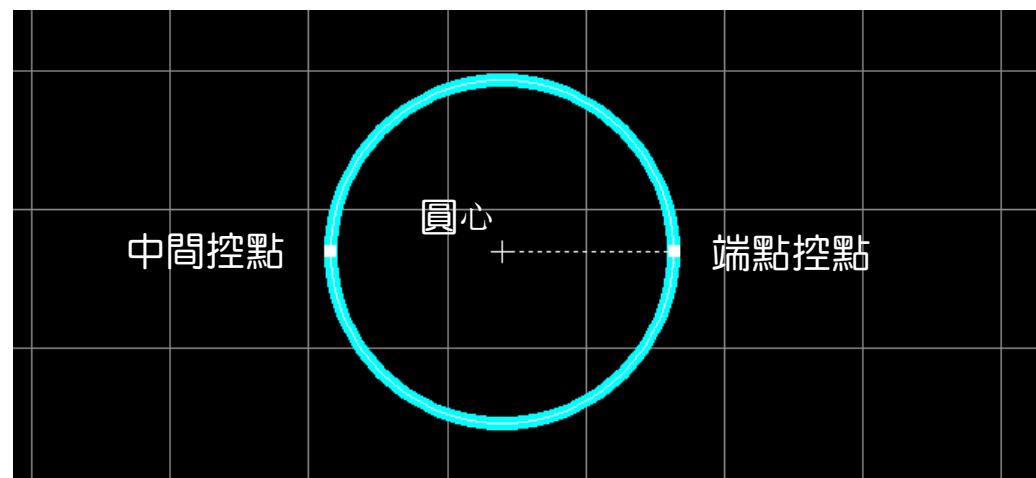
# 弧線屬性對話盒



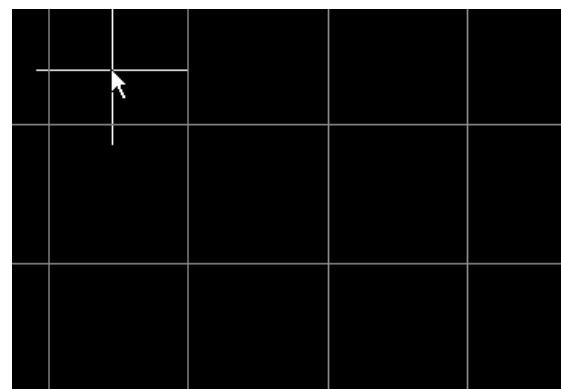
# 選取弧線



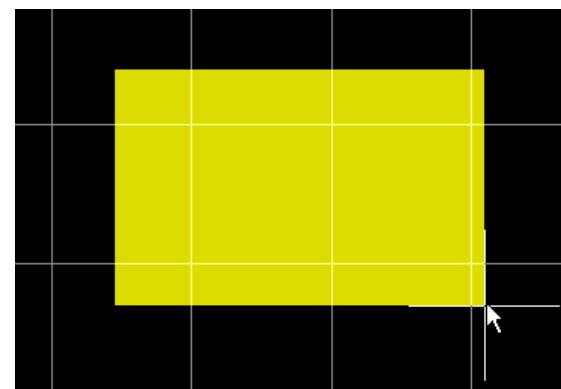
# 選取圓形



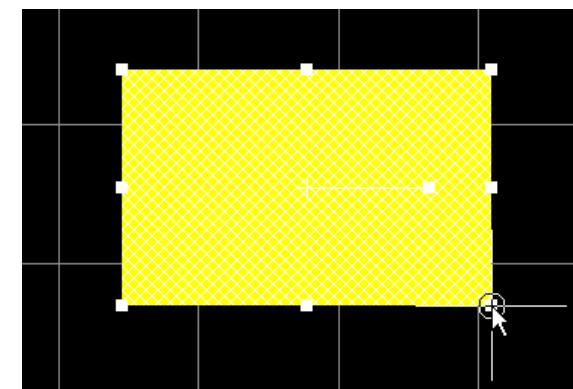
# 畫矩形填滿區



1. 指向矩形一角的位置  
按滑鼠左鍵

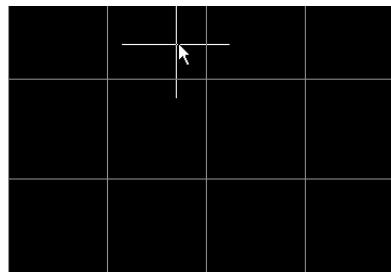


2. 移動滑鼠展開一個矩形  
按滑鼠左鍵

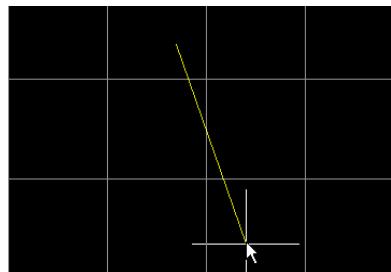


完成矩形

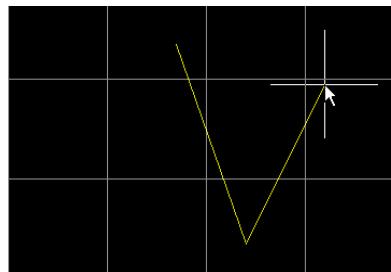
# 畫多邊形填滿區



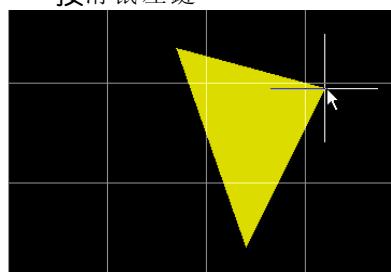
1. 指向第一角位置  
按滑鼠左鍵



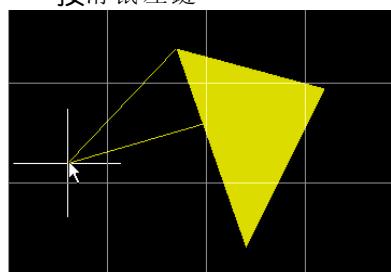
2. 移動滑鼠拉出一條線  
按滑鼠左鍵



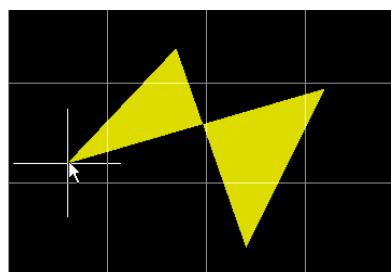
3. 移動滑鼠



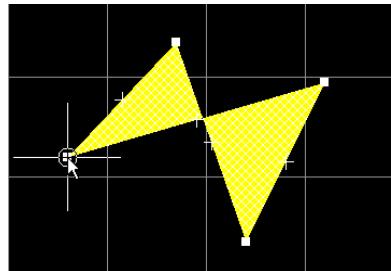
4. 按滑鼠左鍵  
拉出一個三邊形



5. 移動滑鼠

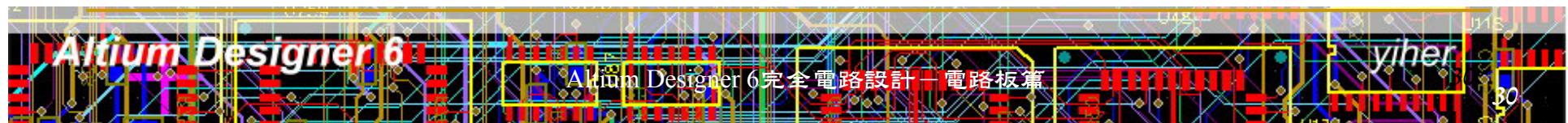
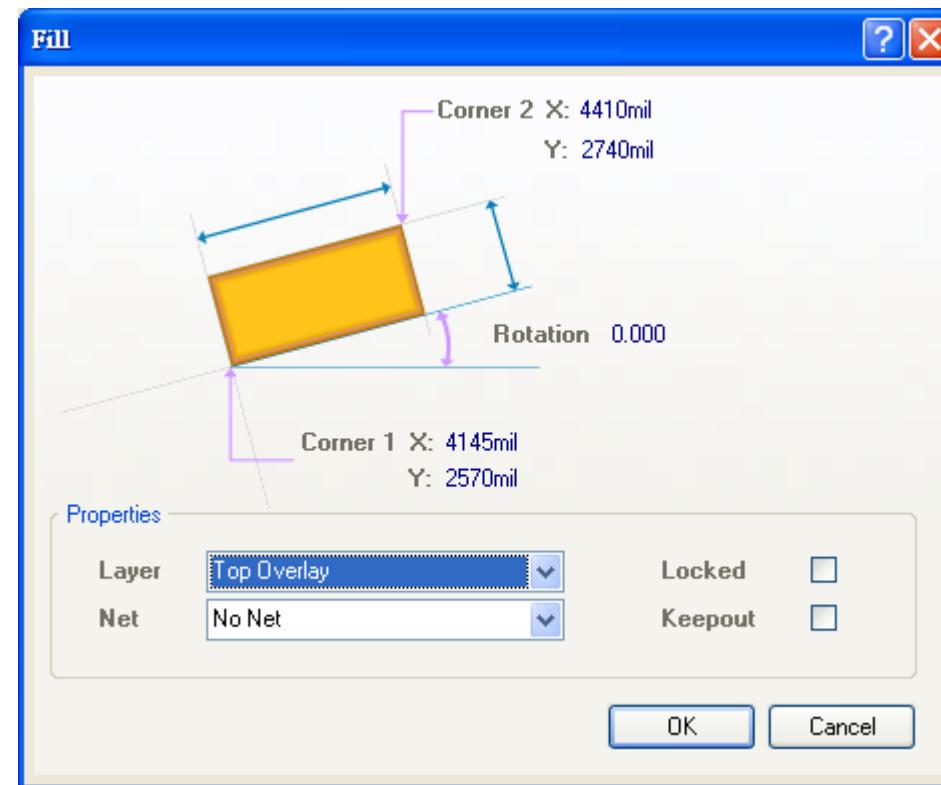


6. 按滑鼠左鍵  
拉出一個多邊形

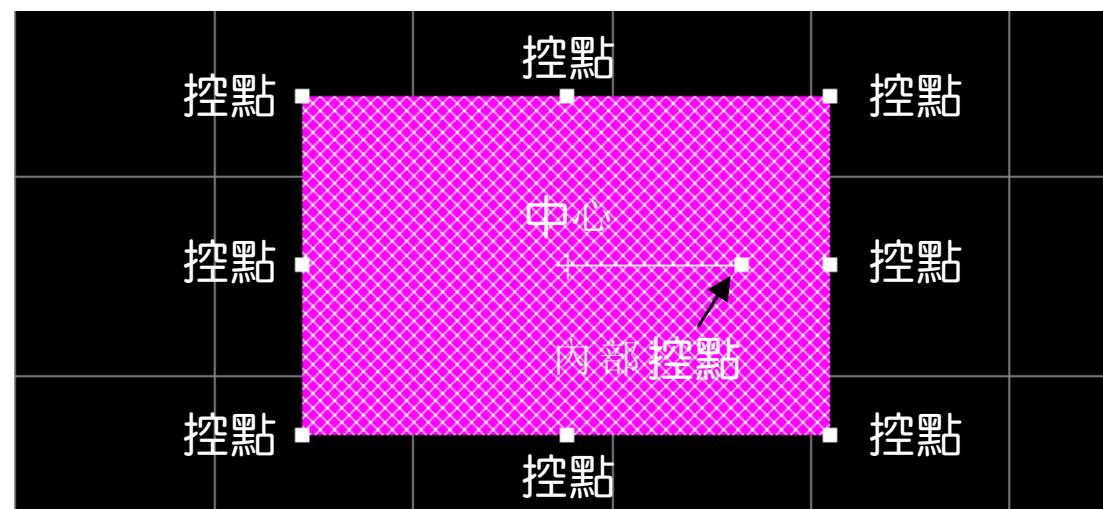


7. 按滑鼠右鍵  
完成此多邊形

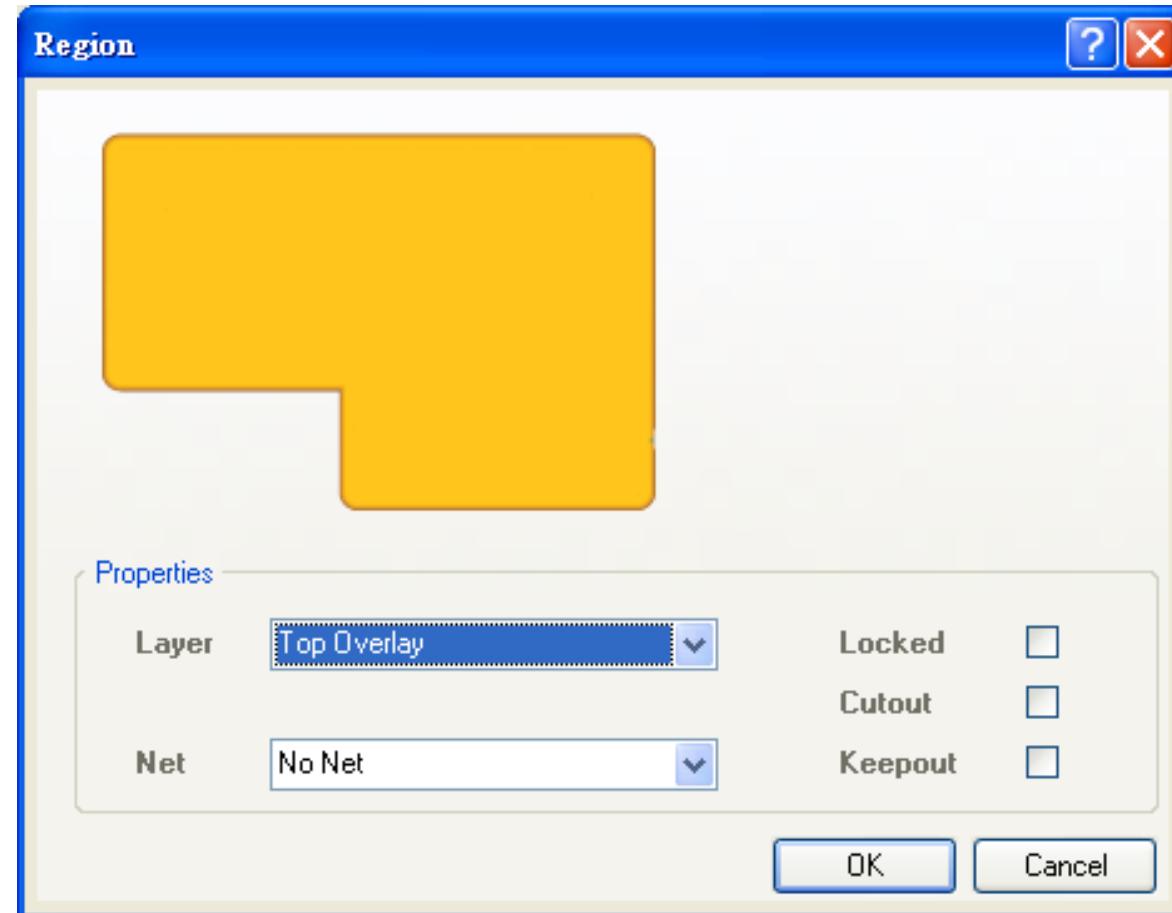
# 矩形填滿區屬性對話盒



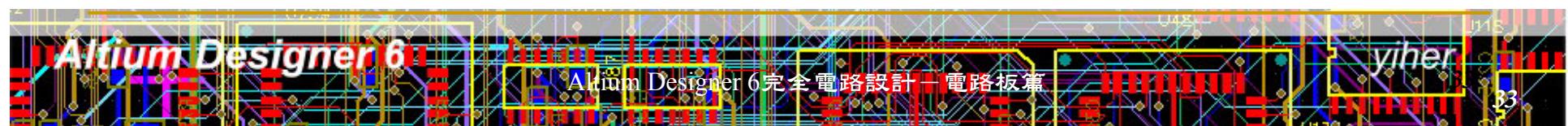
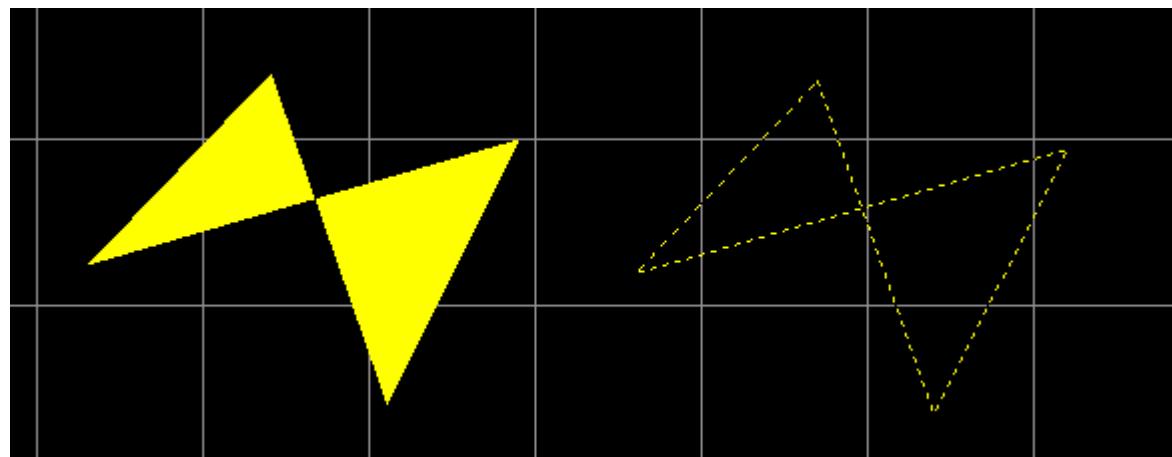
# 選取矩形填滿區



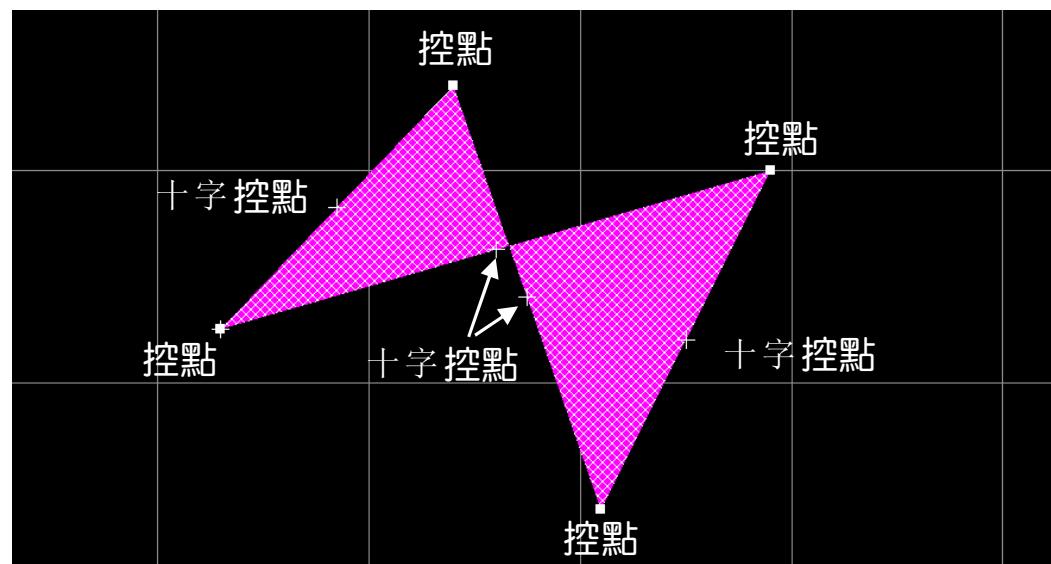
# 多邊形填滿區屬性對話盒



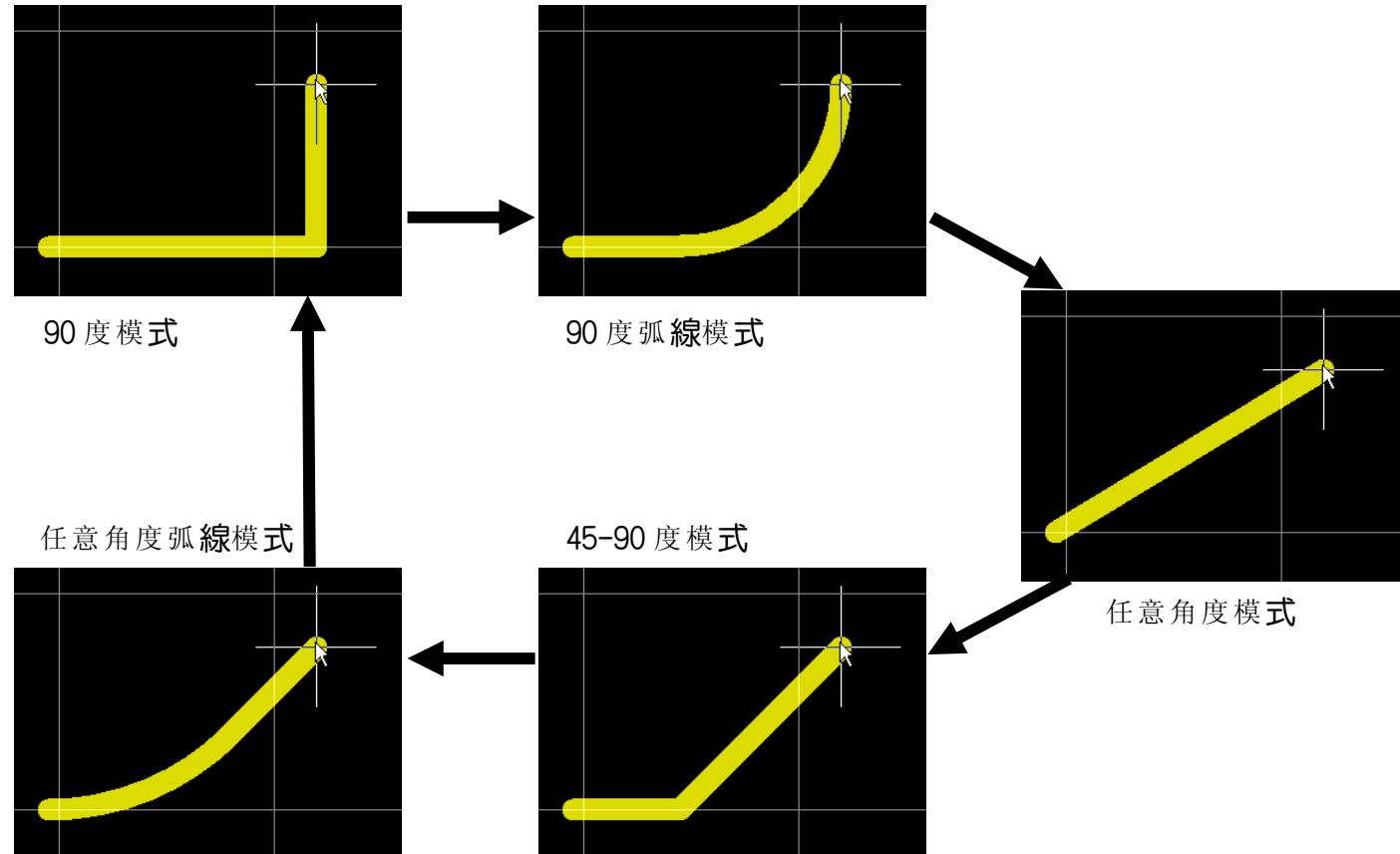
# 多邊形填滿區(左)與多邊形切除區(右)



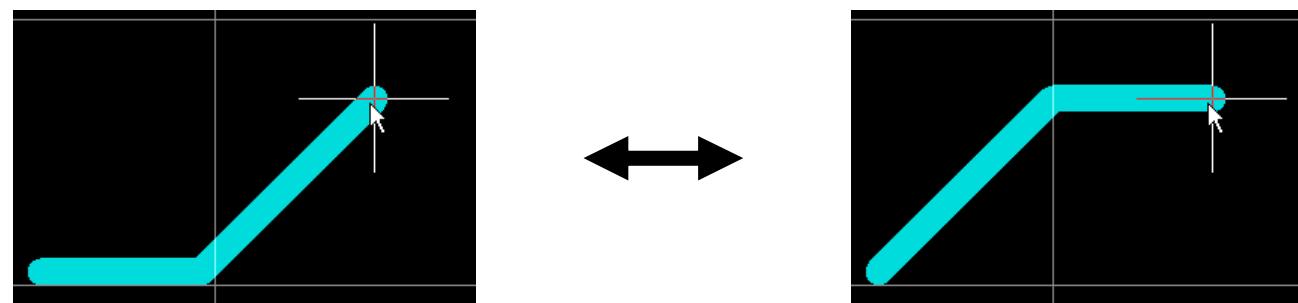
# 選取多邊形填滿區



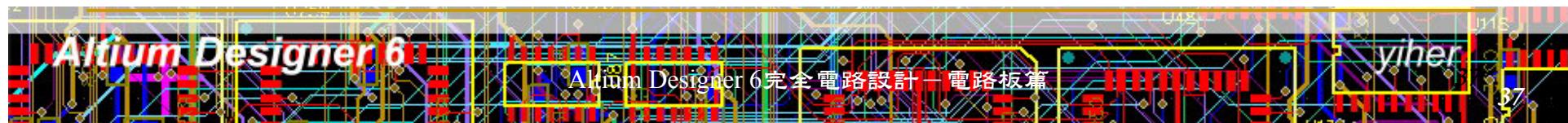
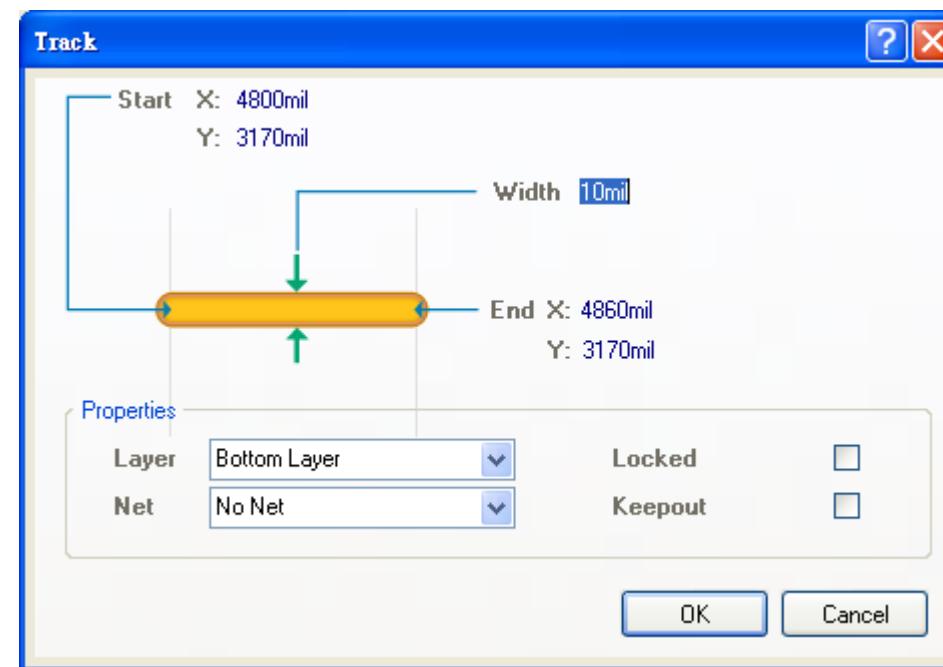
# 切換線條模式



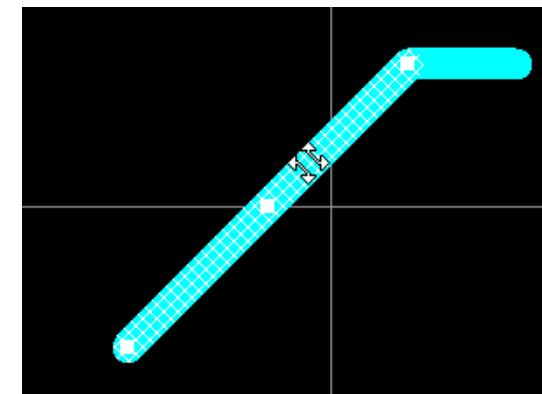
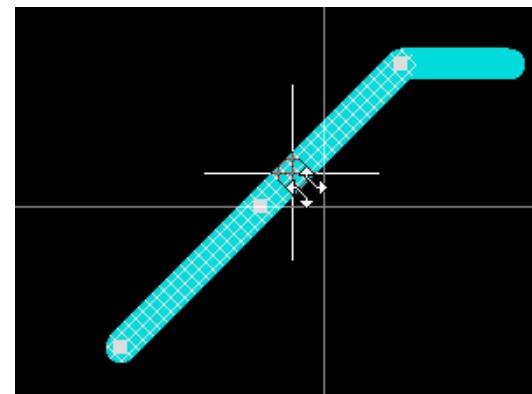
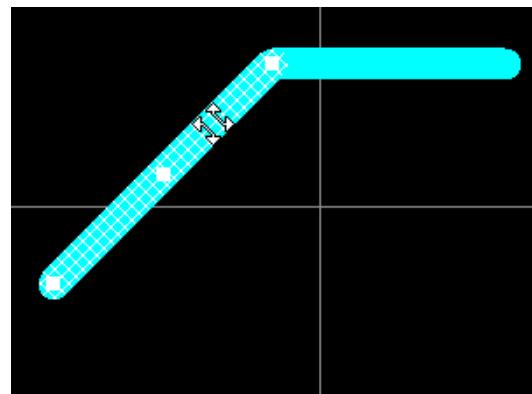
# 切換線條方向



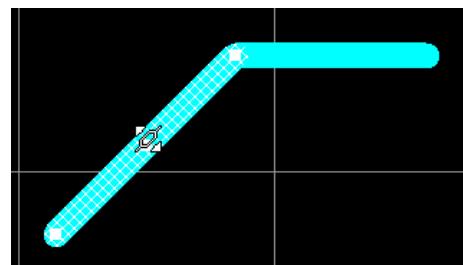
# 線條屬性對話盒



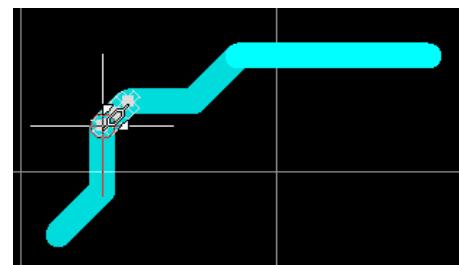
# 拖曳非控點位置



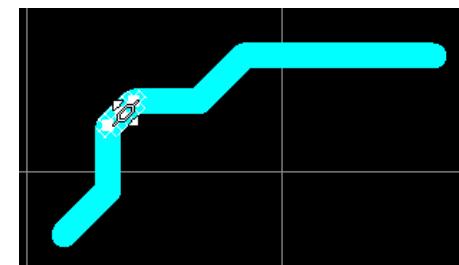
# 拖曳中間控點



1. 指向選取線段中間控點

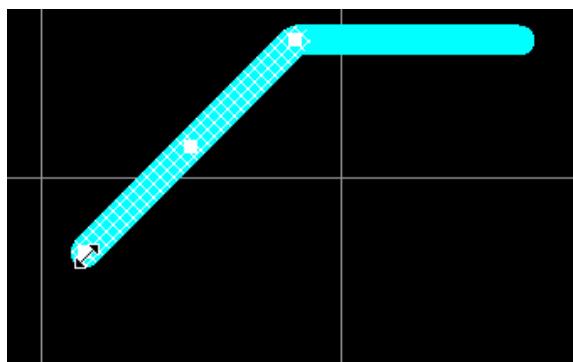


2. 按住按滑鼠左鍵不放  
移動滑鼠

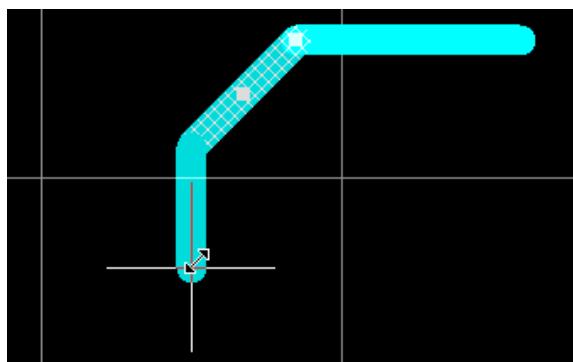


3. 放開滑鼠

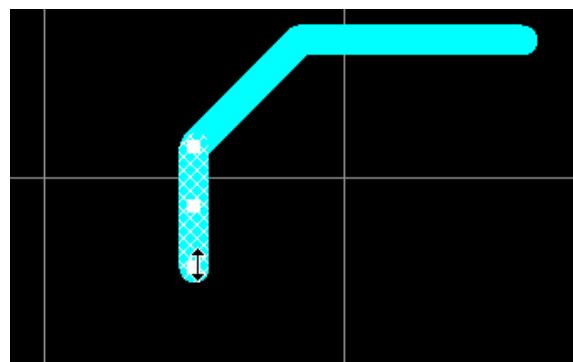
# 拖曳端點控點



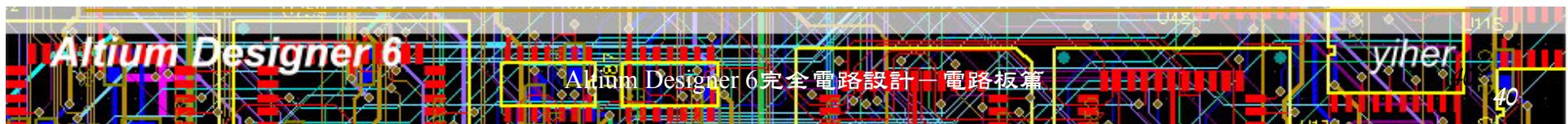
1. 指向選取線段端點控點



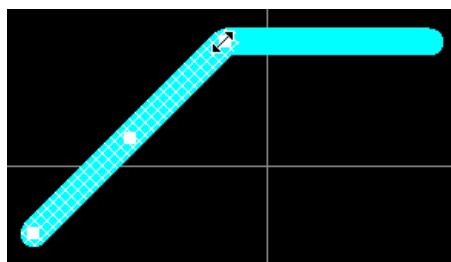
2. 按住按滑鼠左鍵不放  
移動滑鼠



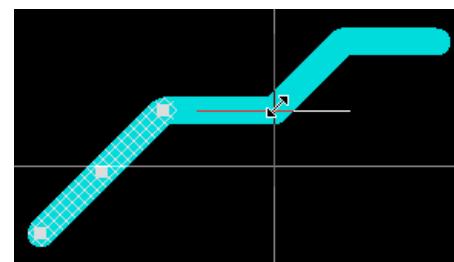
3. 放開滑鼠



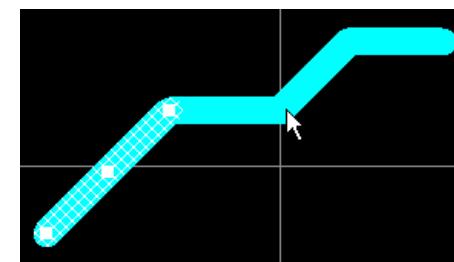
# 拖曳轉彎控點



1. 指向選取線段轉彎 控點

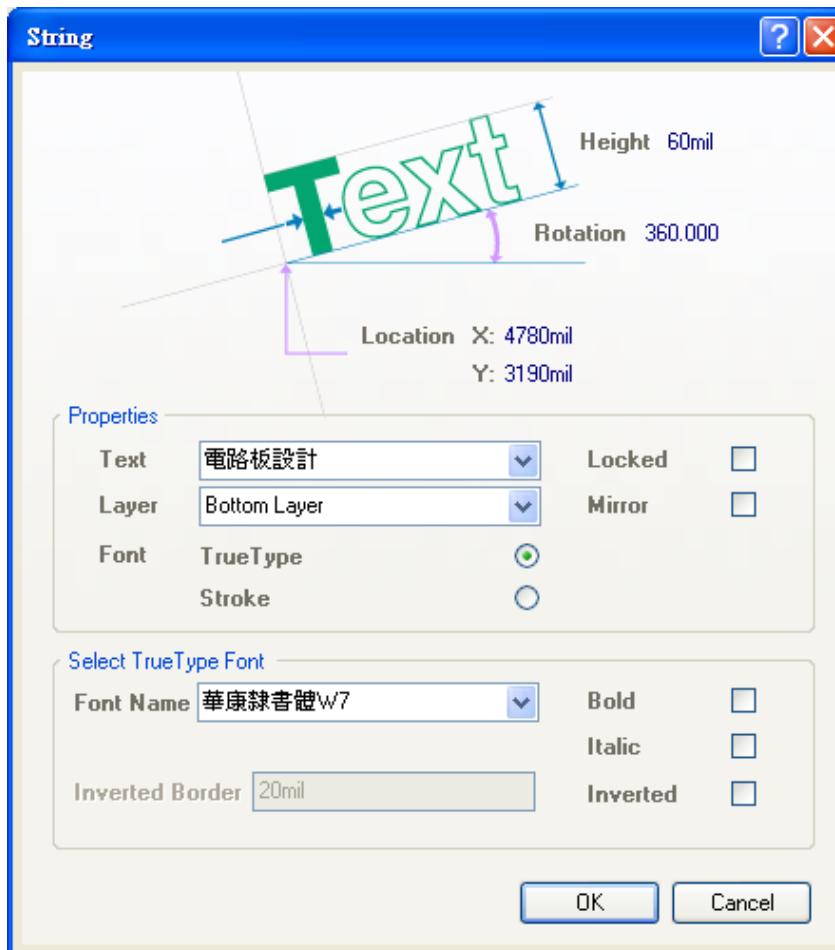


2. 按住按滑鼠左鍵不放  
移動滑鼠

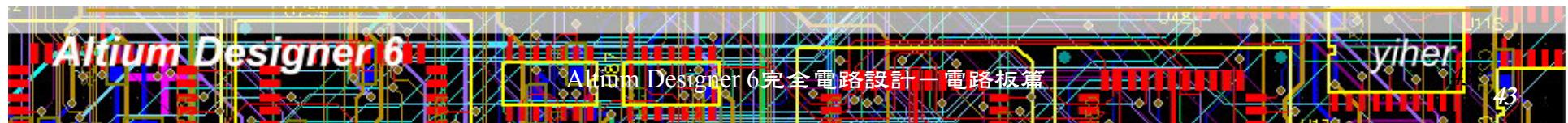
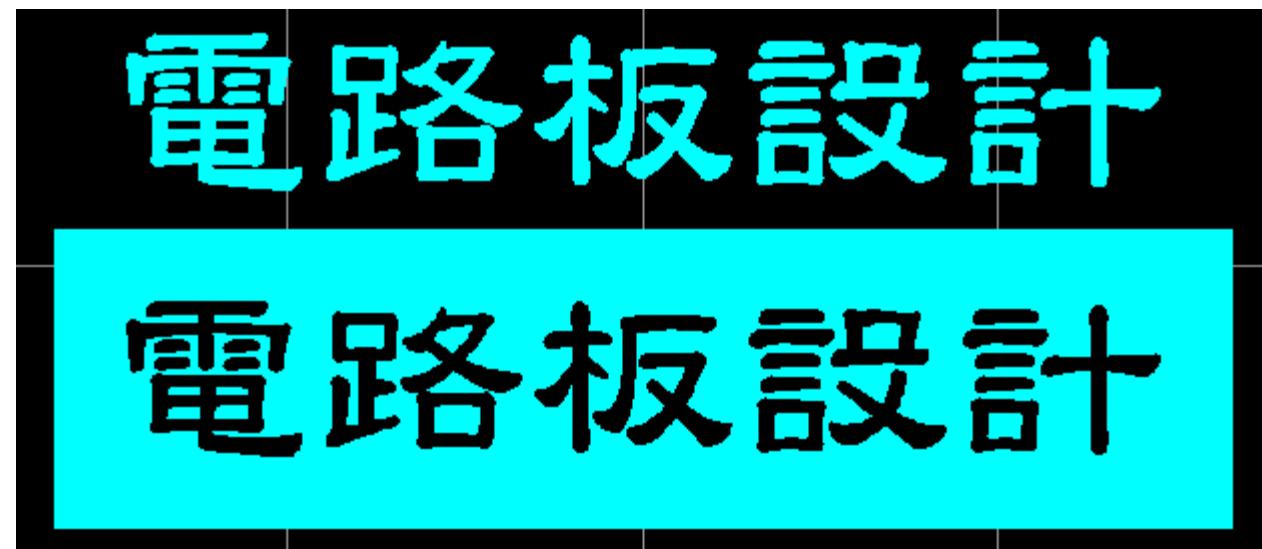


3. 放開滑鼠

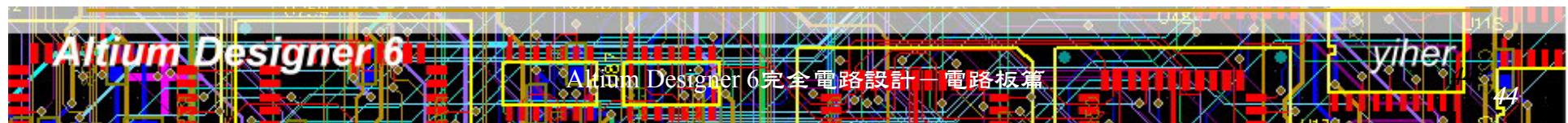
# 字串屬性對話盒



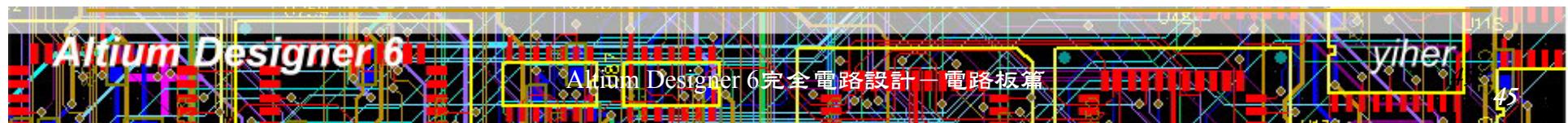
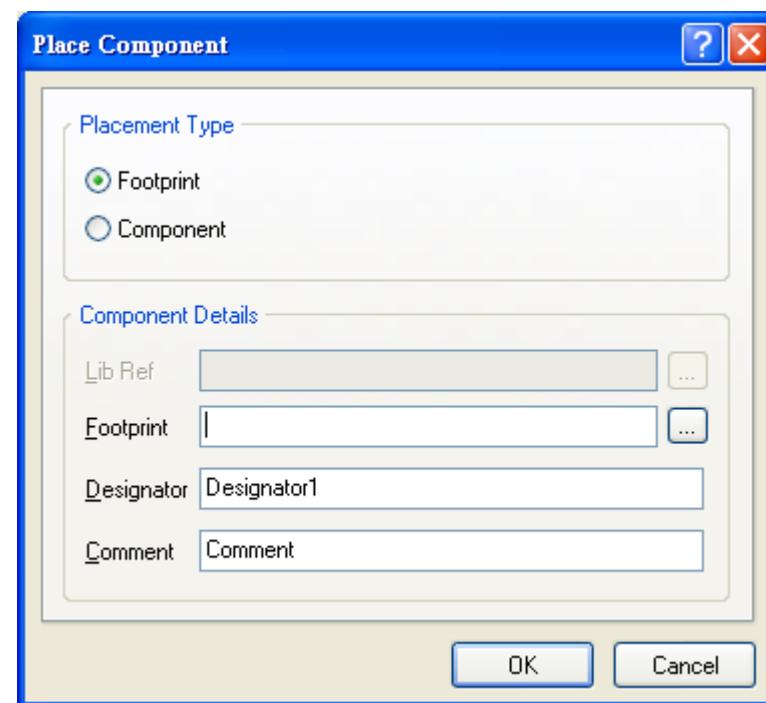
## 正常字(上)與反相字(下)



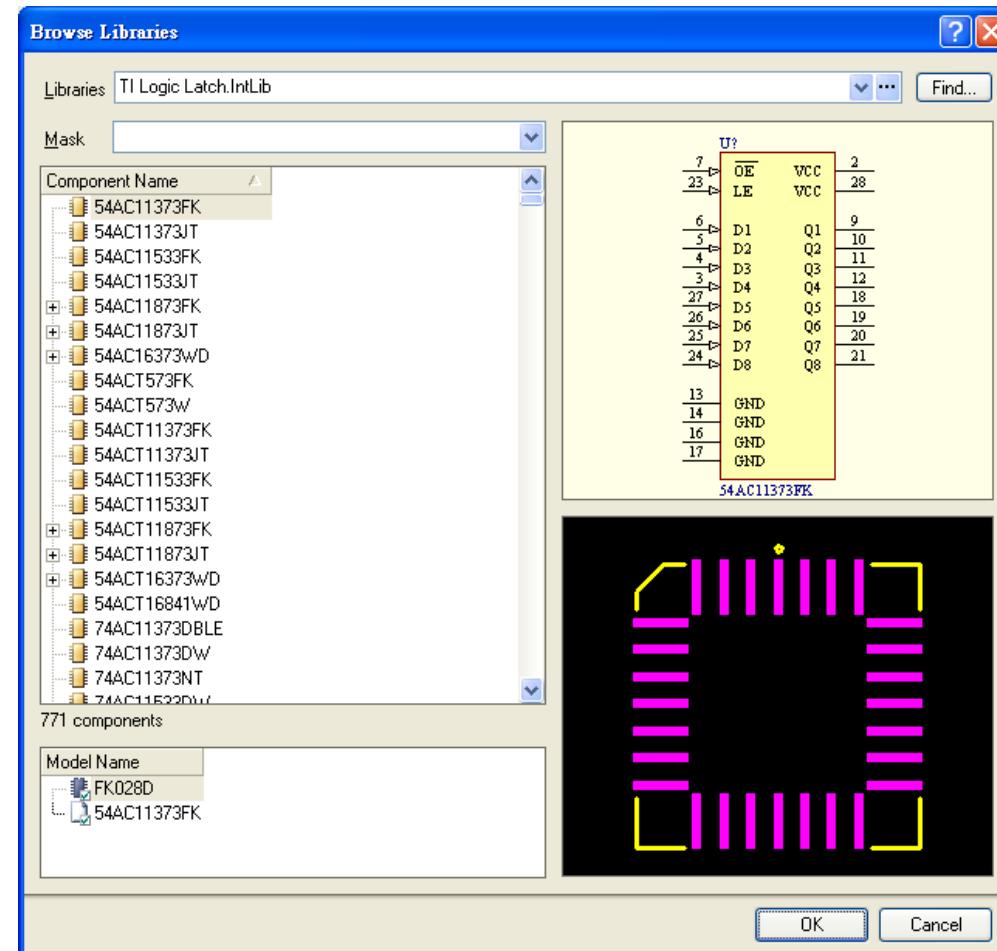
# 字串控點



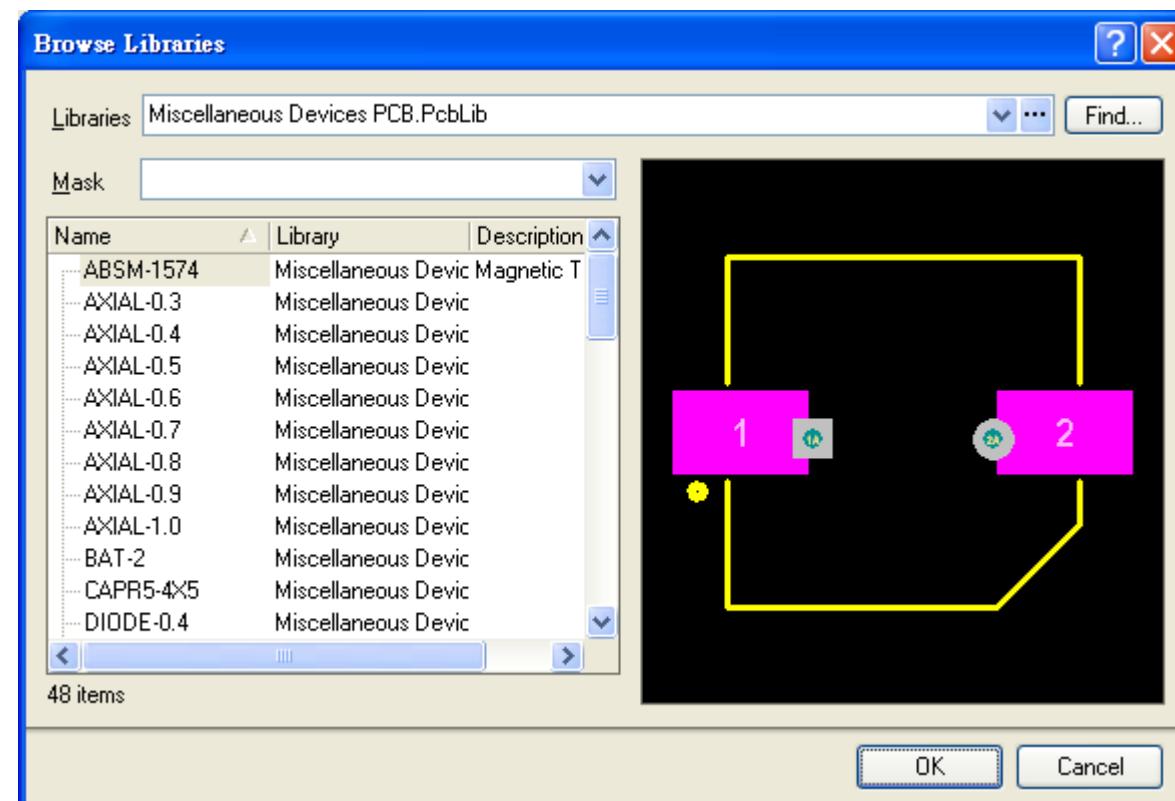
# 取用零件對話盒



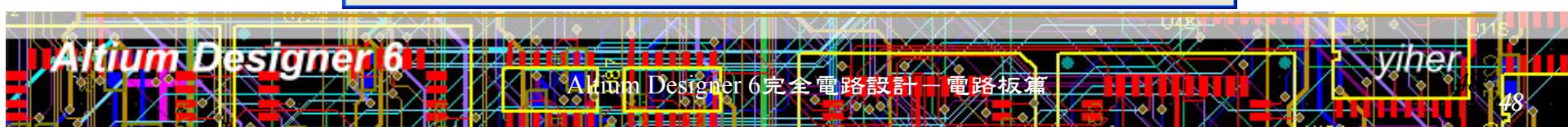
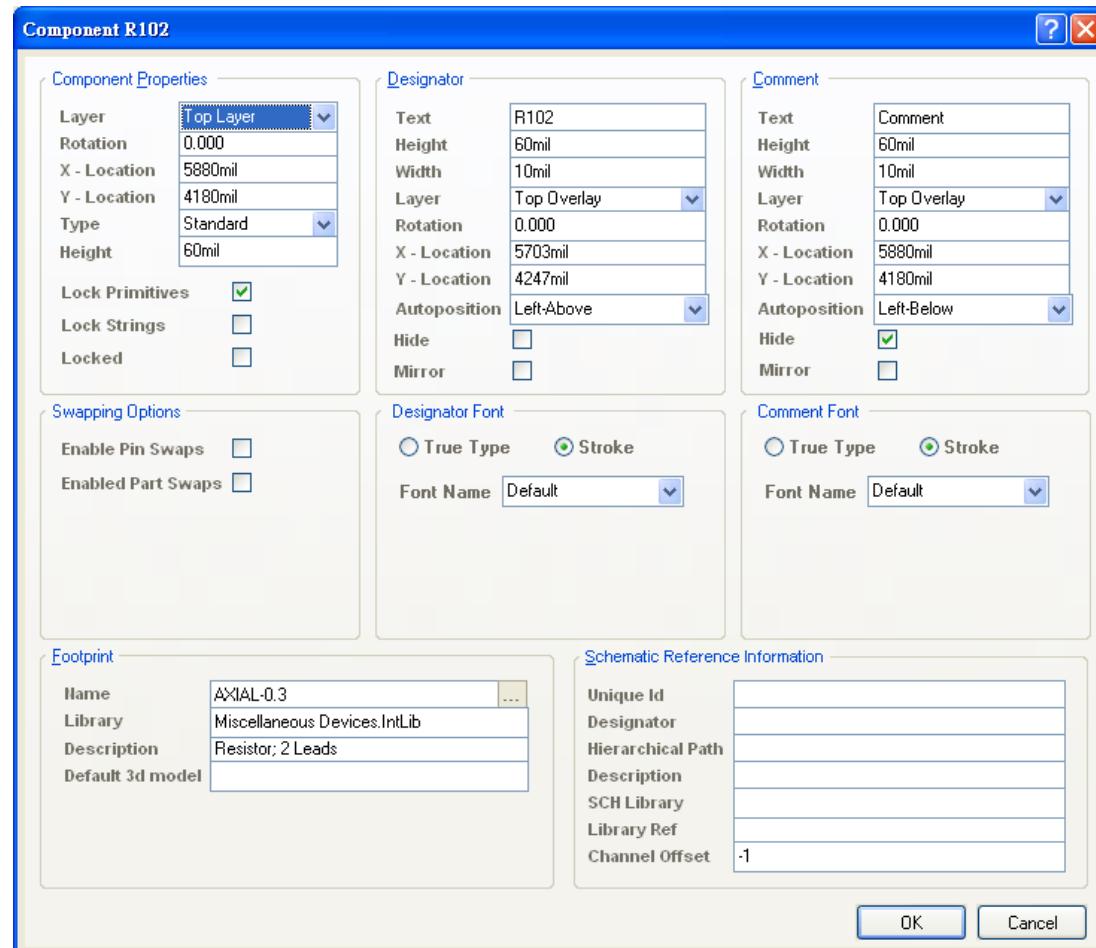
# 零件瀏覽對話盒



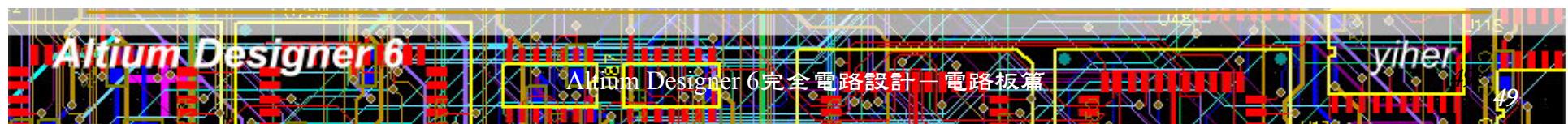
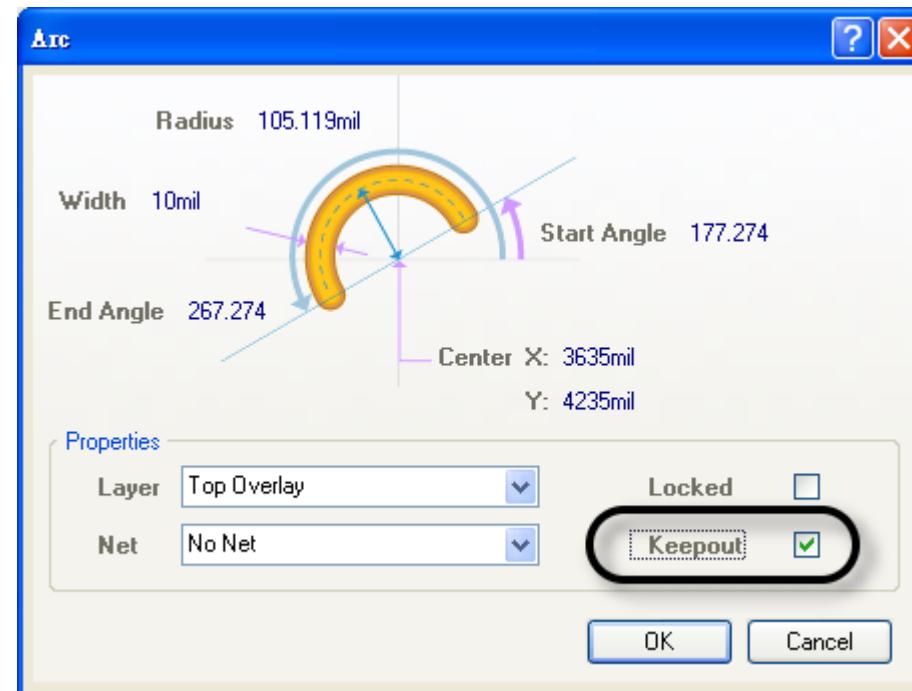
# 零件包裝瀏覽對話盒



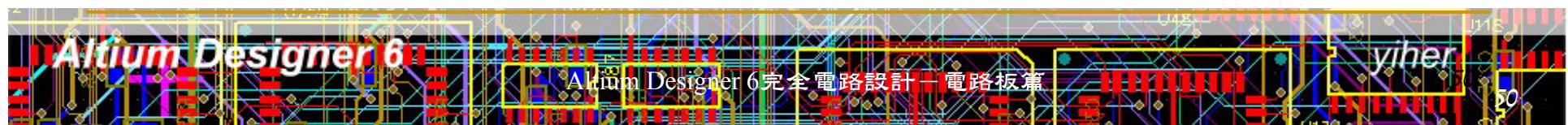
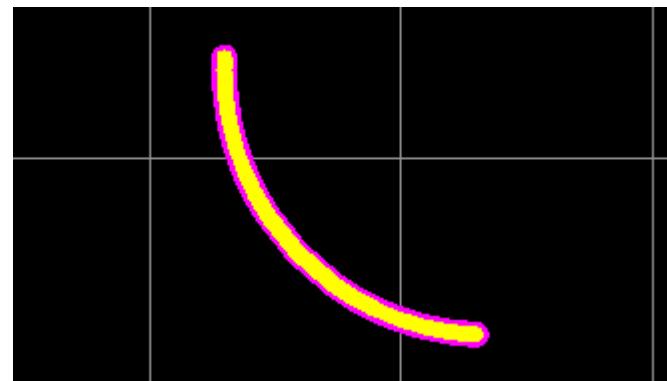
# 零件屬性對話盒



# 弧線屬性對話盒



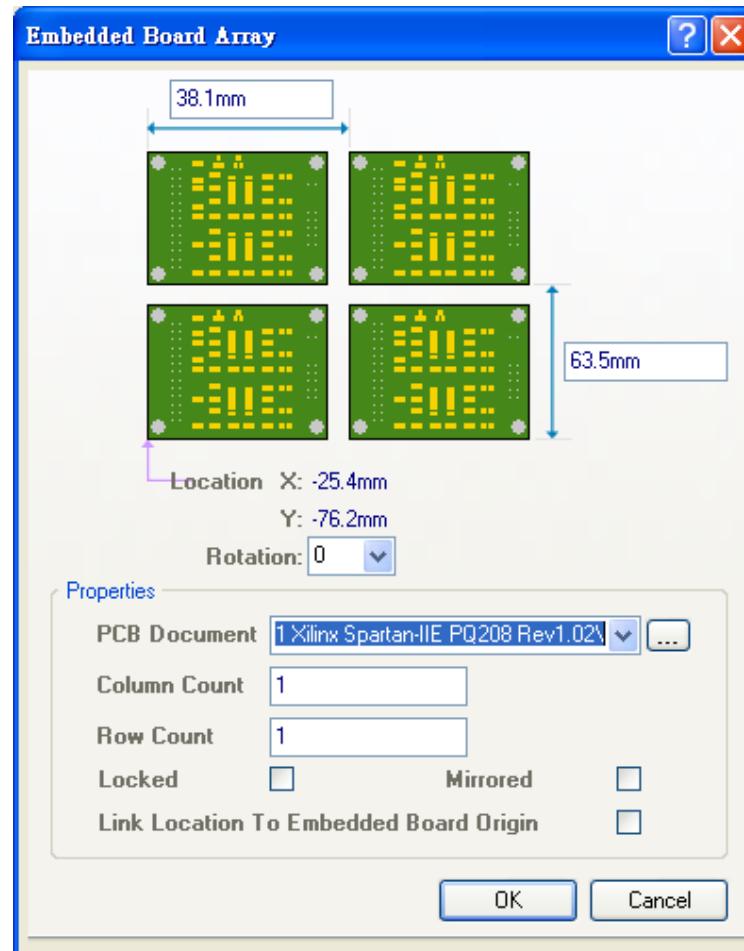
# 禁置圖件—弧線



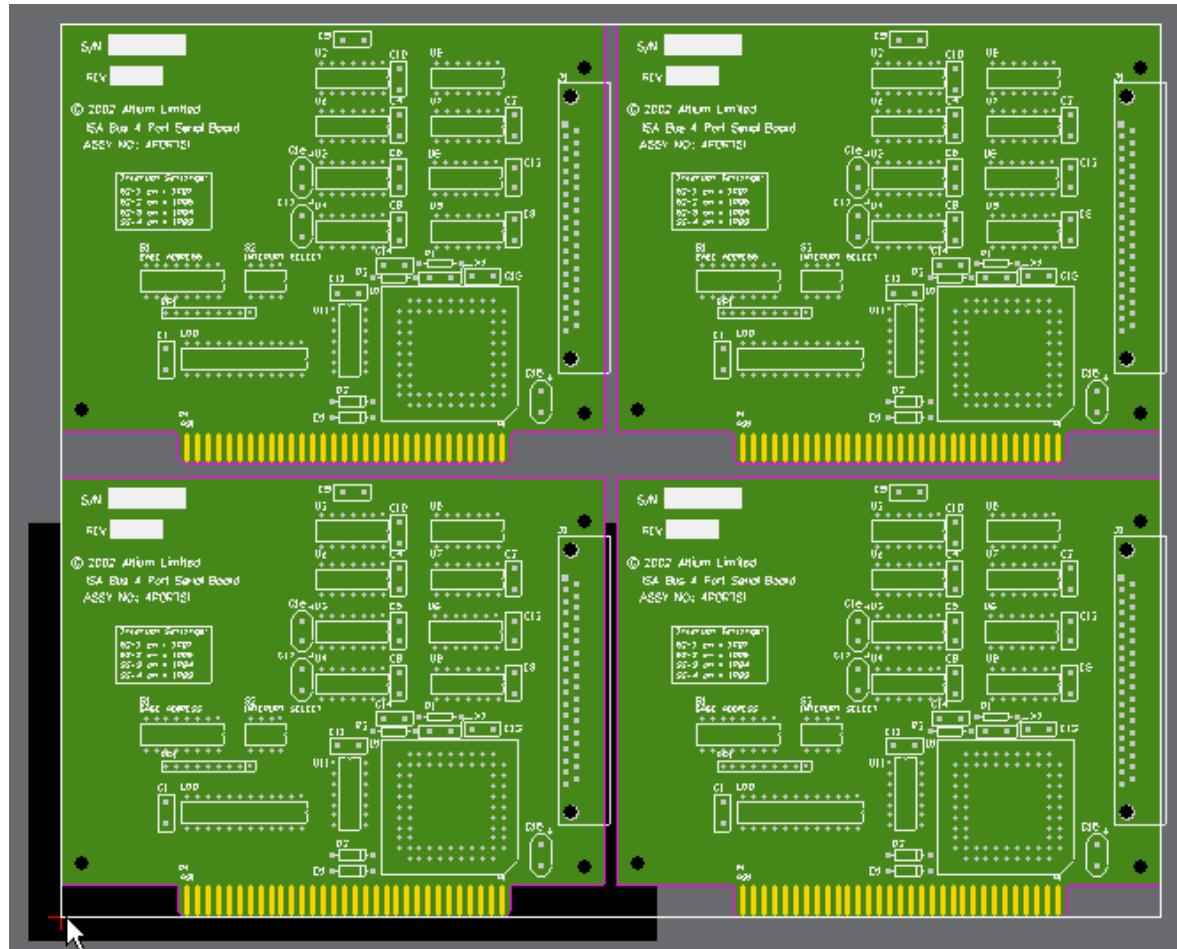
# 放置禁置圖件命令選單



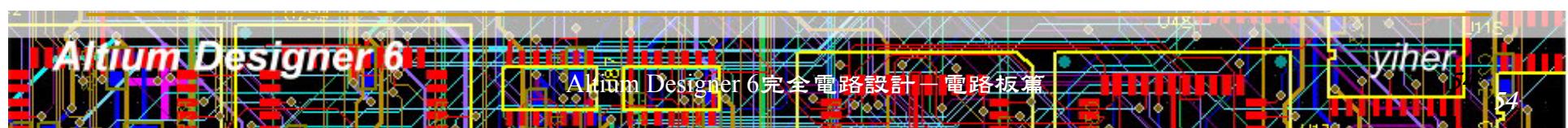
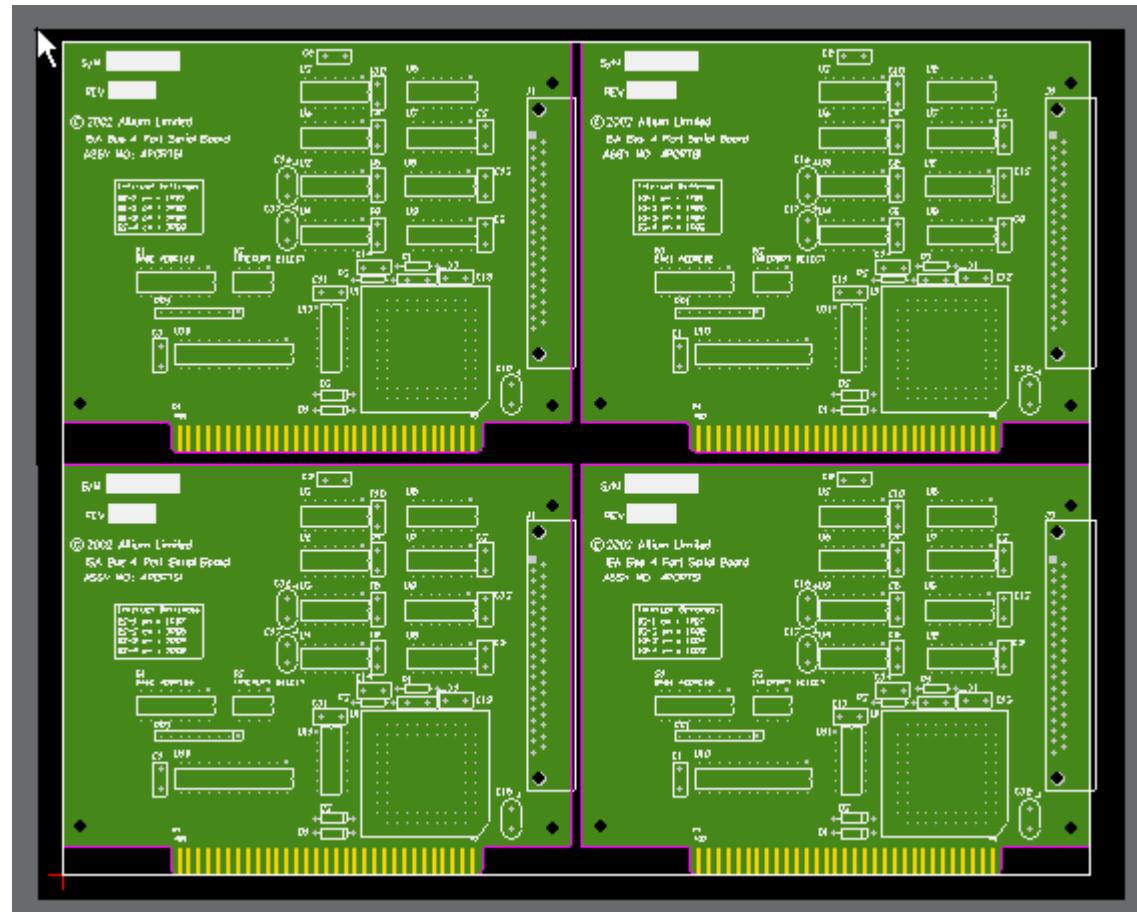
# 嵌入式電路板陣列對話盒



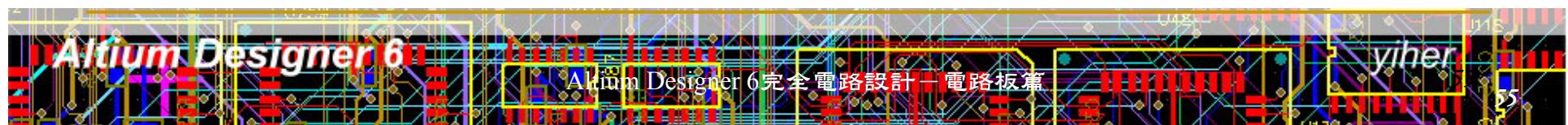
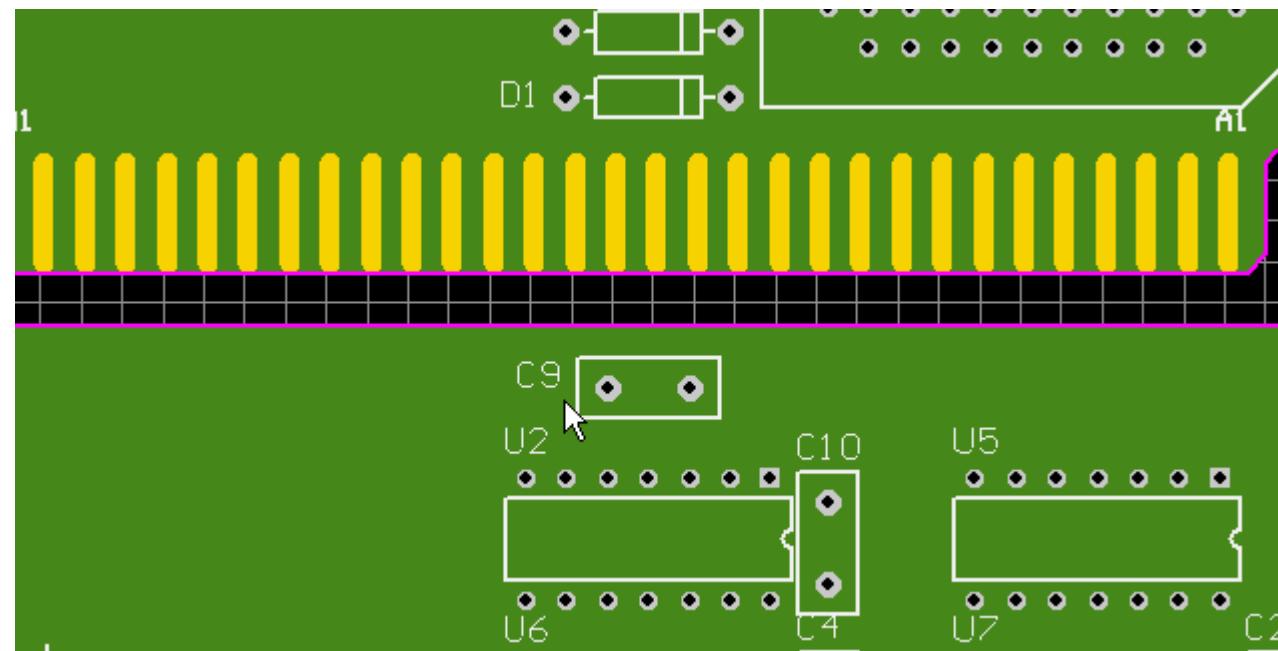
# 貼上四塊電路板



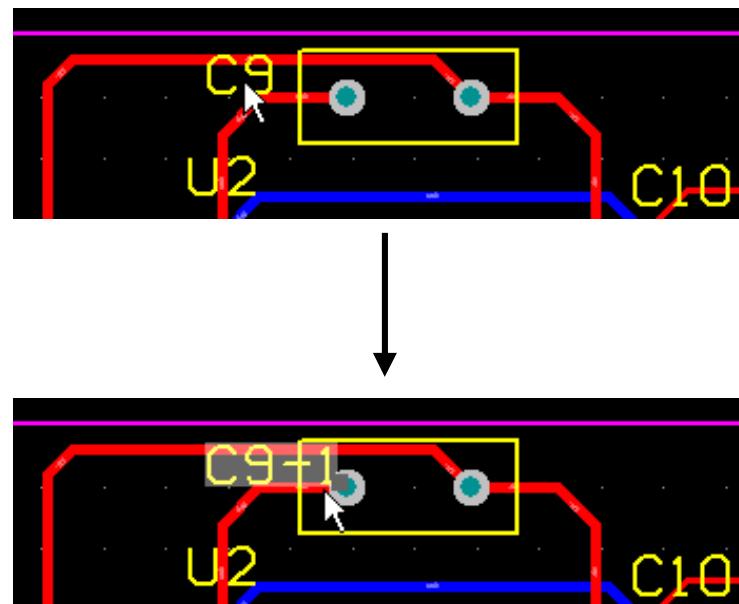
# 重畫板形



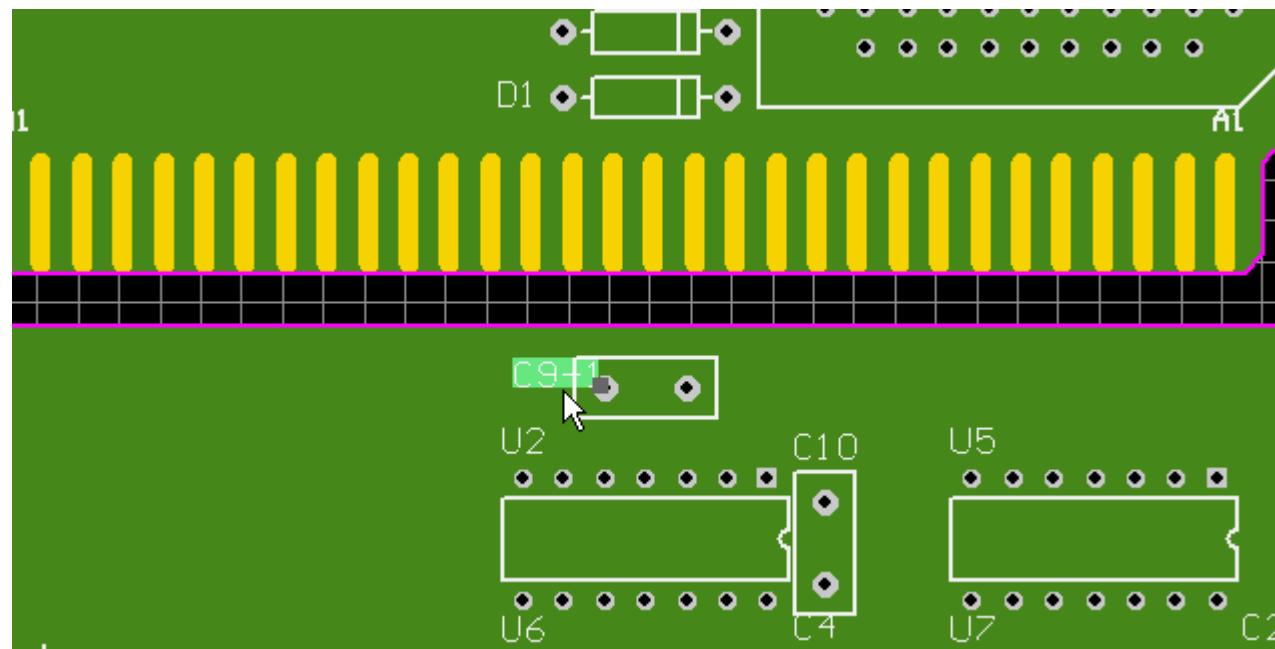
# C9 電容器



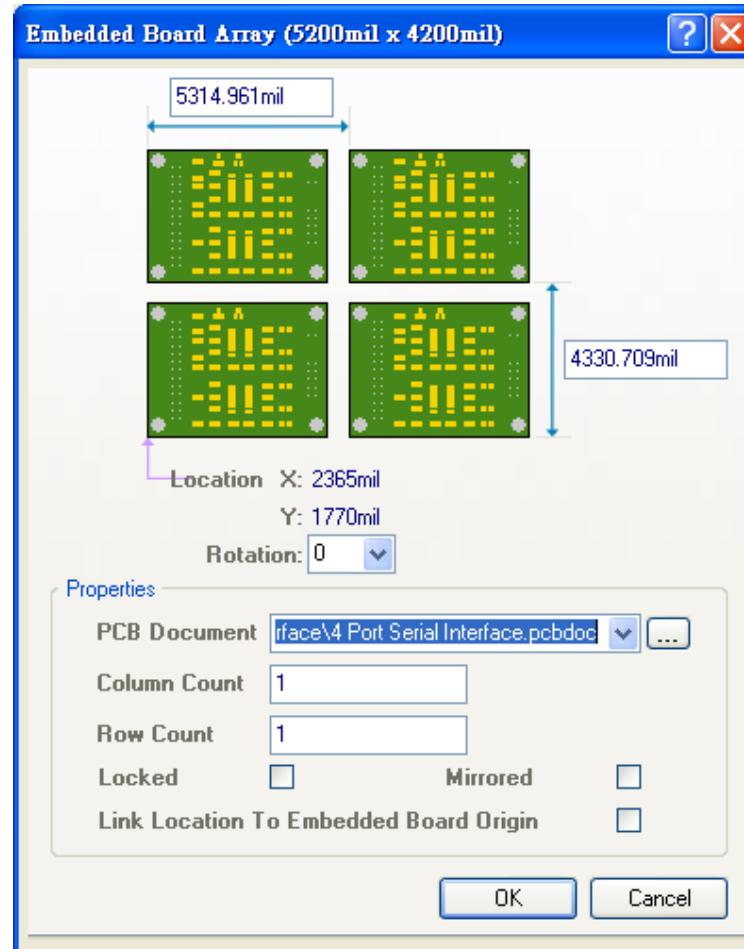
# 將C9改為C9-1



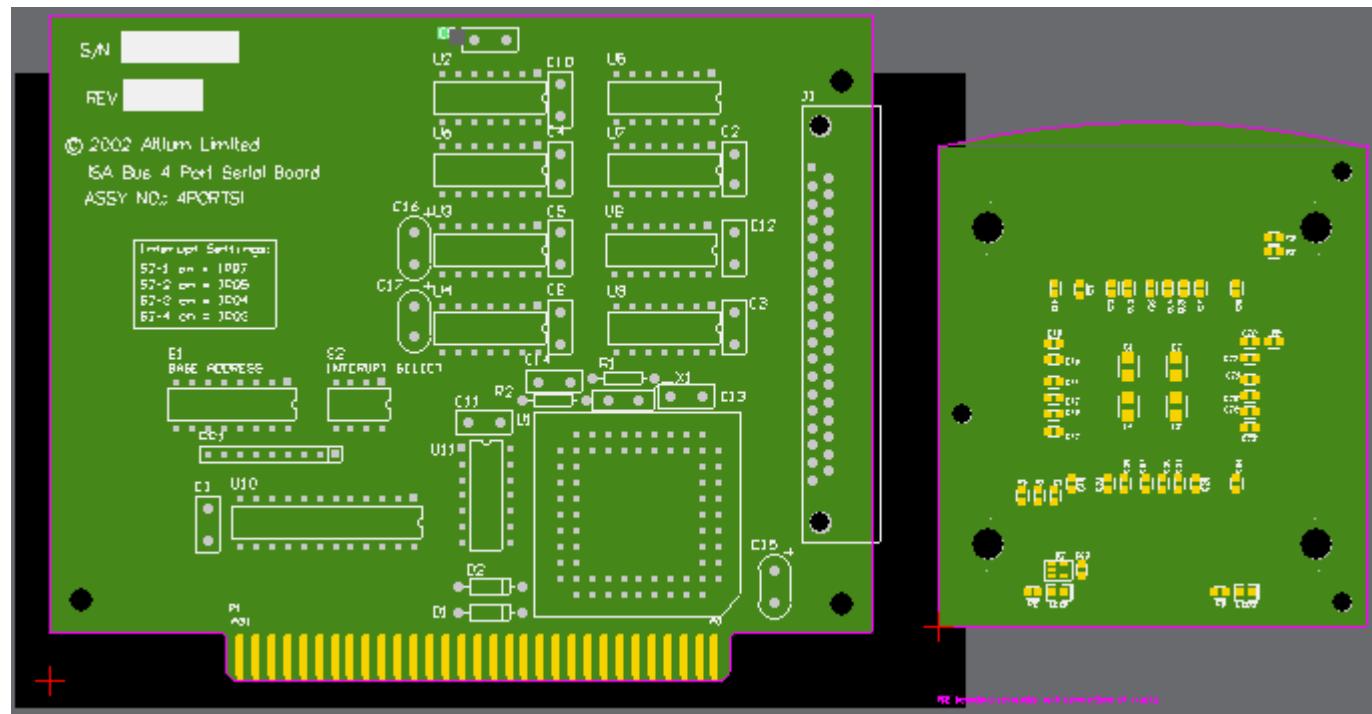
# 將C9改為C9-1



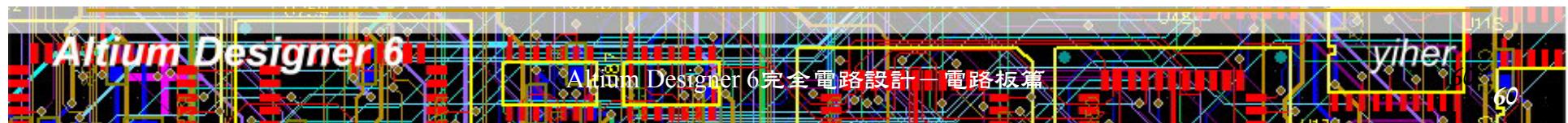
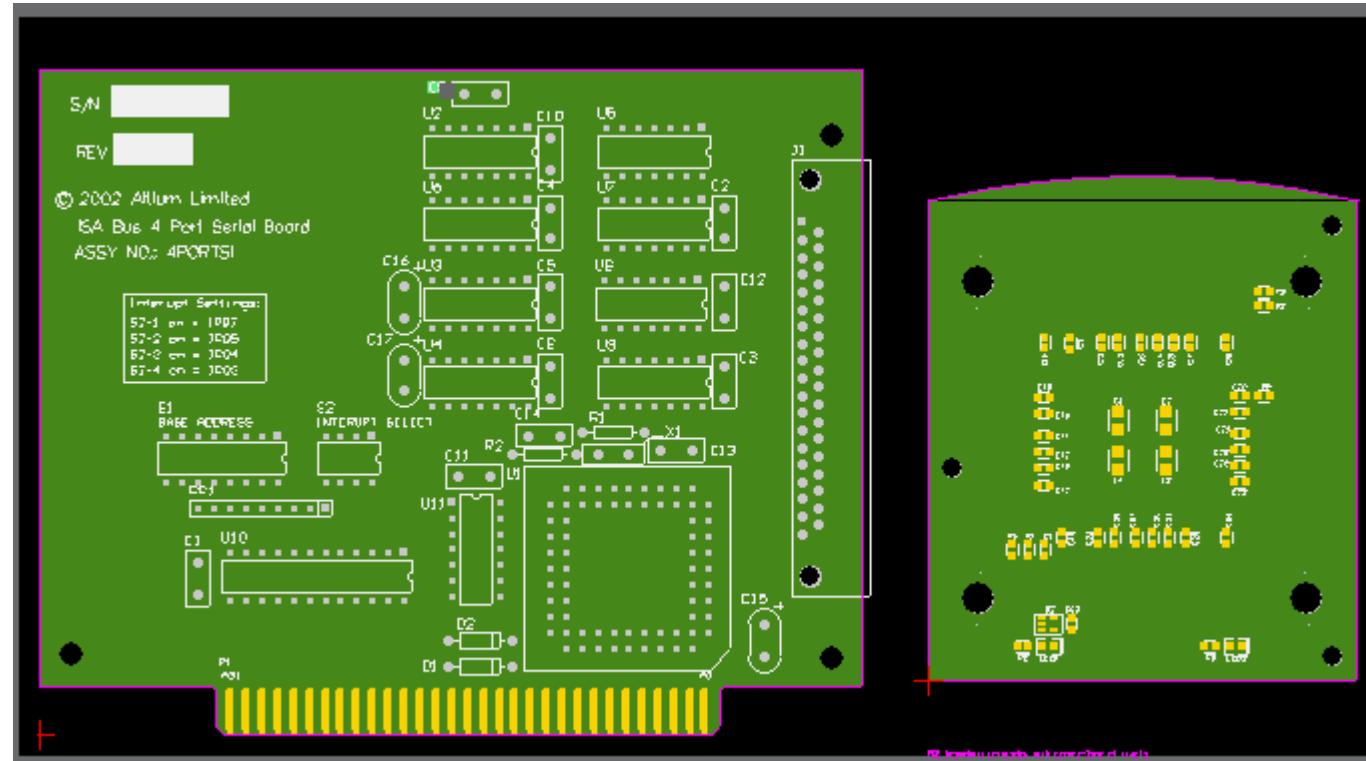
# 嵌入式電路板陣列對話盒



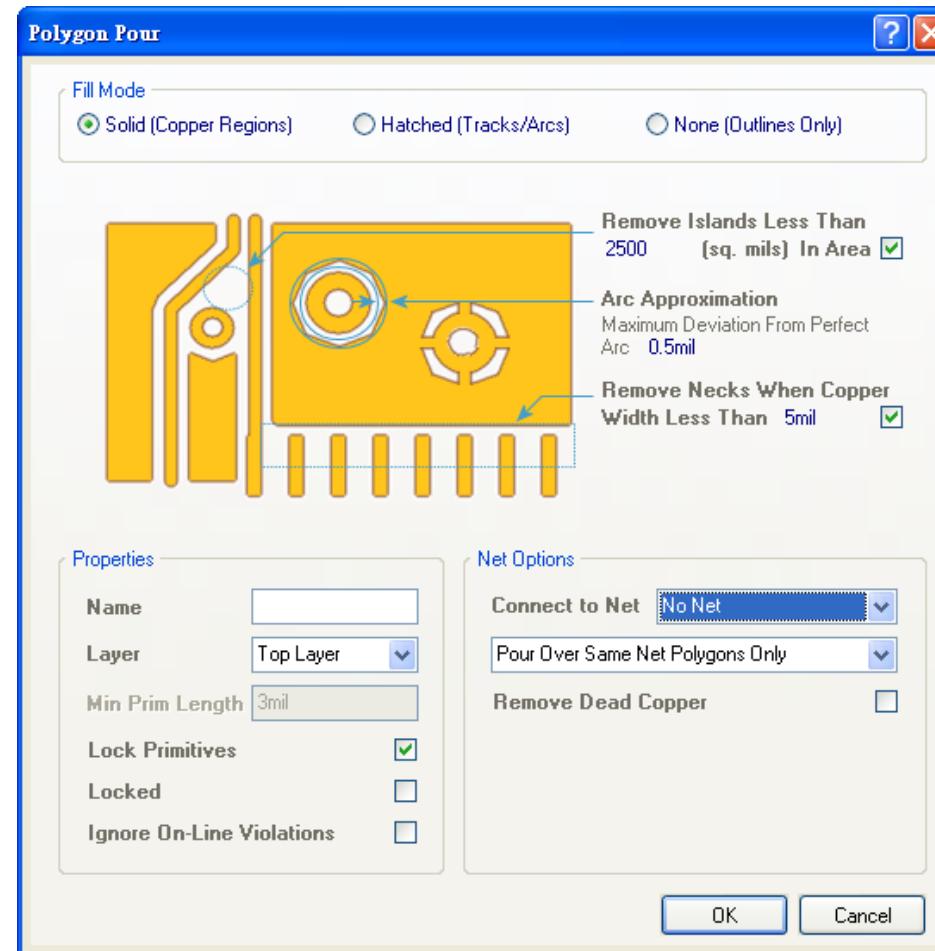
# 貼上第二塊電路板



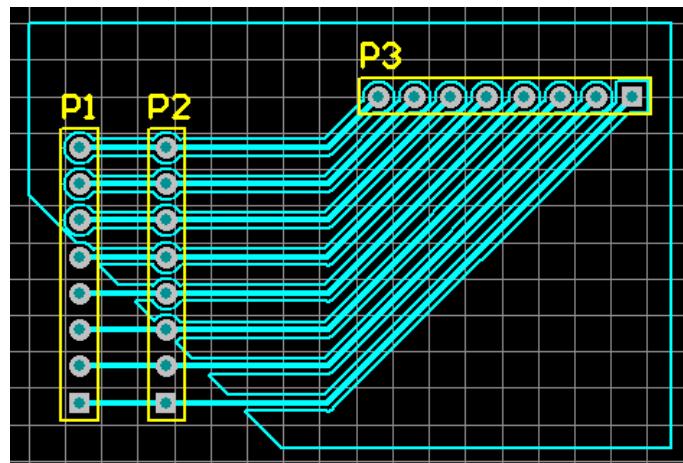
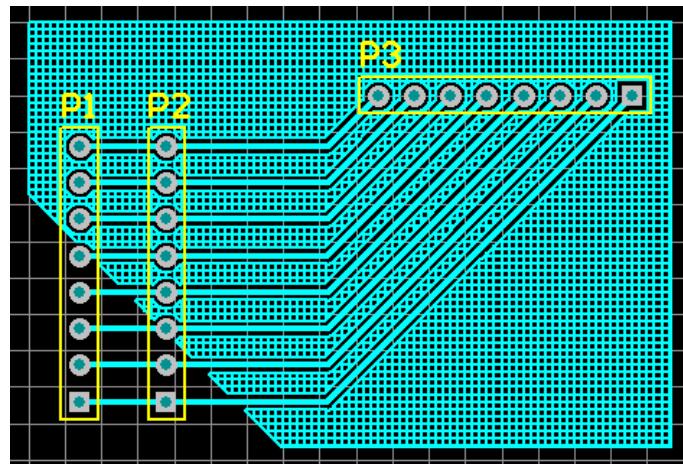
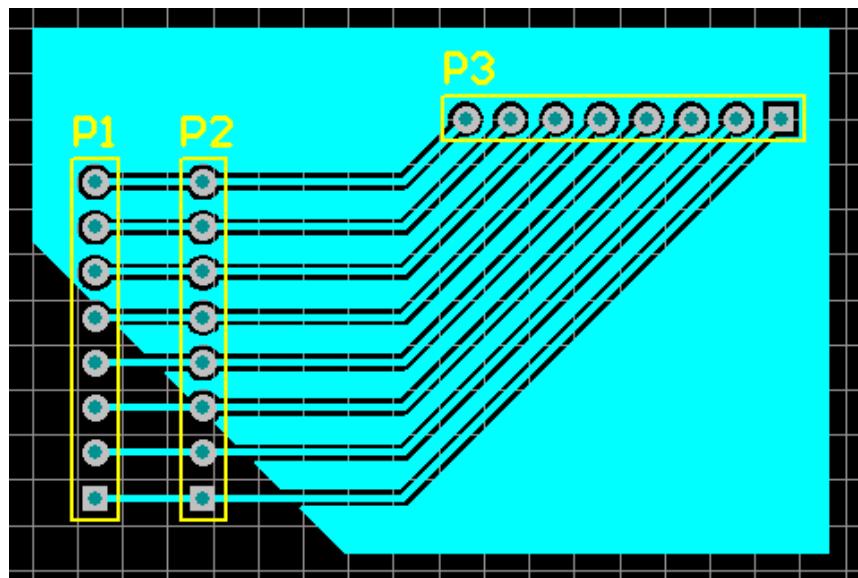
# 重定板形



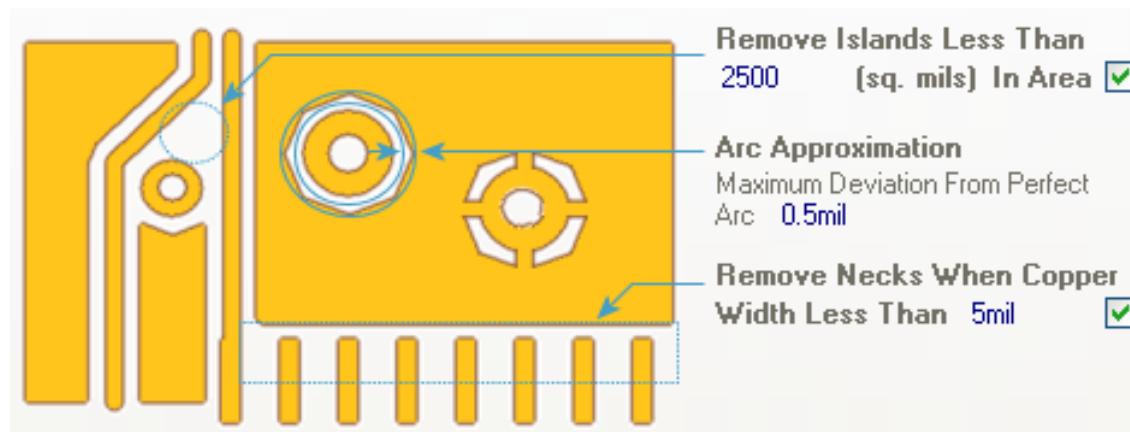
# 鋪銅對話盒



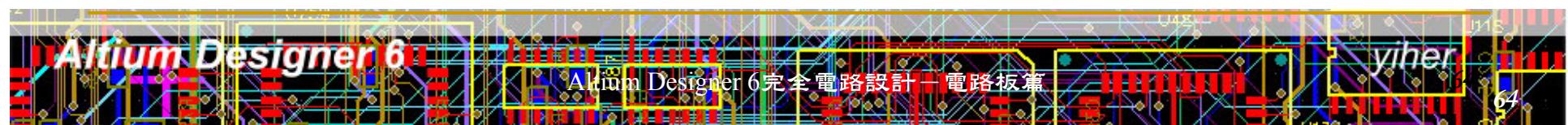
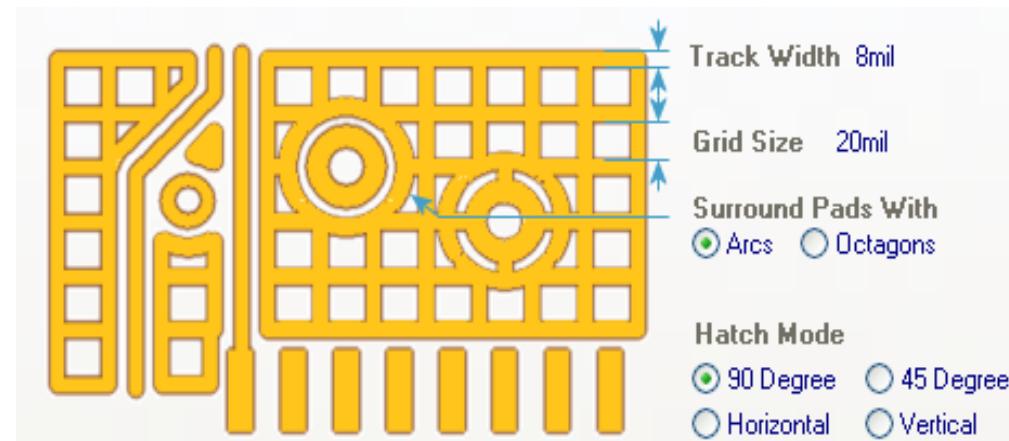
# 鋪銅種類



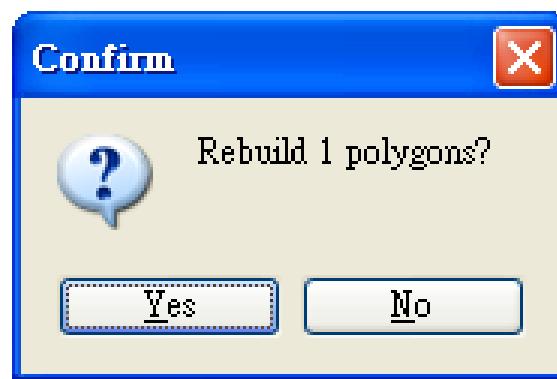
# 鋪滿銅之圖案



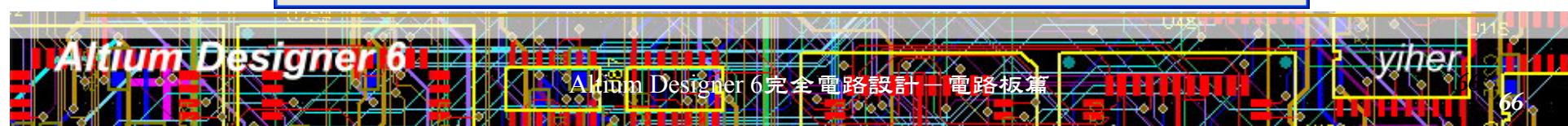
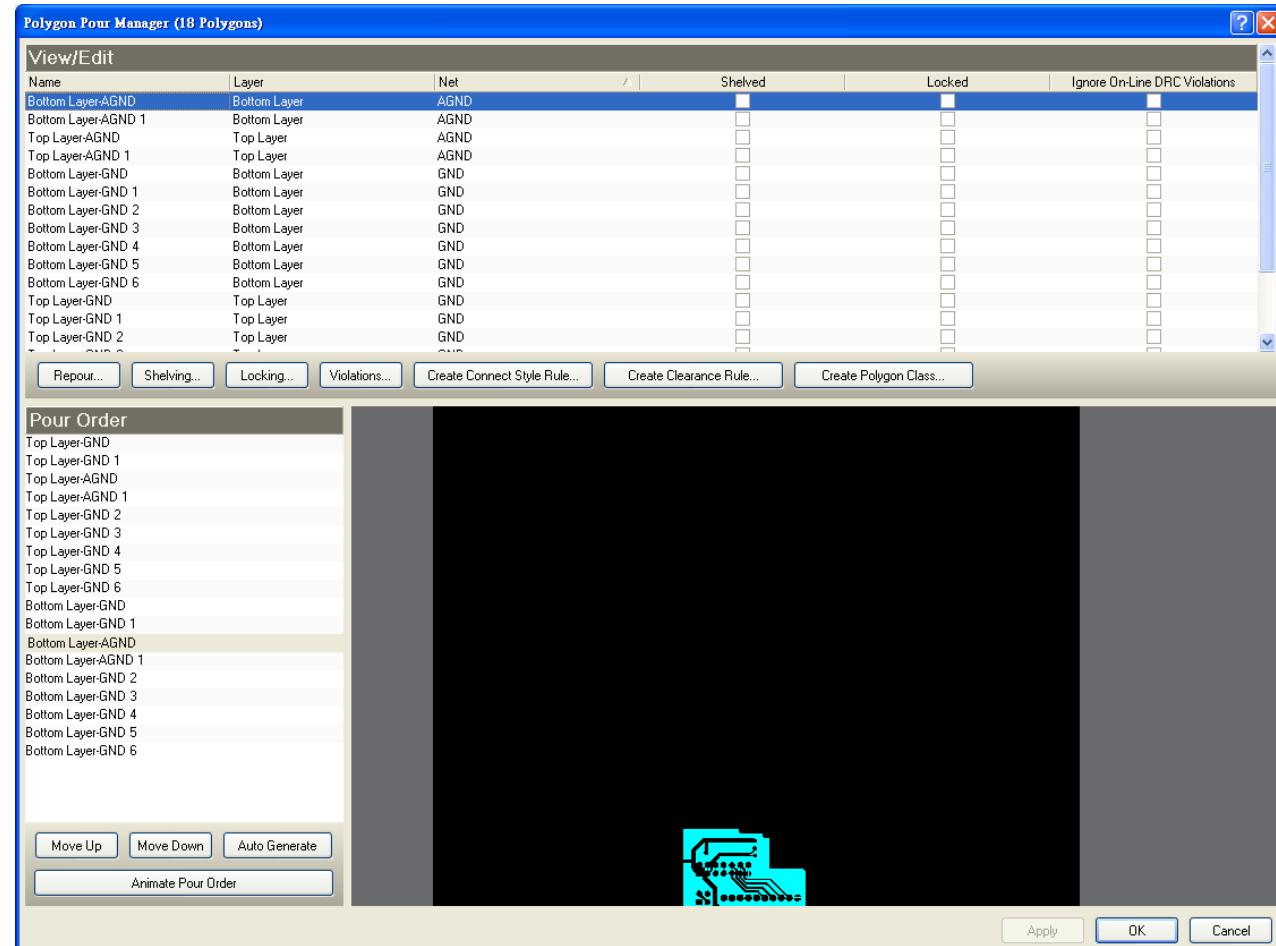
# 線化鋪銅之圖案



# 確認對話盒



# 鋪銅管理器

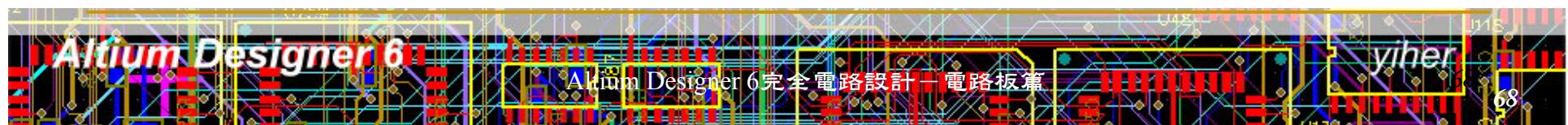
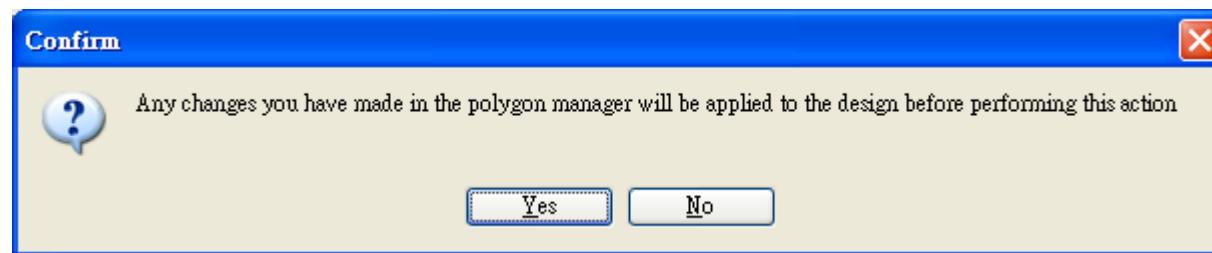


# 命令選單

All Polygons  
Selected Polygons  
Violating Polygons



# 訊息對話盒



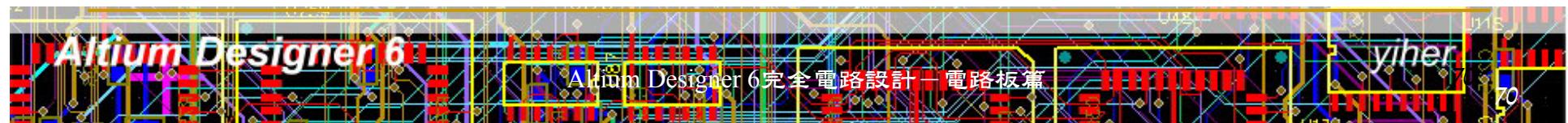
# 命令選單

Shelf... ►  
Unshelve... ►



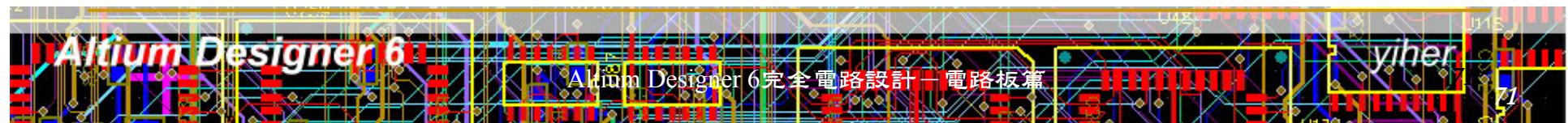
# 命令選單

All Polygons  
Selected Polygons



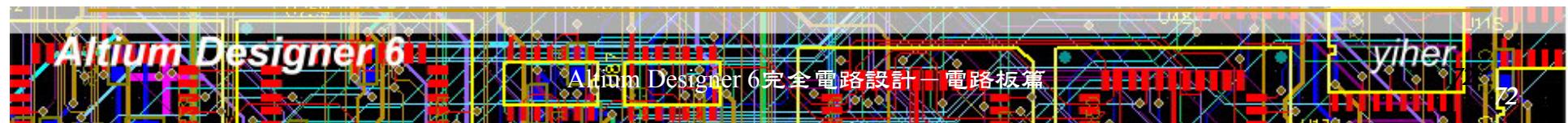
# 命令選單

Lock... ►  
Unlock... ►

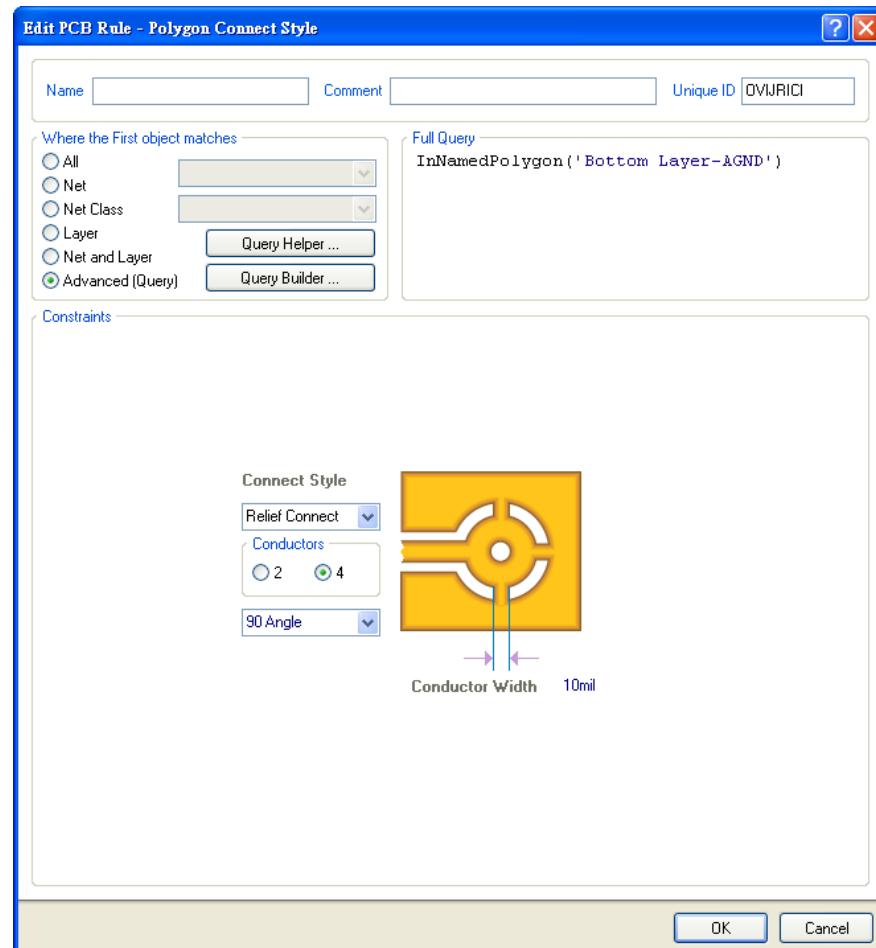


# 命令選單

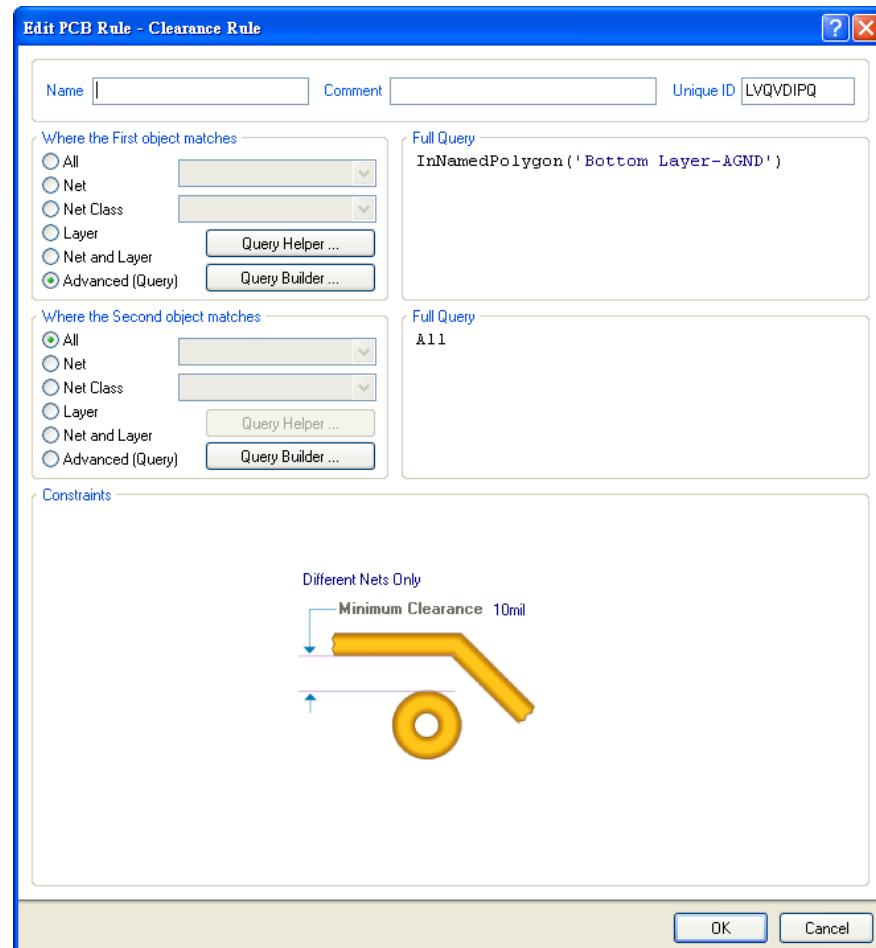
Ignore Violations... ►  
Keep Violations... ►



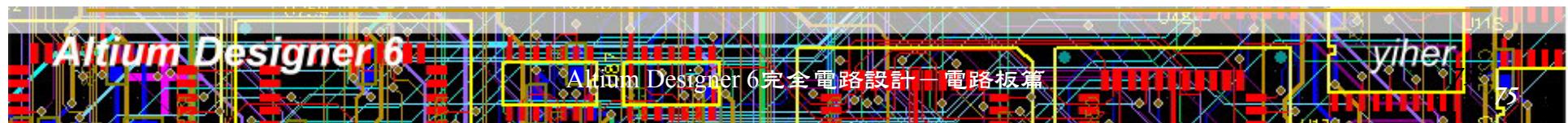
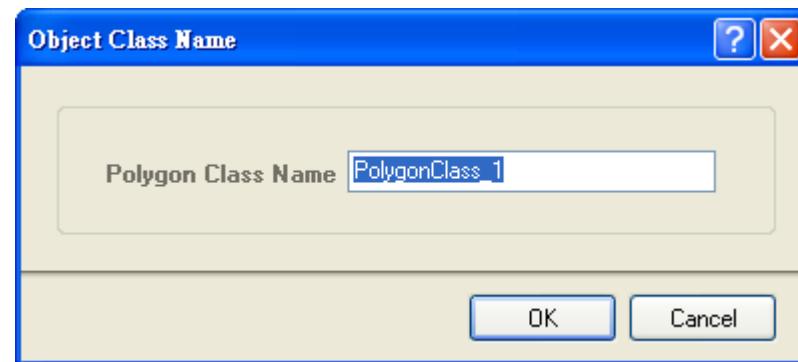
# 鋪銅連接樣式設計規則對話盒



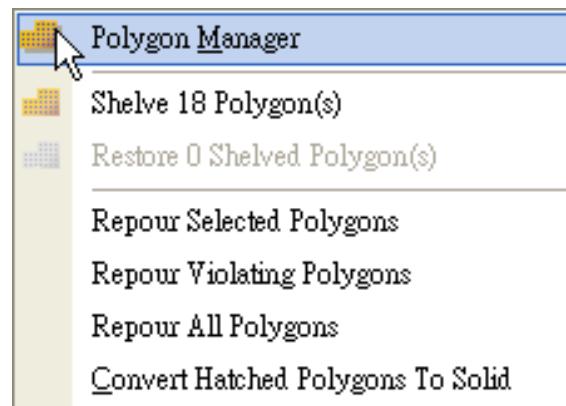
# 鋪銅安全間距設計規則對話盒



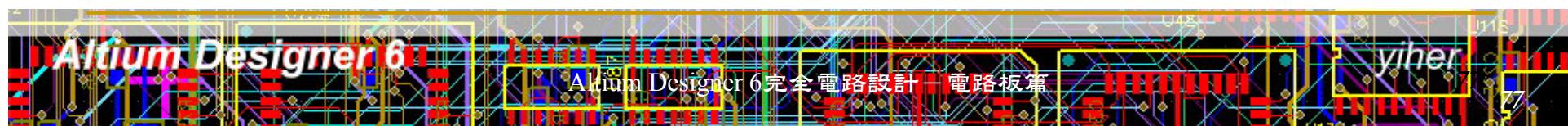
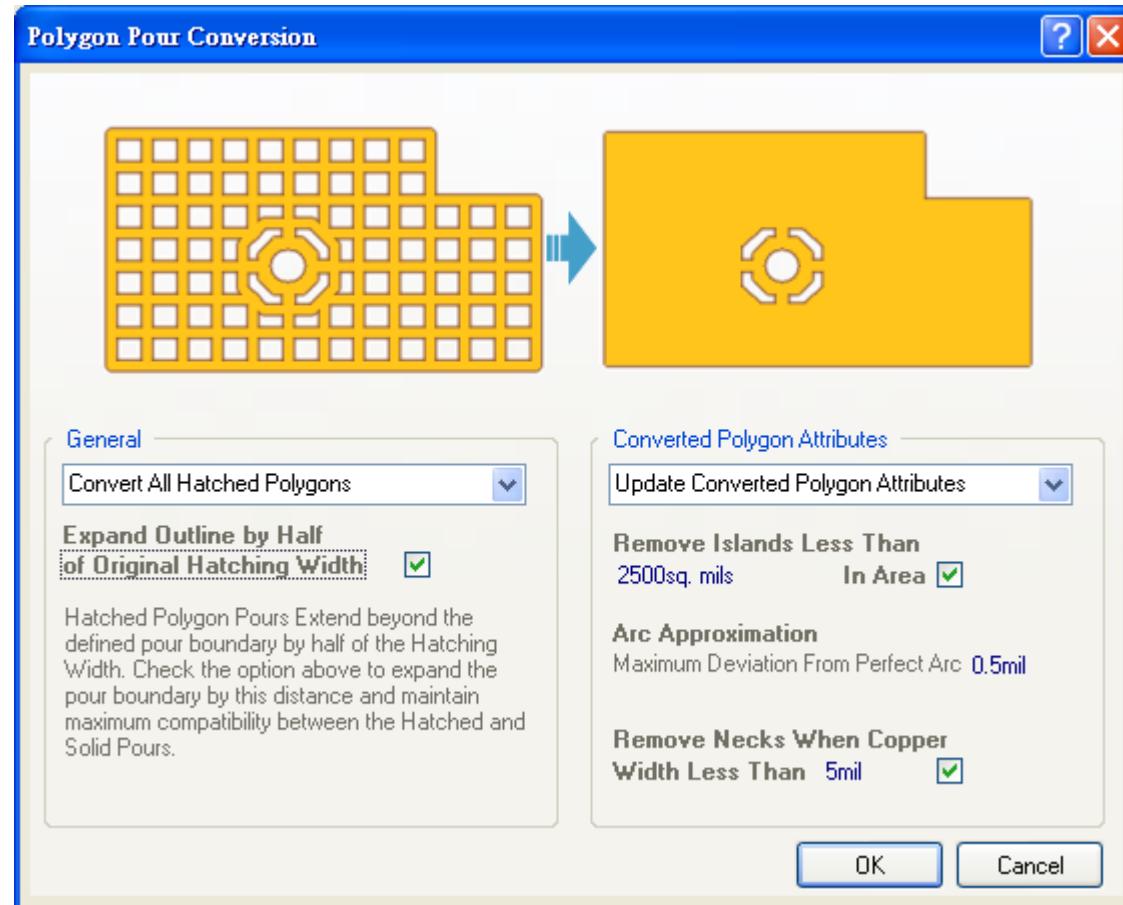
# 鋪銅安全間距設計規則對話盒



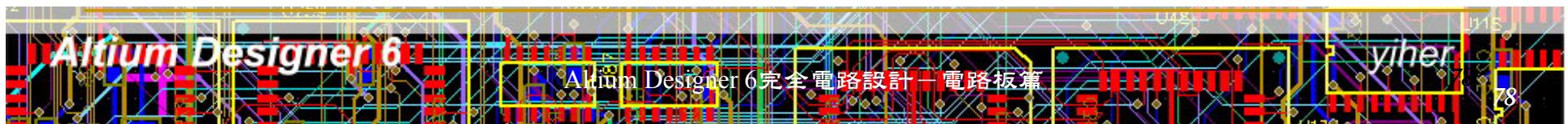
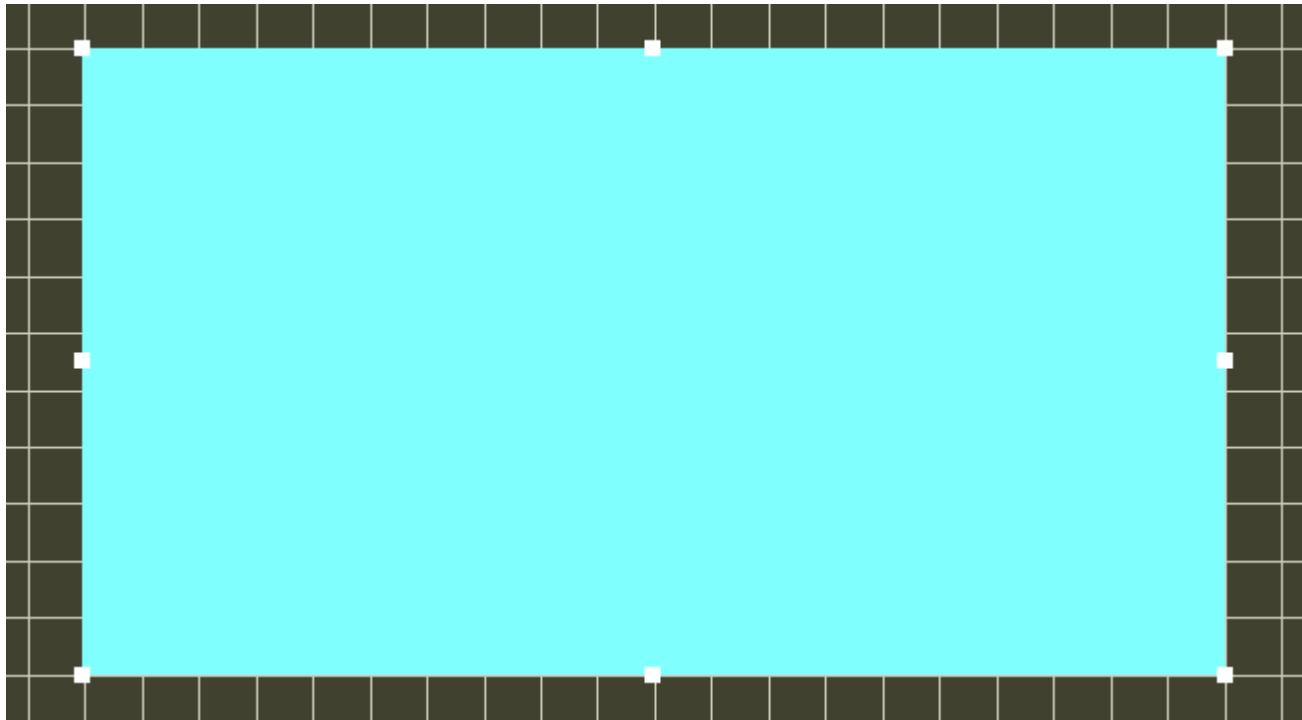
# 鋪銅命令選單



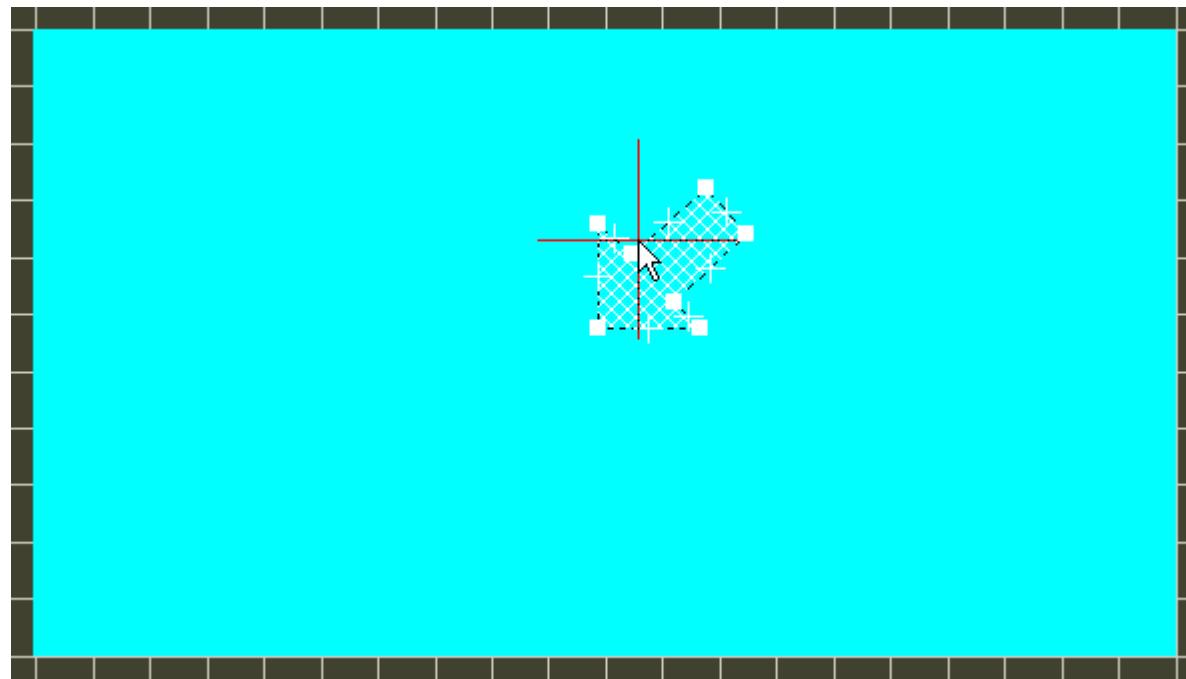
# 轉換鋪銅對話盒



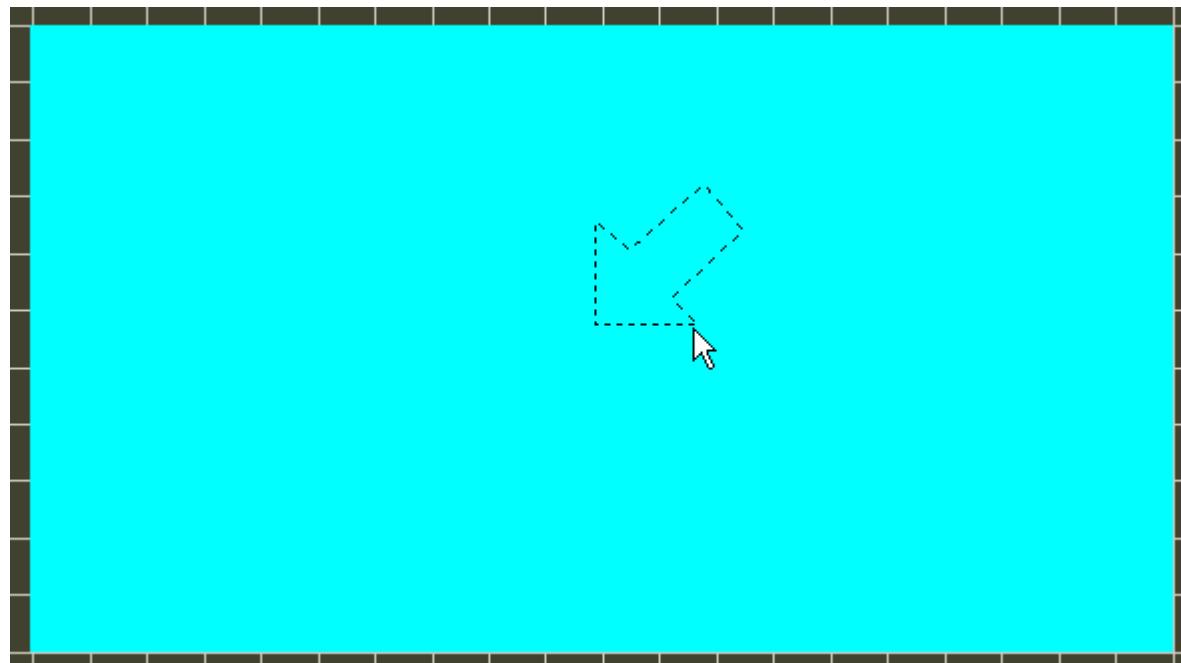
# 切除鋪銅範例



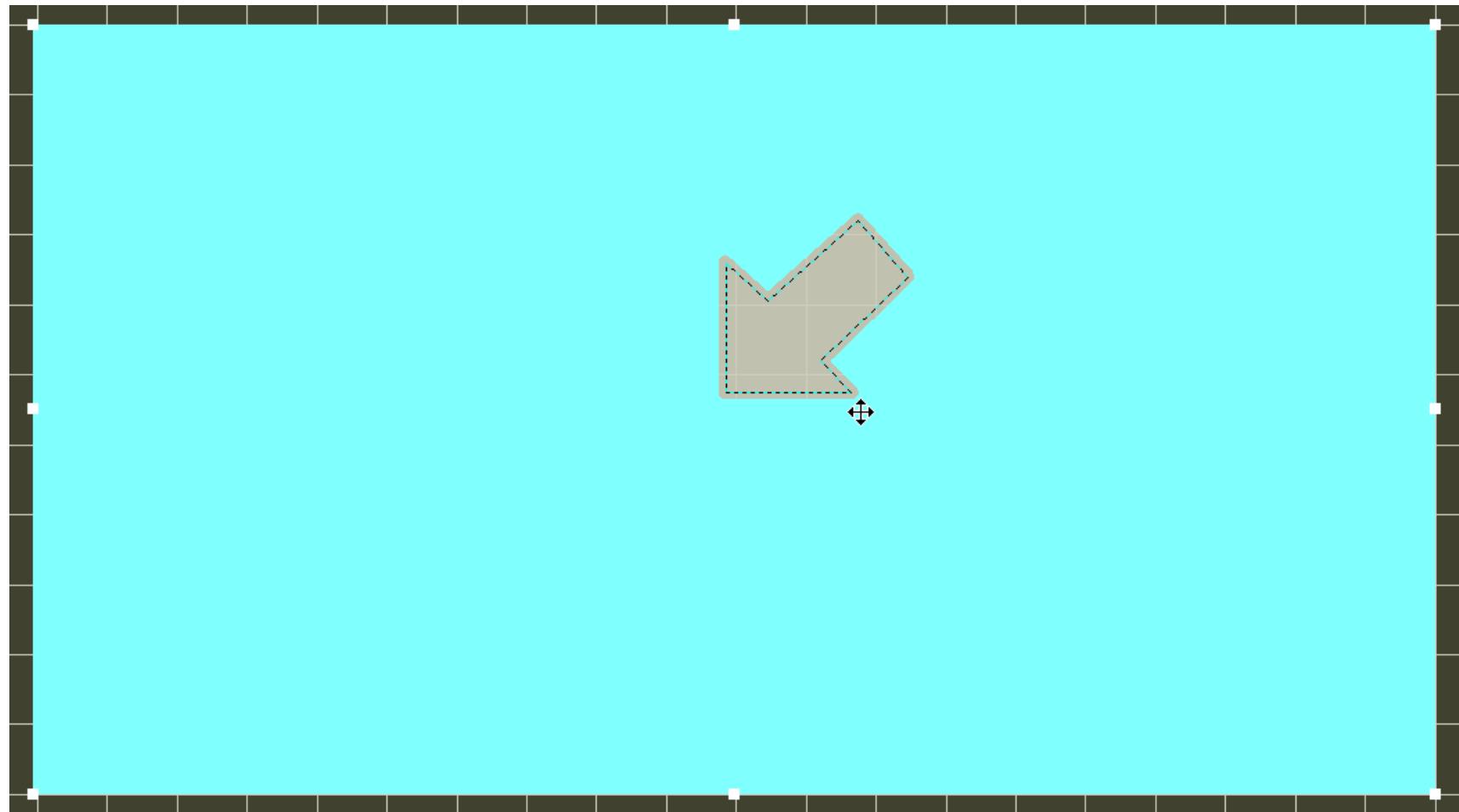
# 鋪銅切除繪製完成



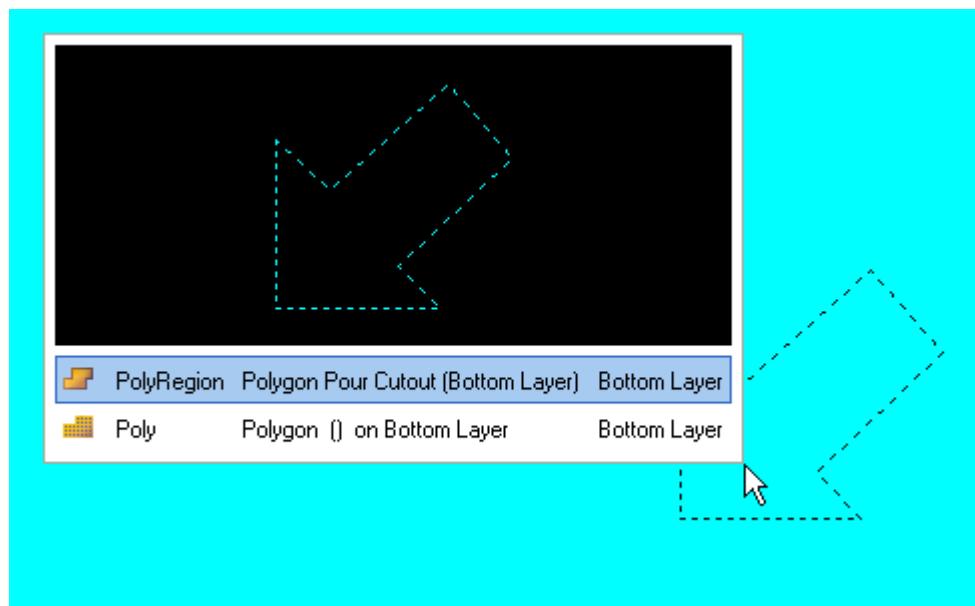
# 鋪銅切除繪製完成



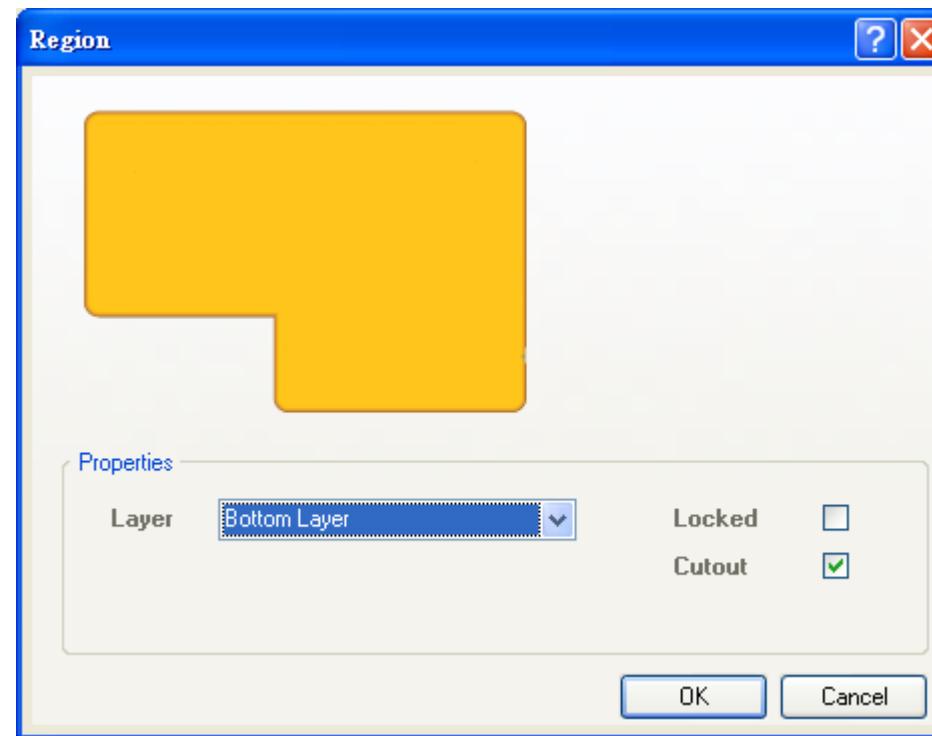
# 重新鋪銅



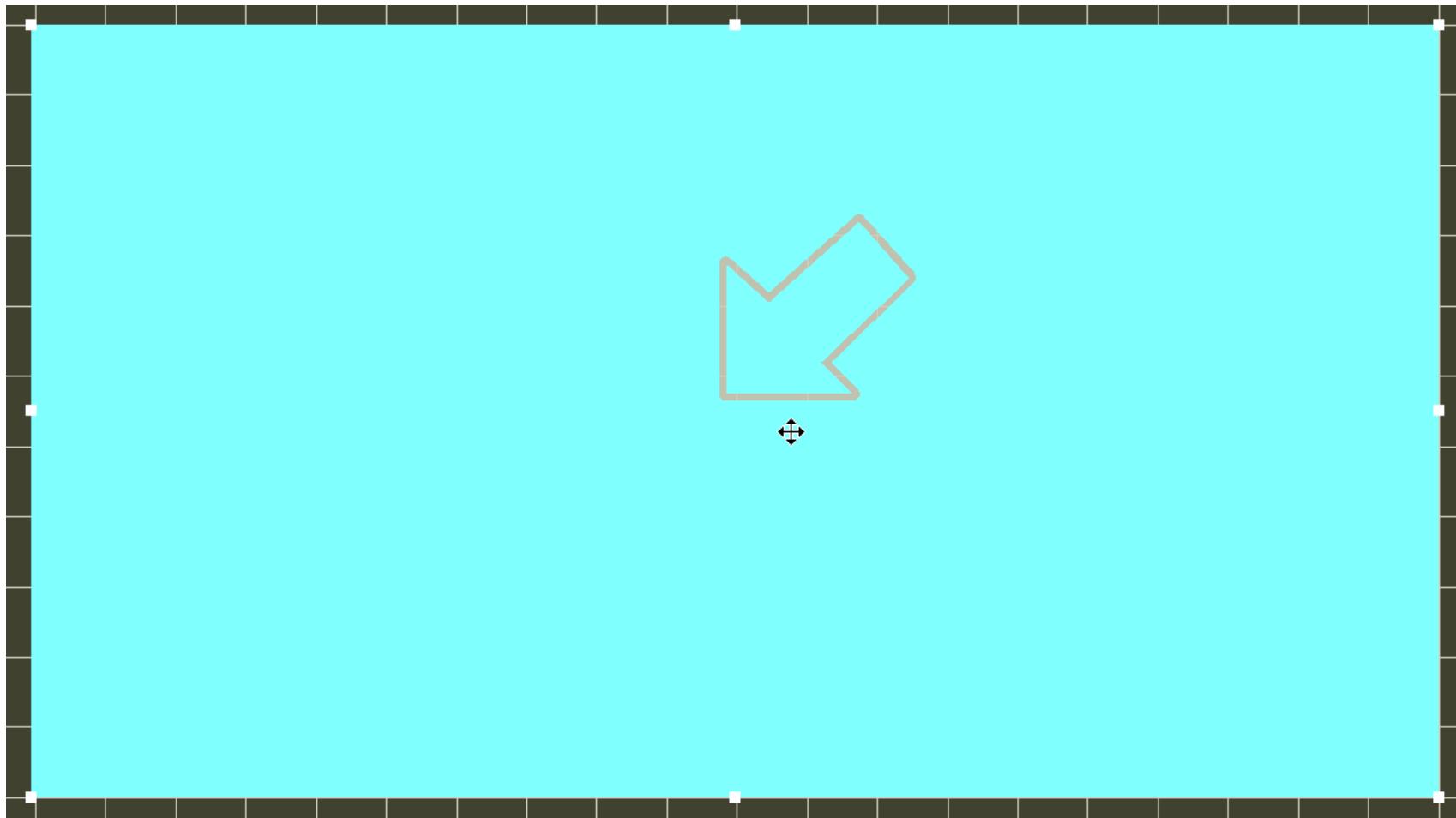
# 圖件選單



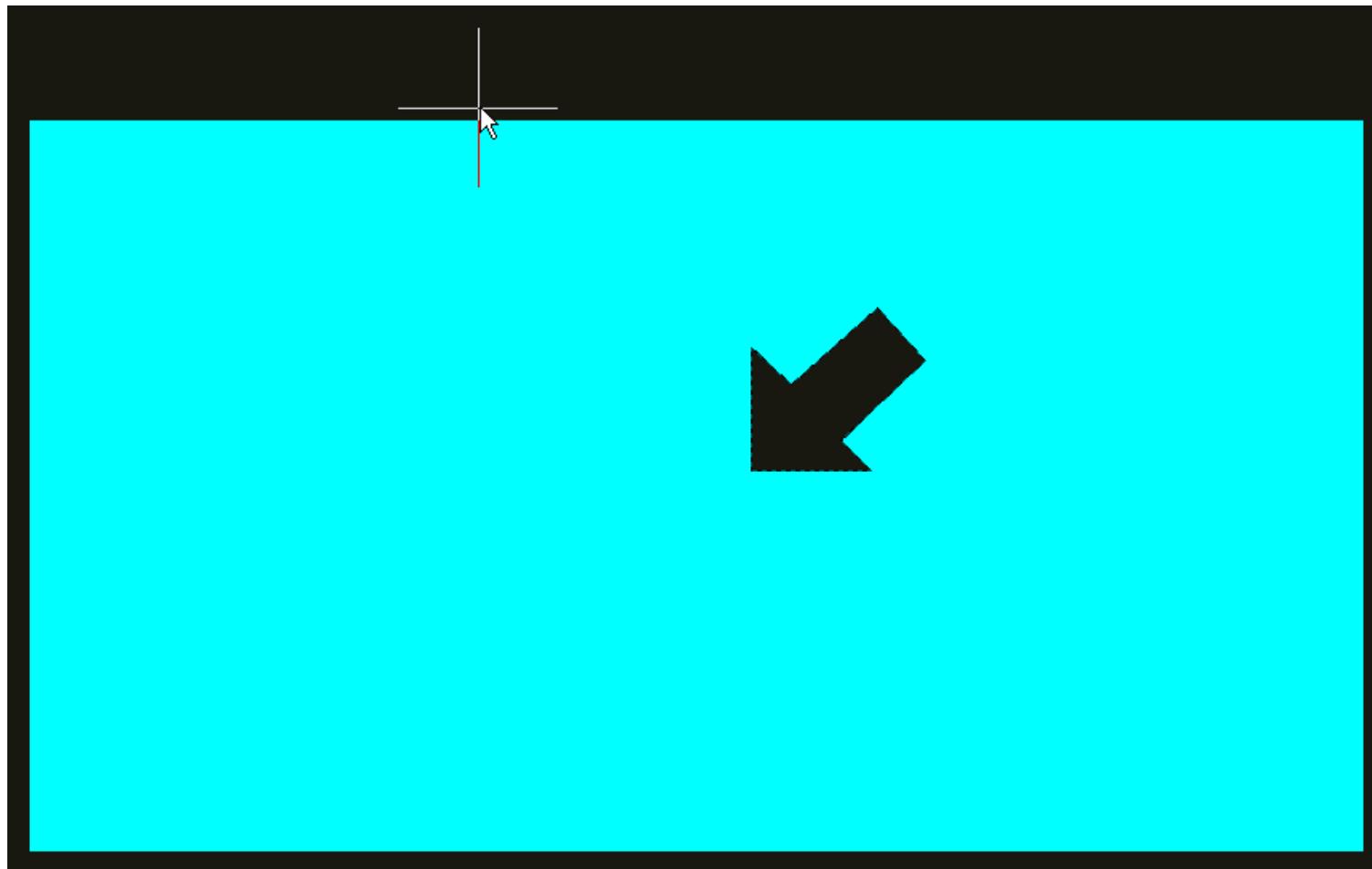
# 鋪銅切除區屬性對話盒



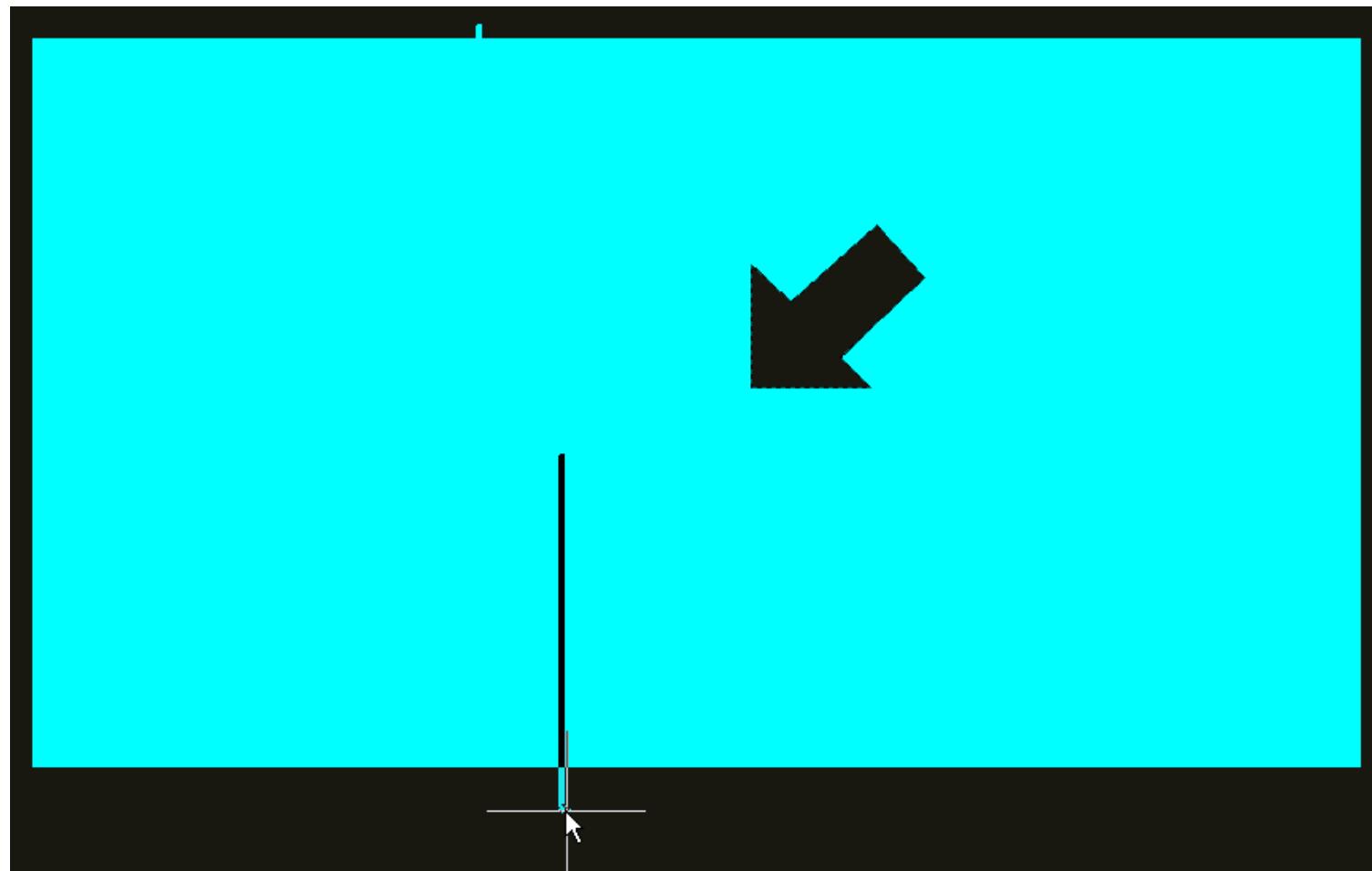
# 分割鋪銅區



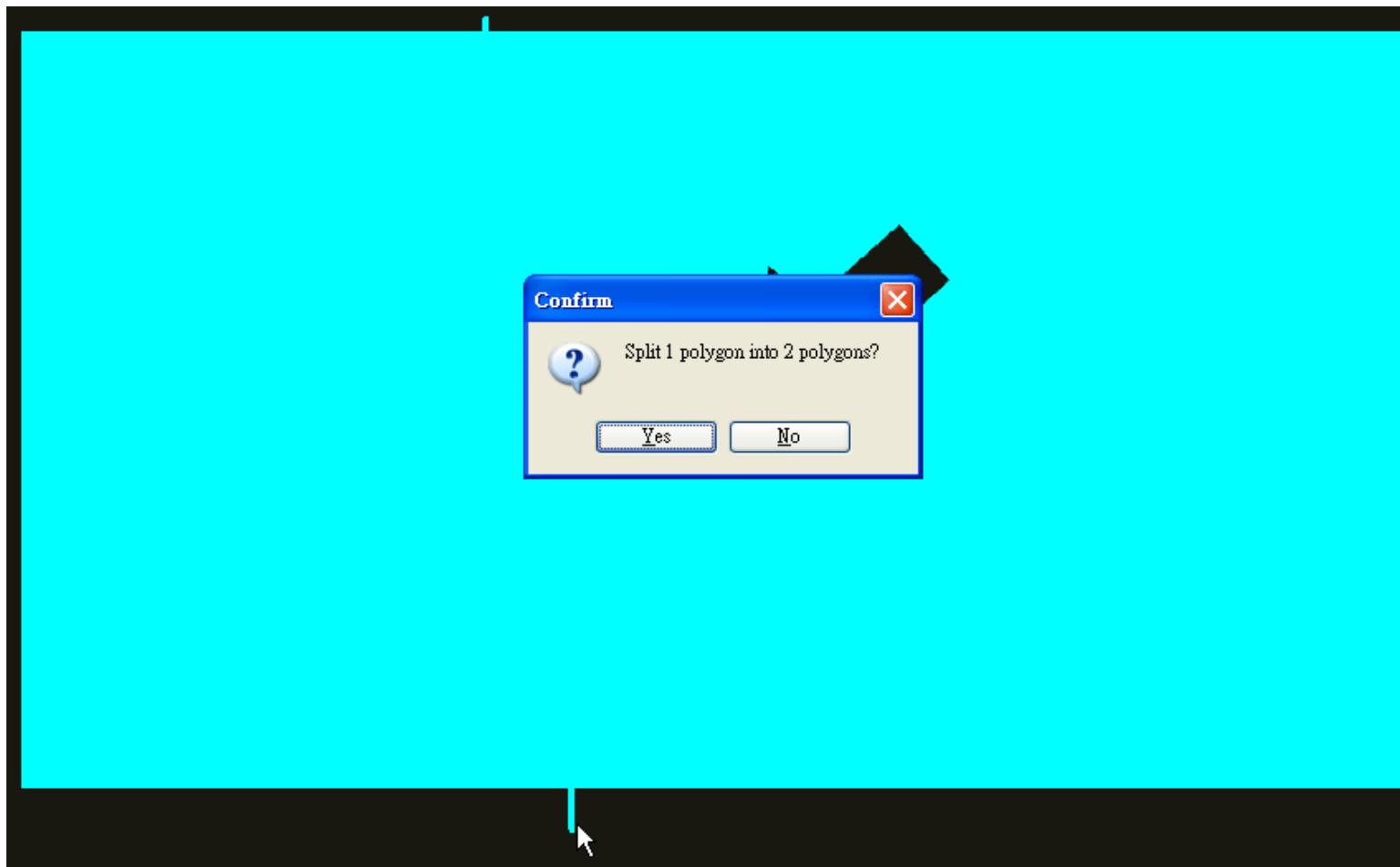
# 分割鋪銅區示範操作之一



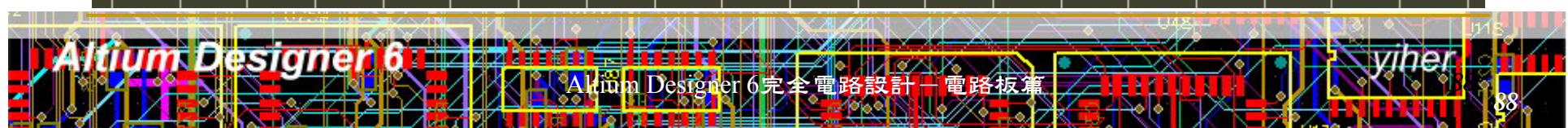
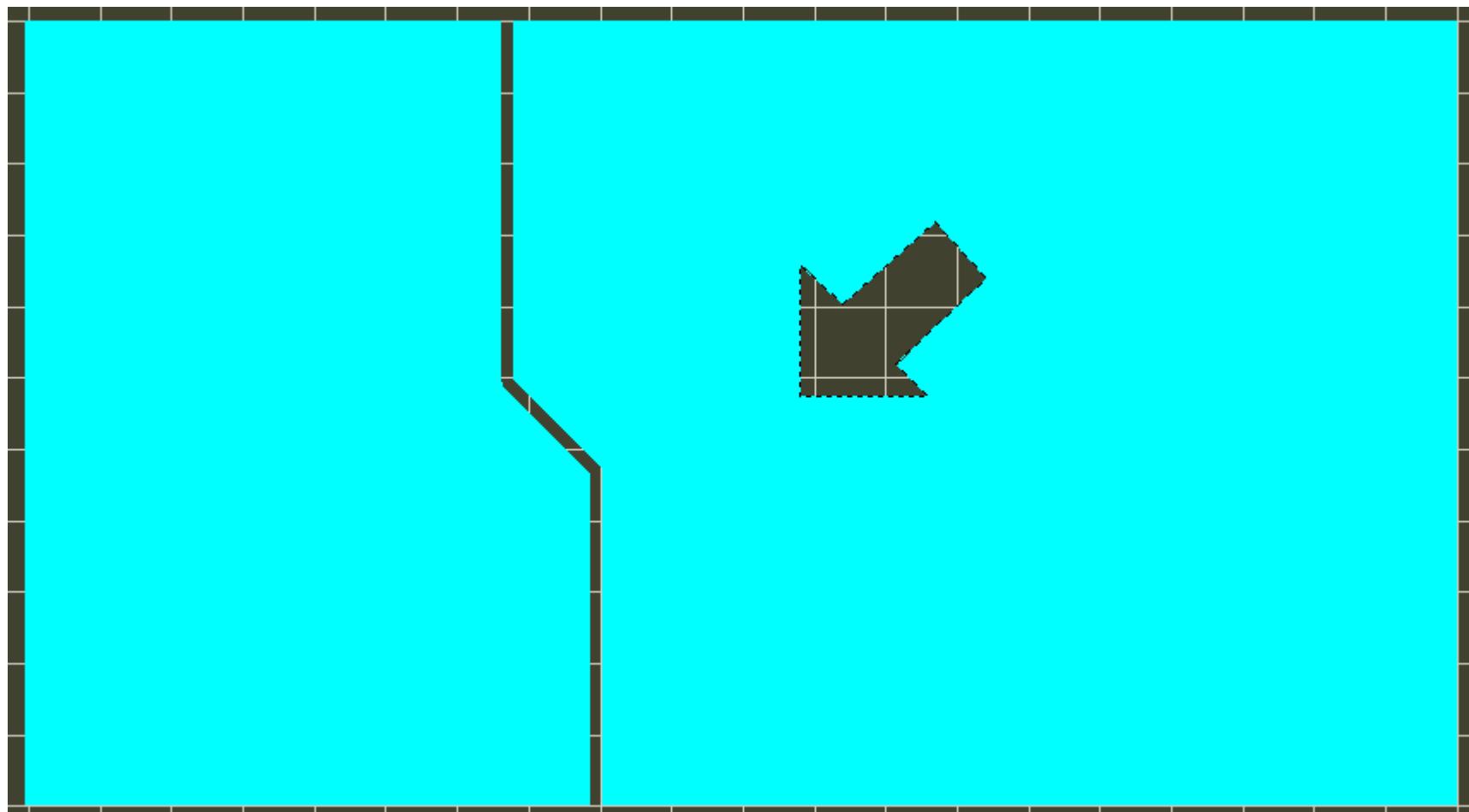
## 分割鋪銅區示範操作之二



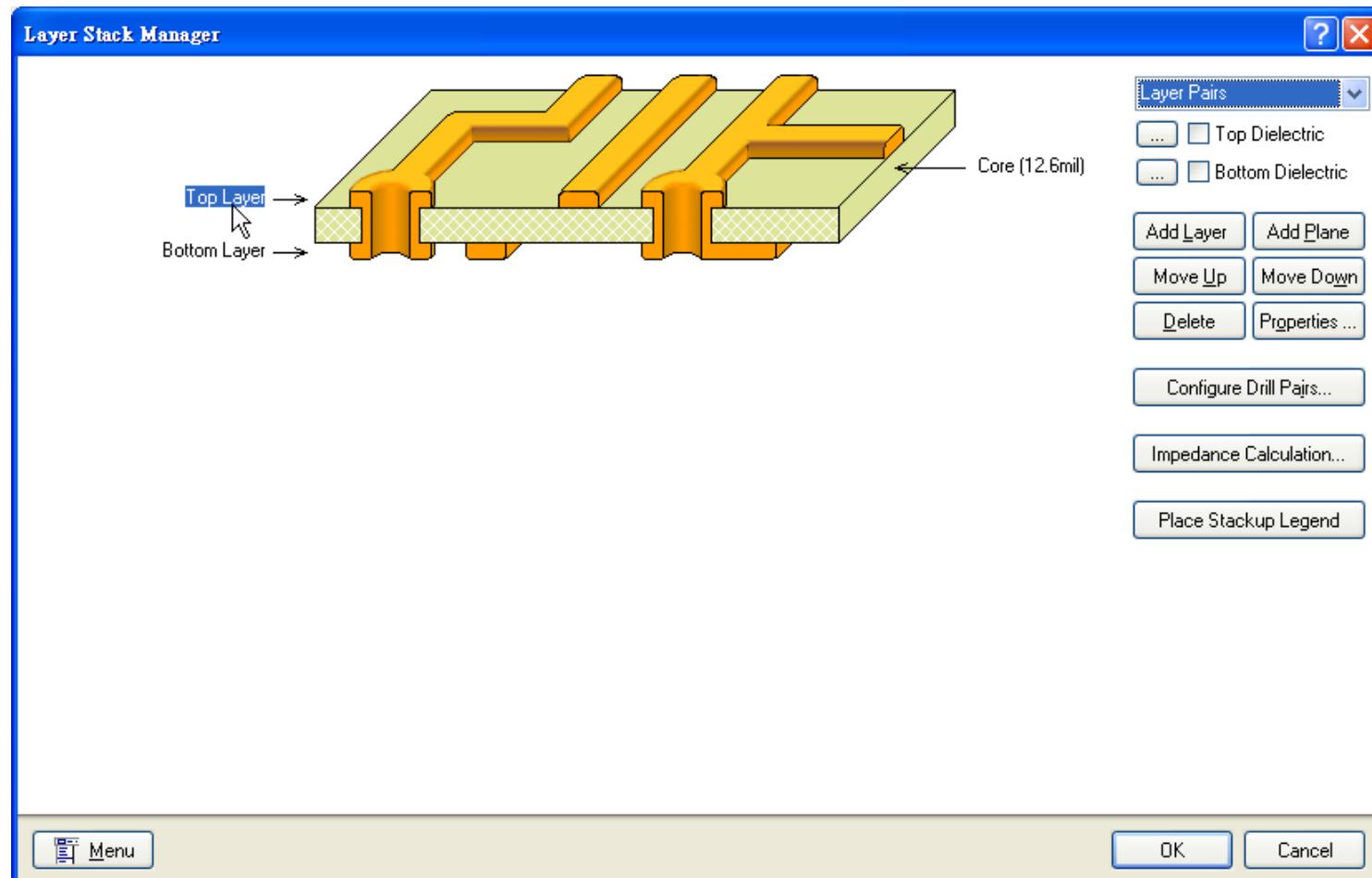
# 分割鋪銅區示範操作之三



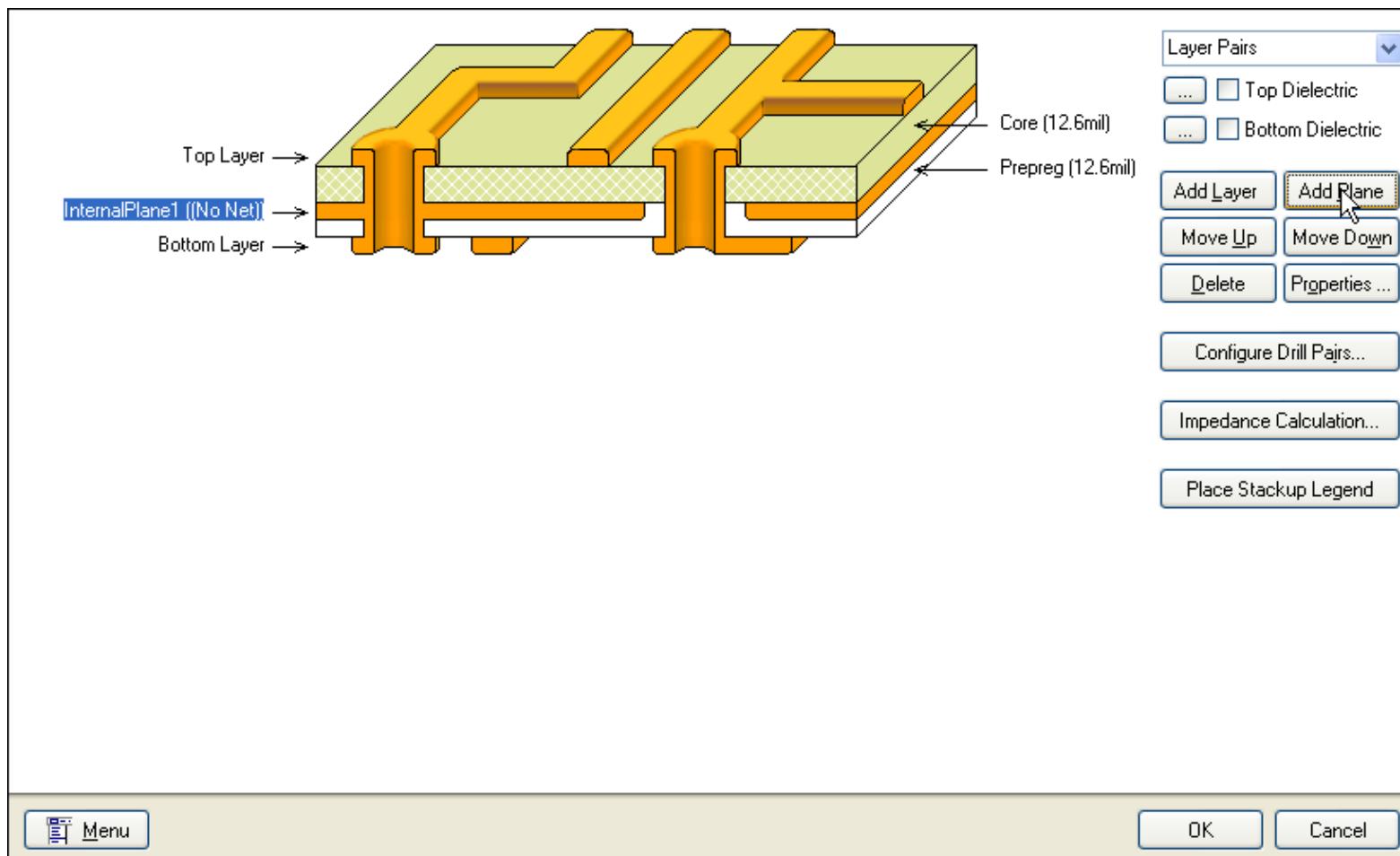
# 分割鋪銅區示範操作之四



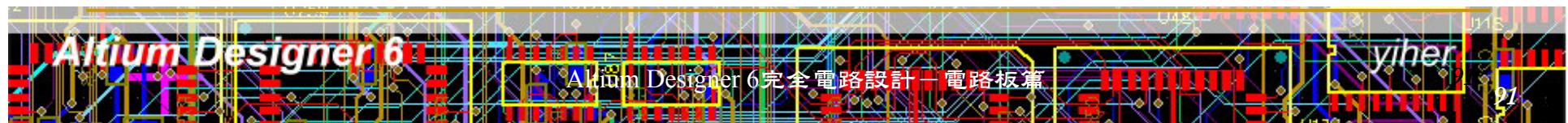
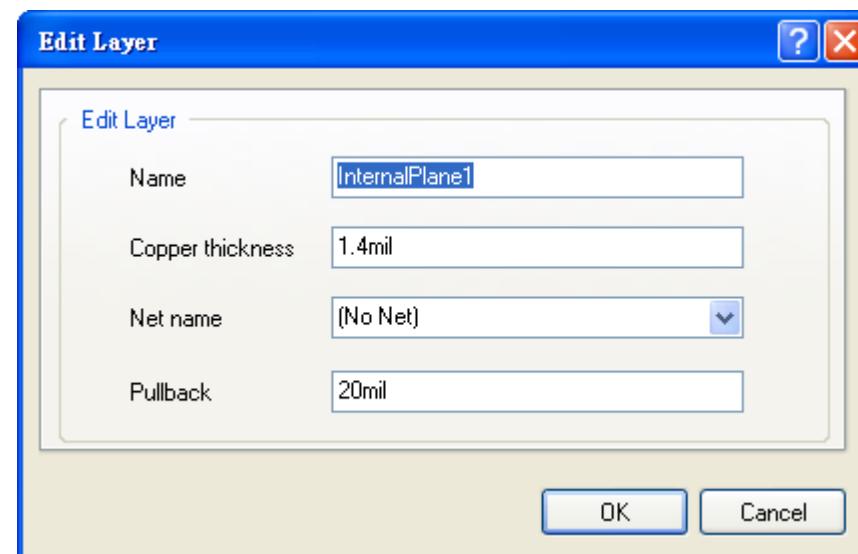
# 板層堆疊管理器



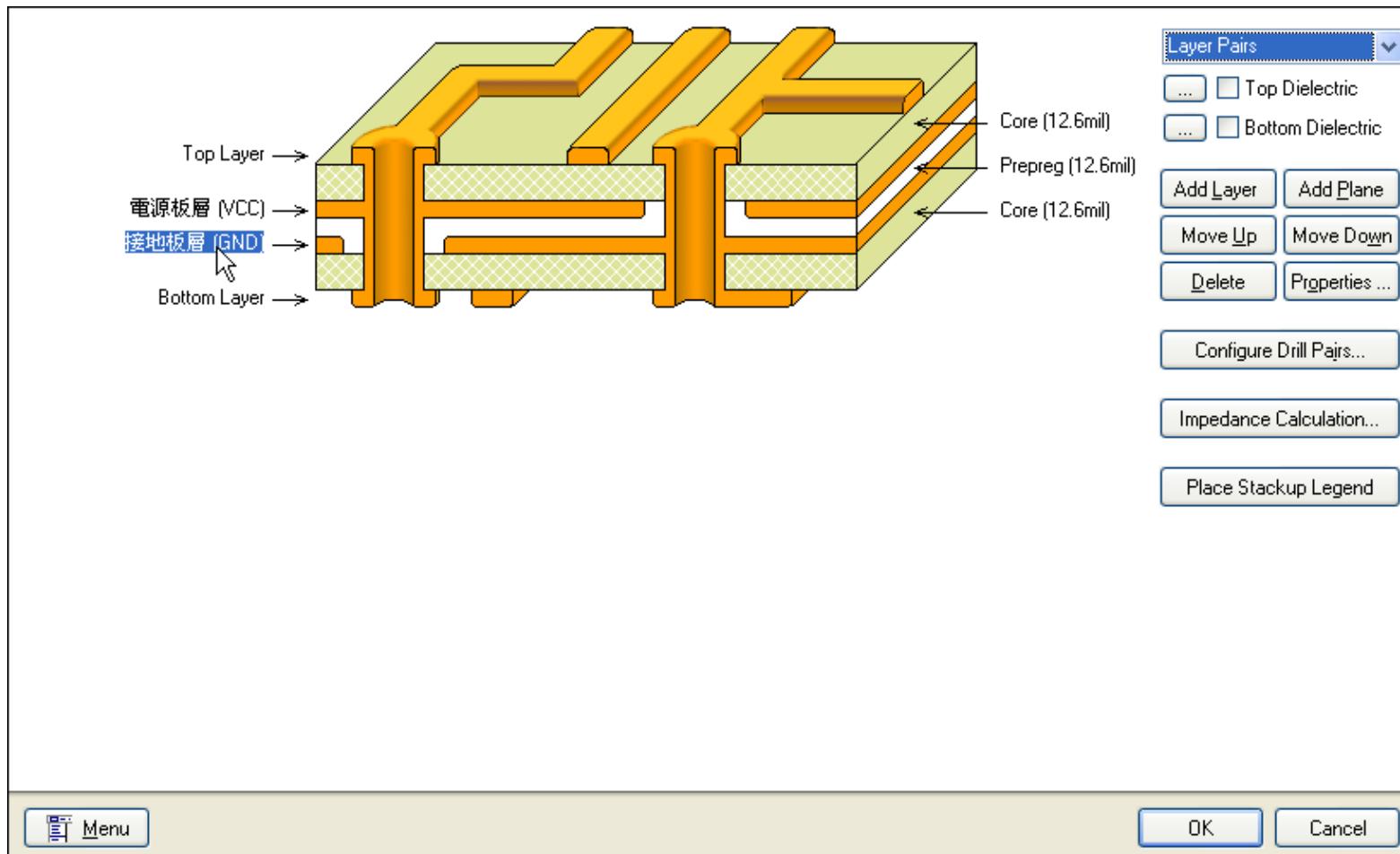
# 新增電源板層



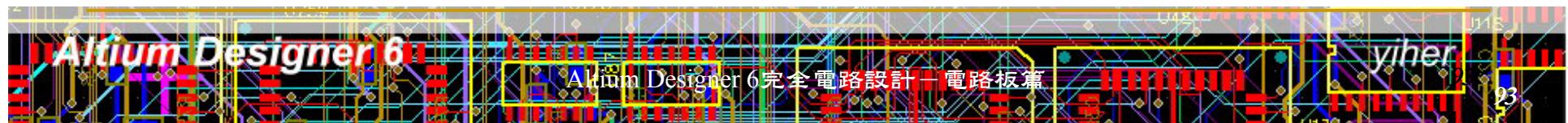
# 電源板層屬性對話盒



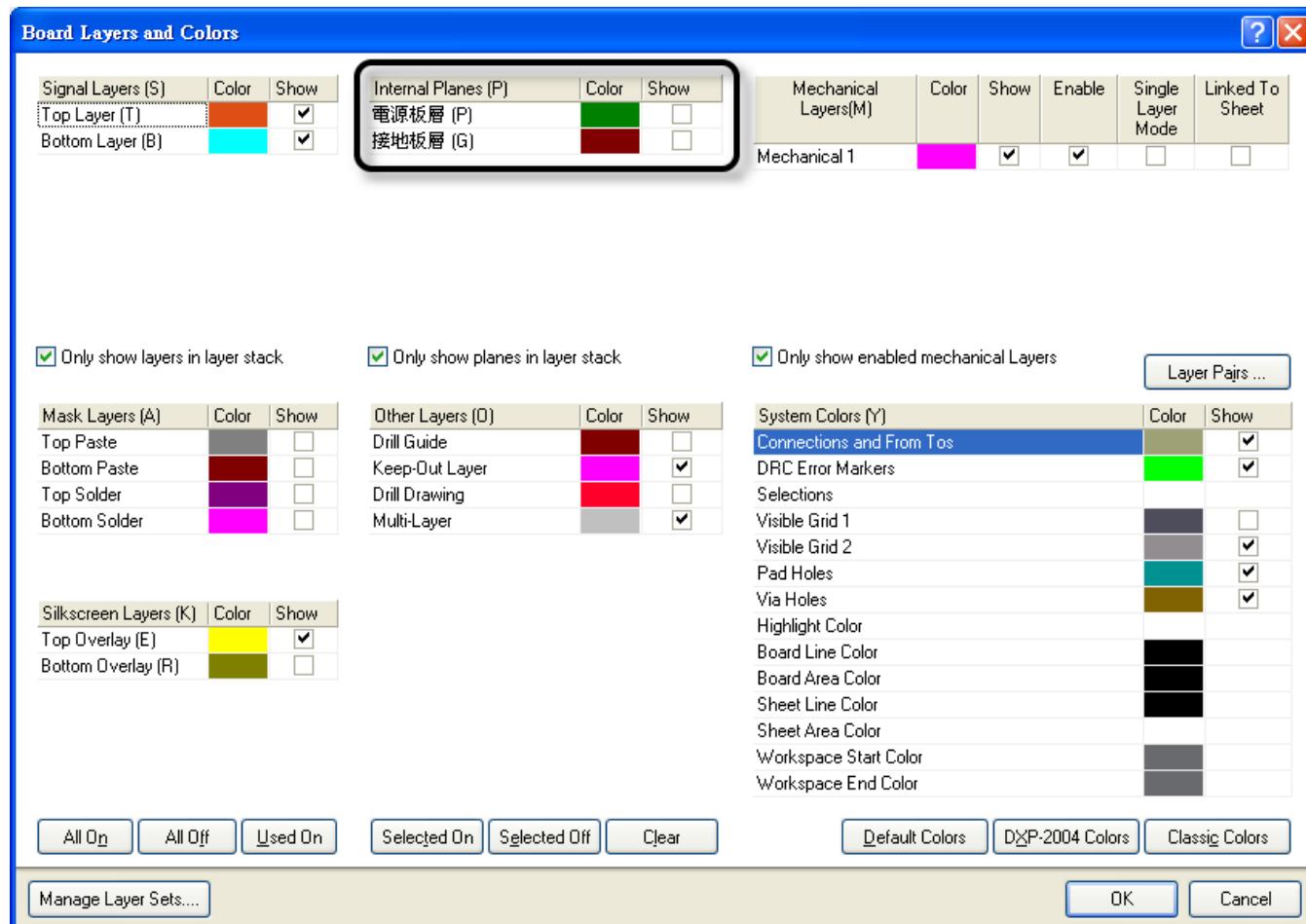
# 完成電源板層之屬性編輯



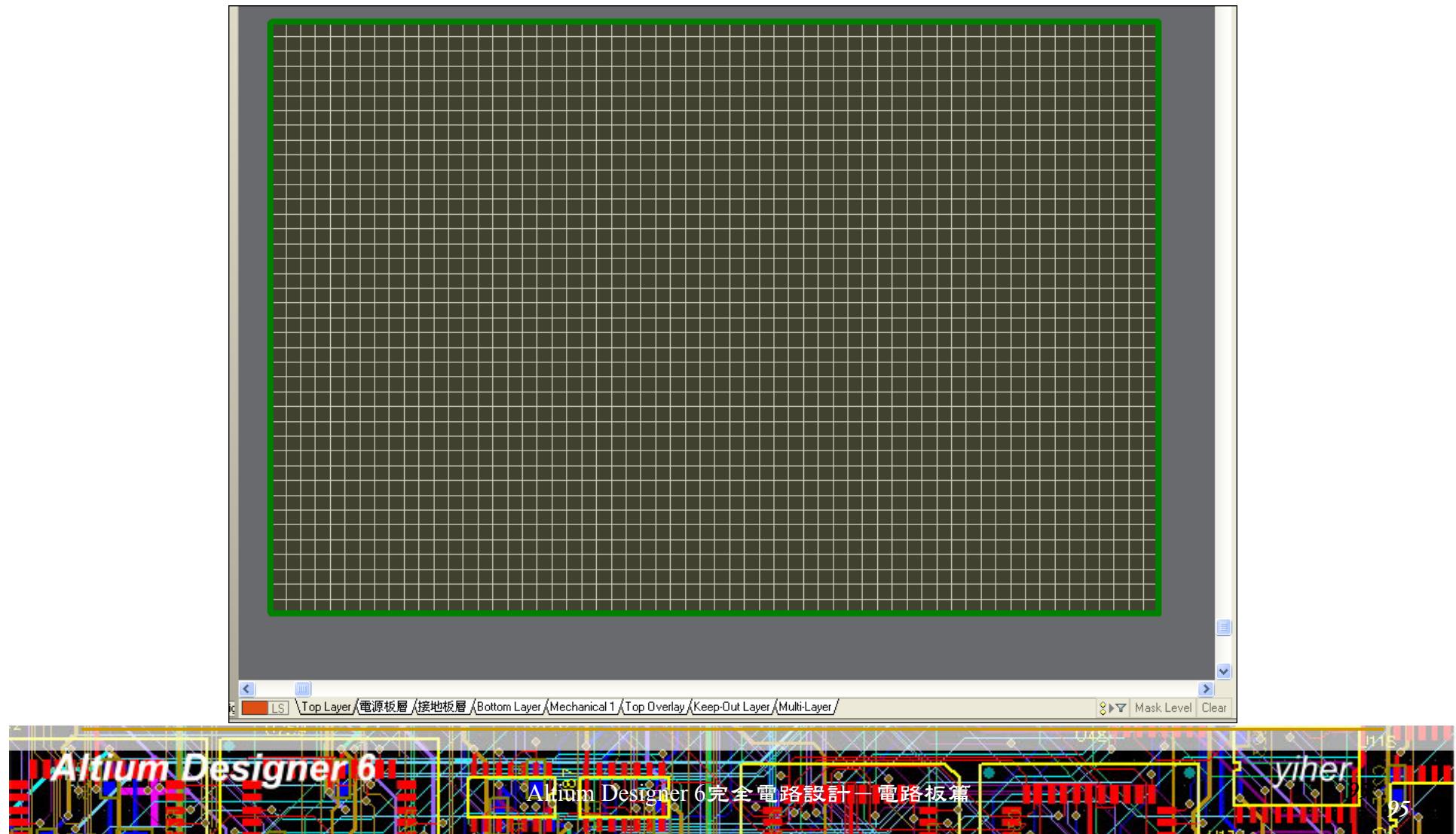
# 更新設計規則訊息對話盒



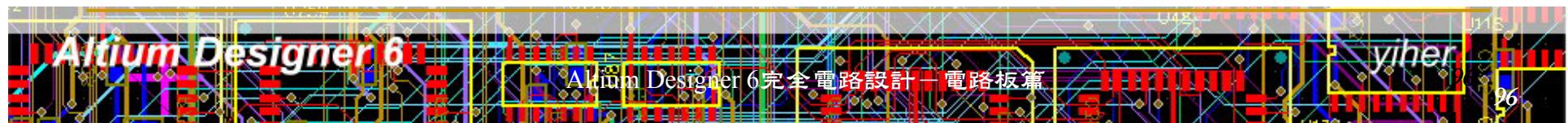
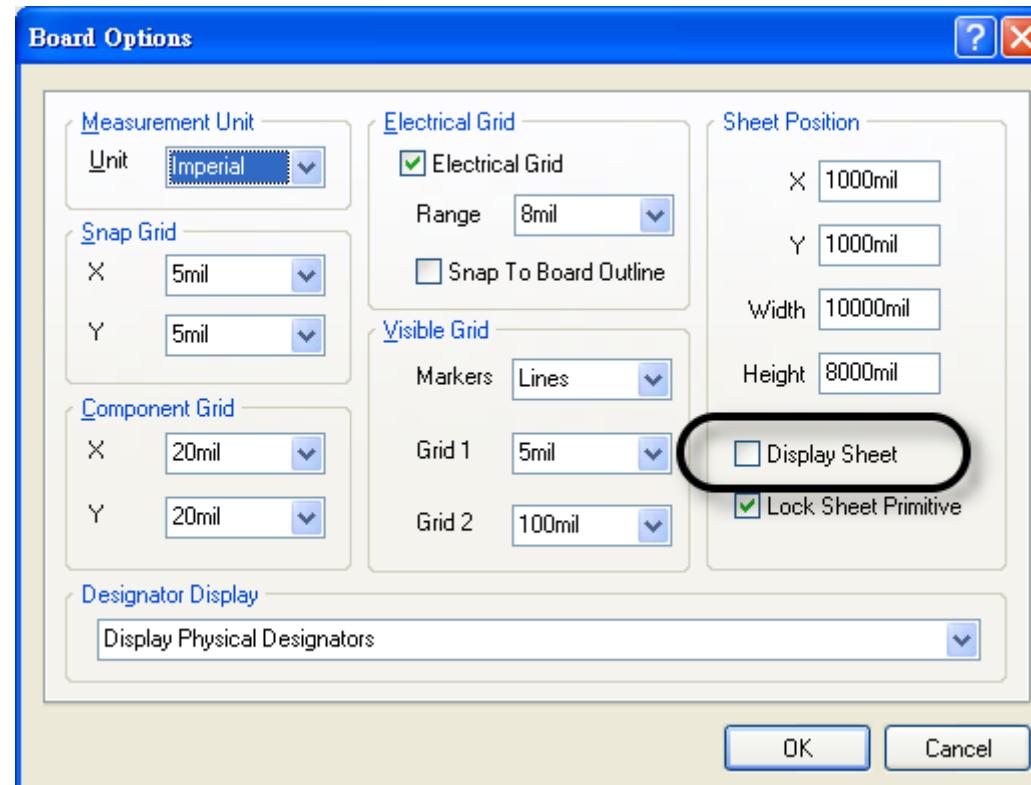
# 板層顏色設定對話盒



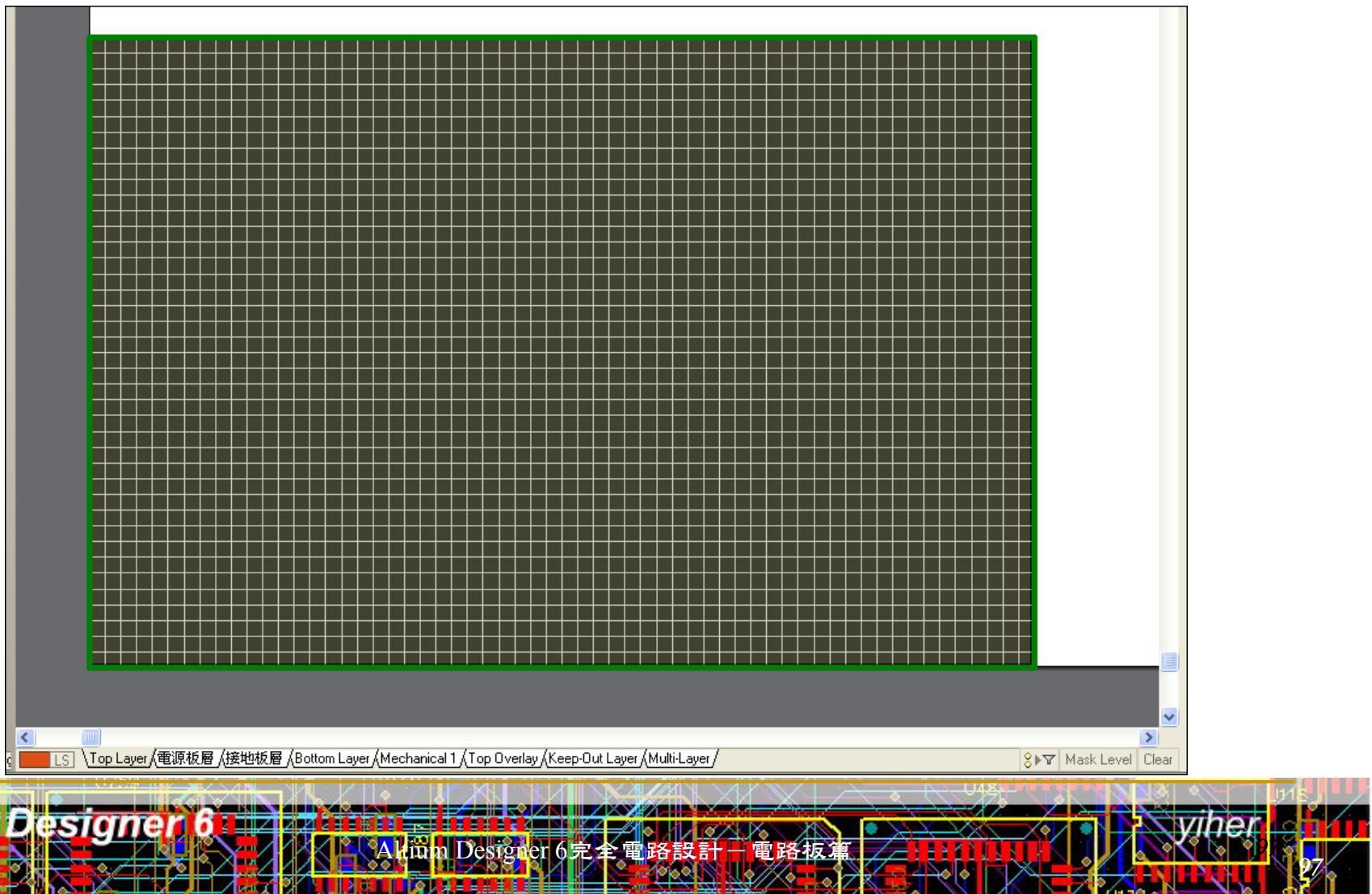
# 開啟電源板層與接地板層



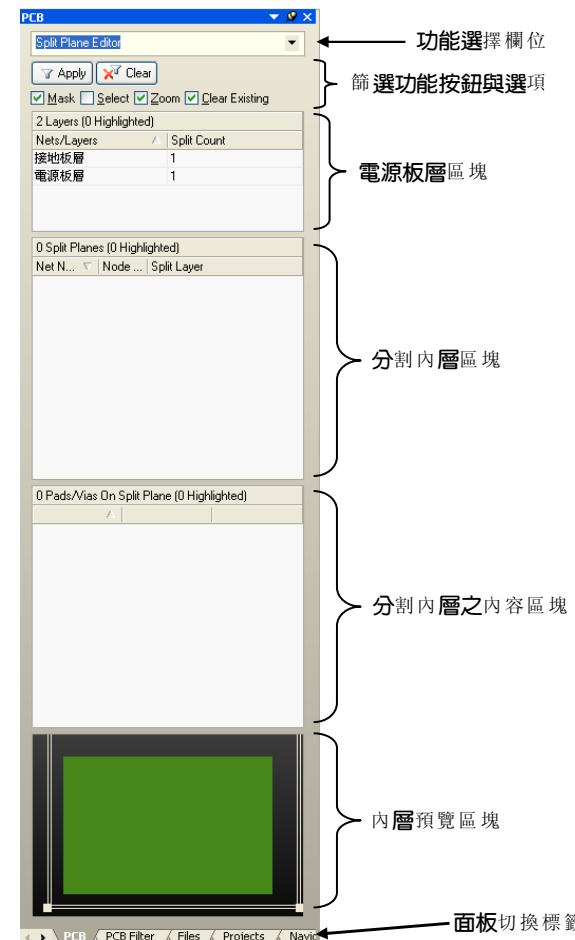
# 電路板選項對話盒



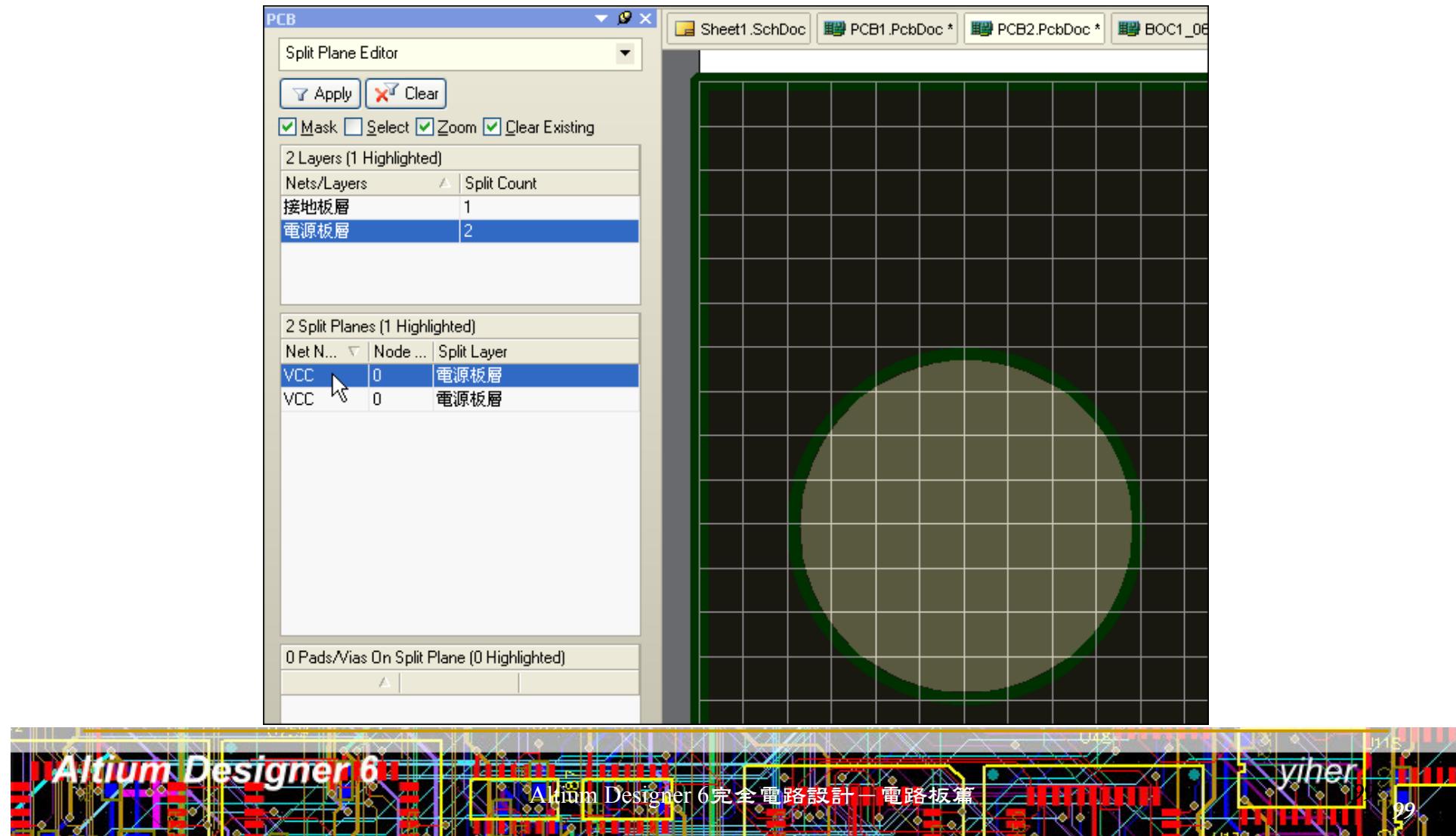
# 顯示電路板圖紙



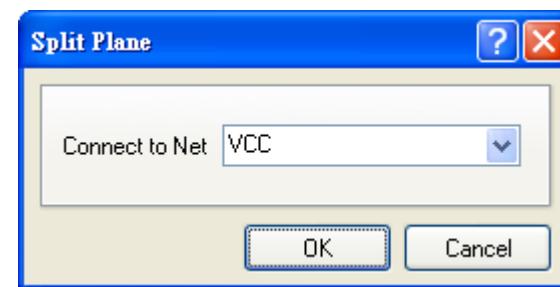
# 分割內層編輯器



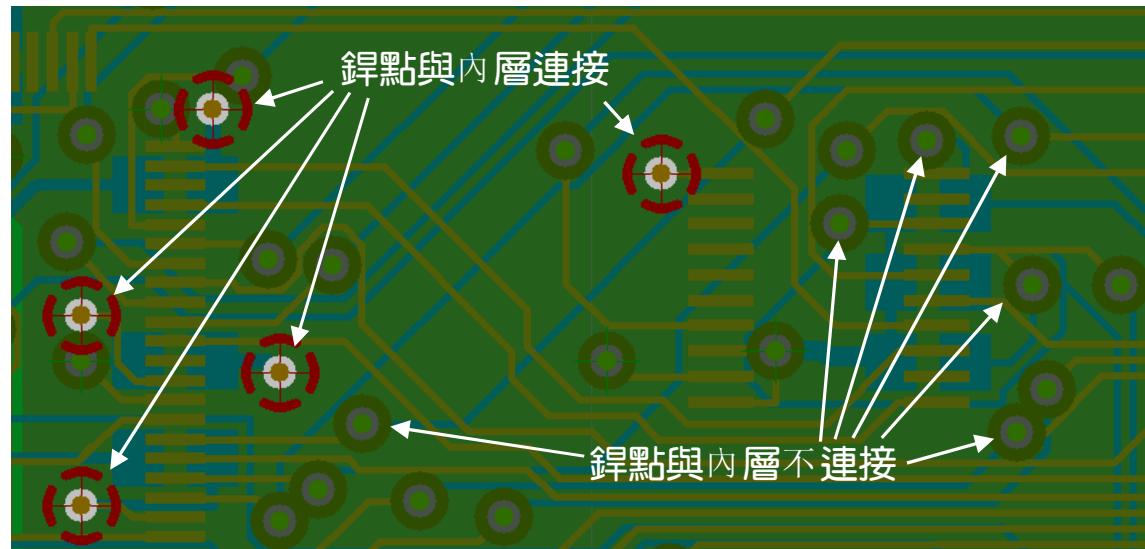
# 建立分割內層



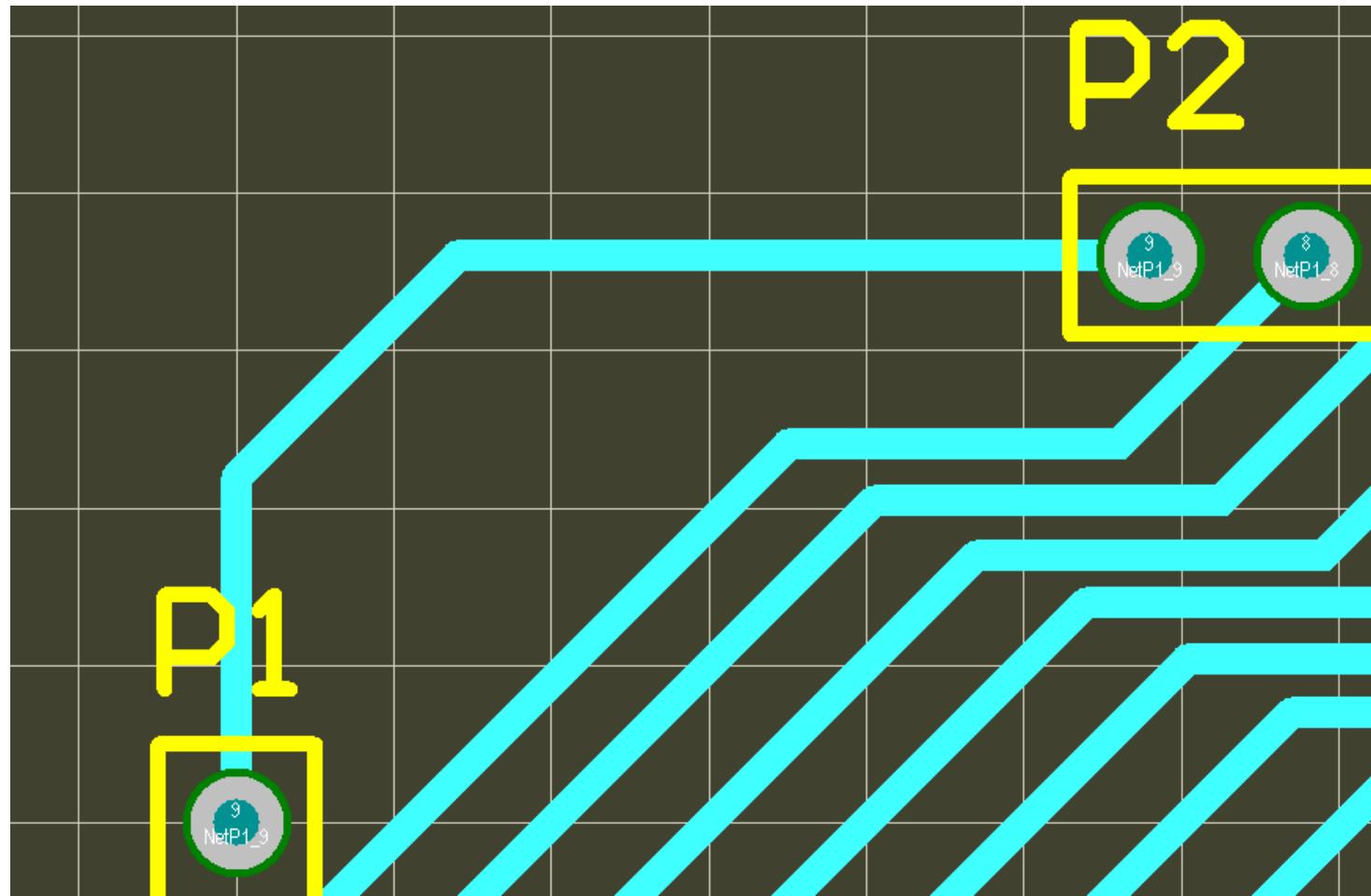
# 分割內層連接網路對話盒



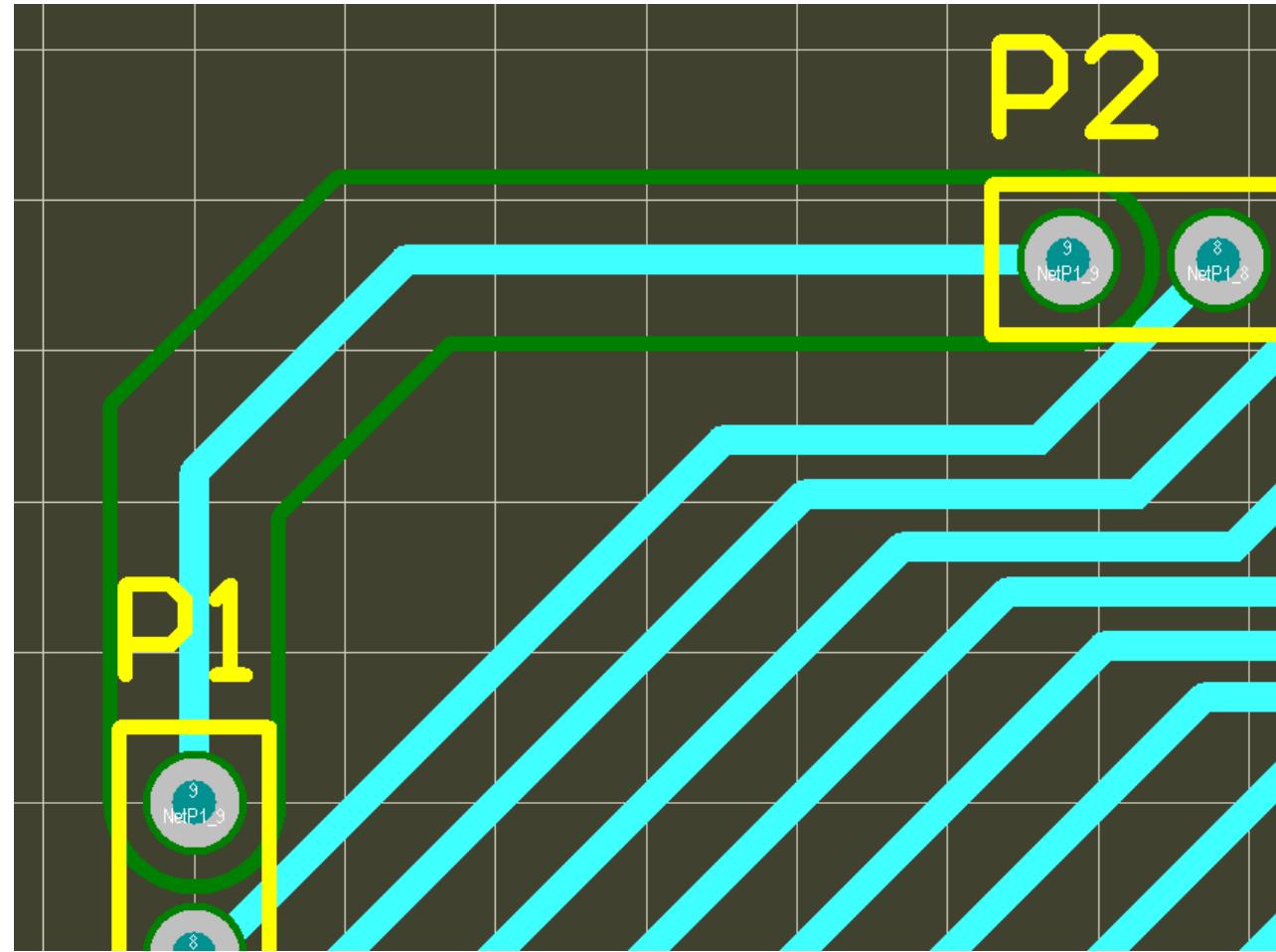
# 鋸點與內層之連接與不連接



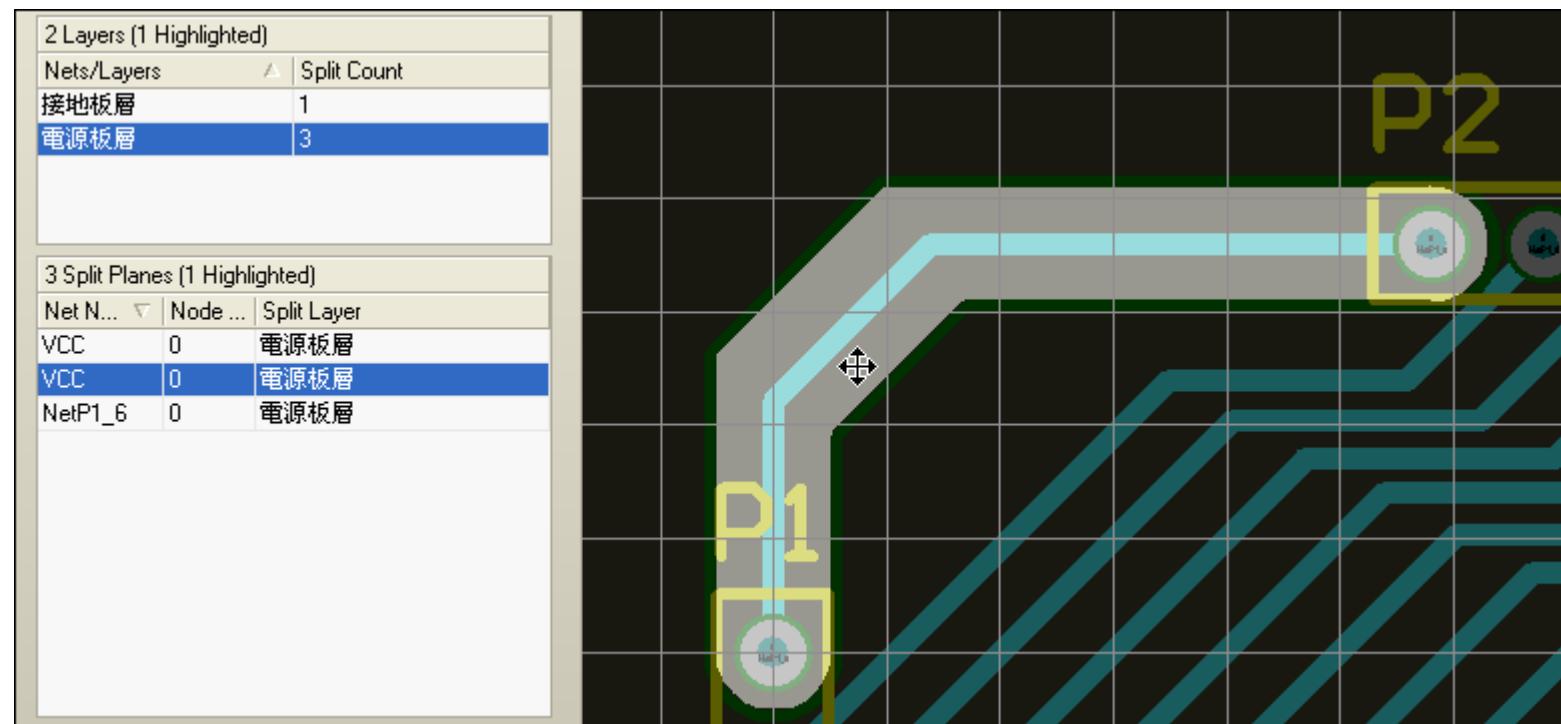
# 內層走線操作範例



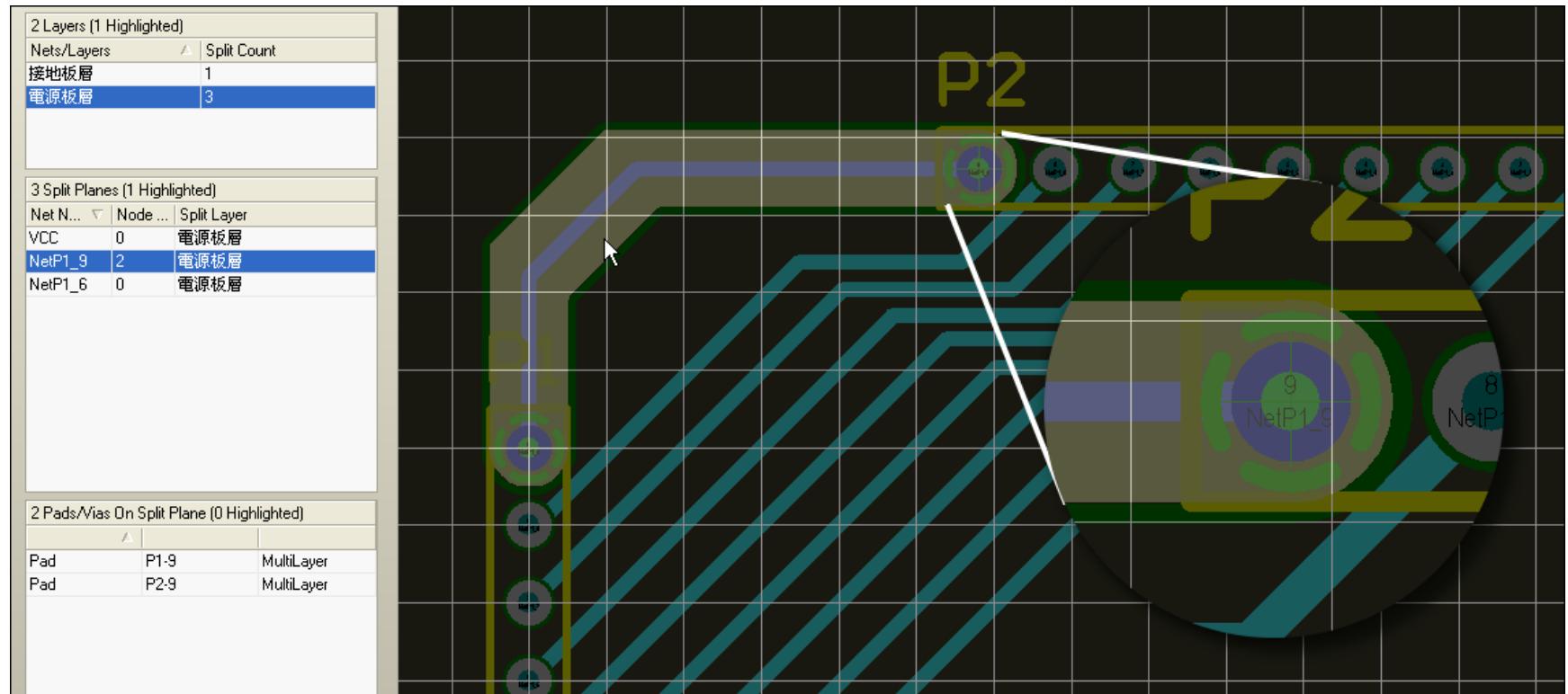
# 在內層繪製分割線



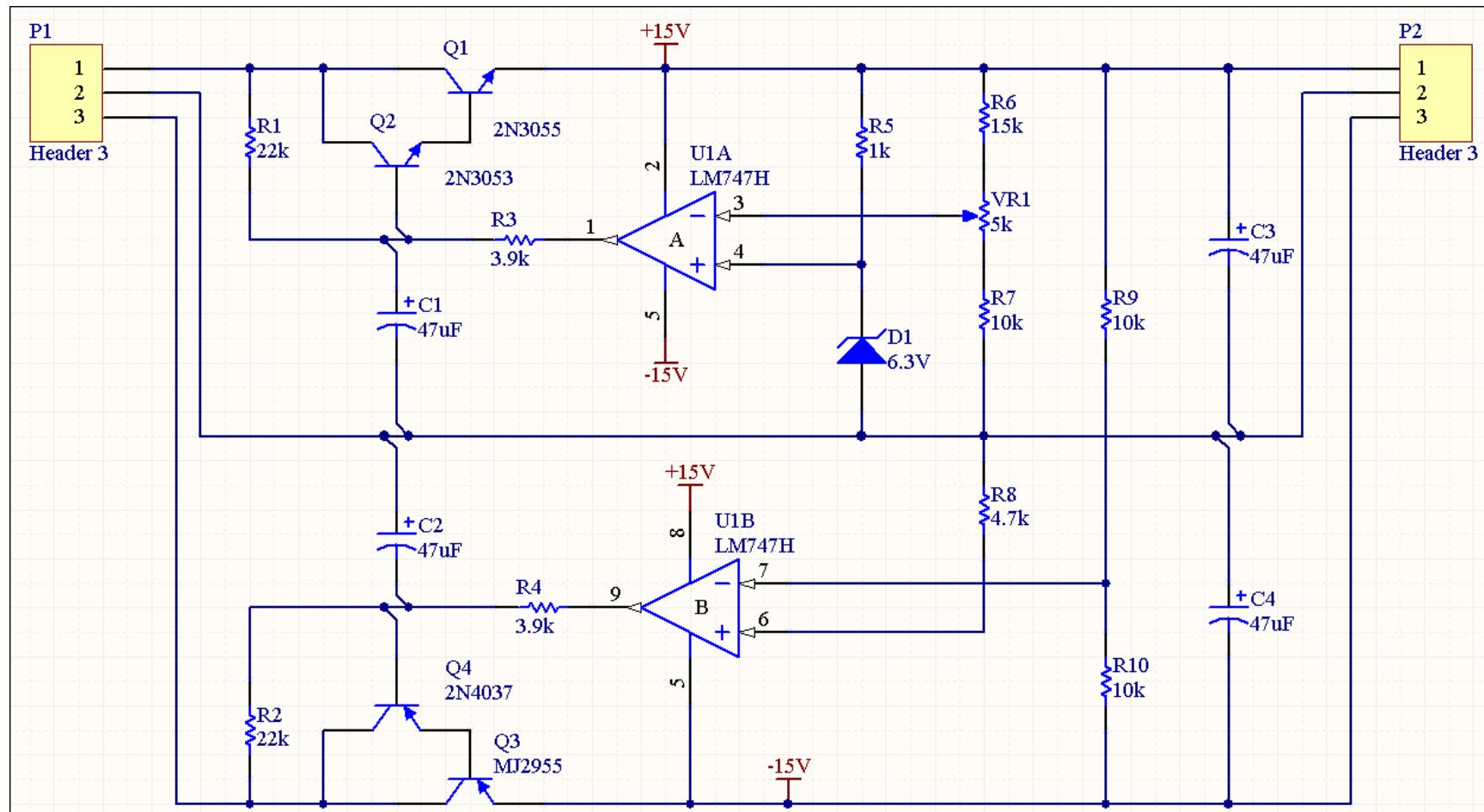
# 選取分割內層



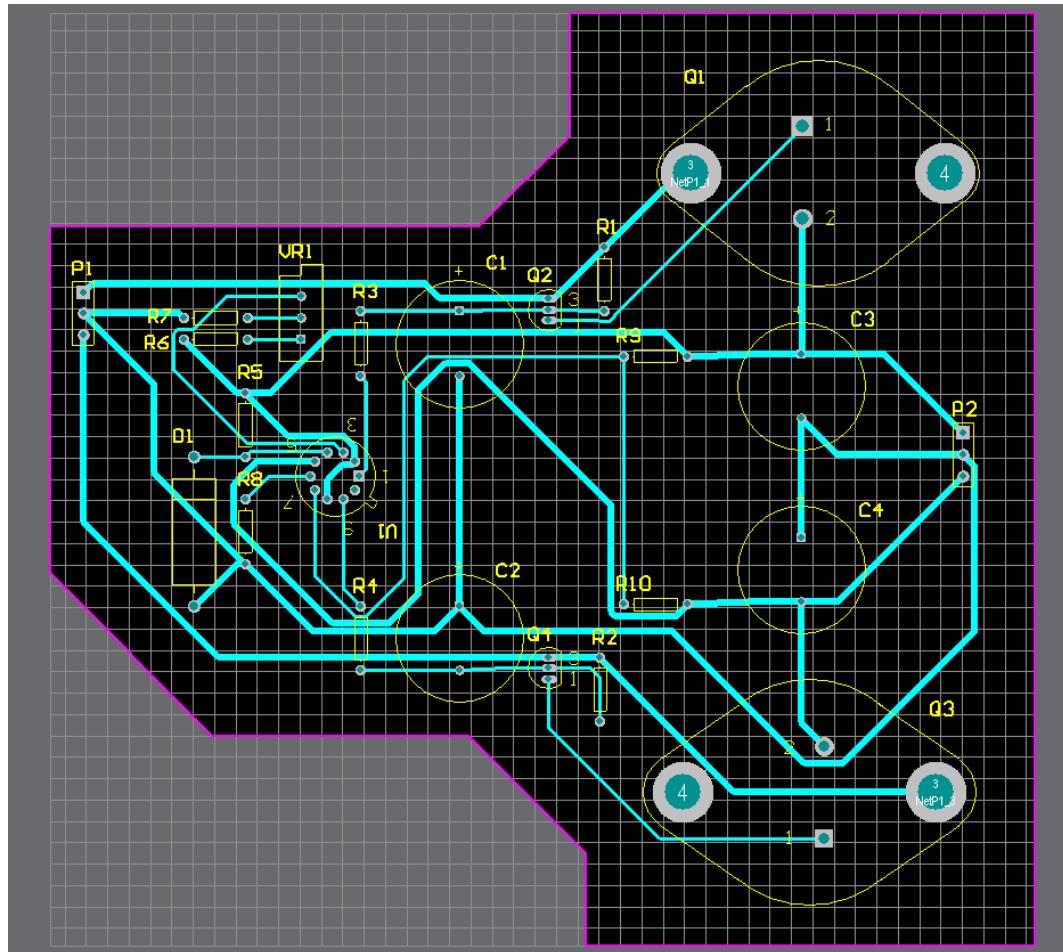
# 完成內層走線



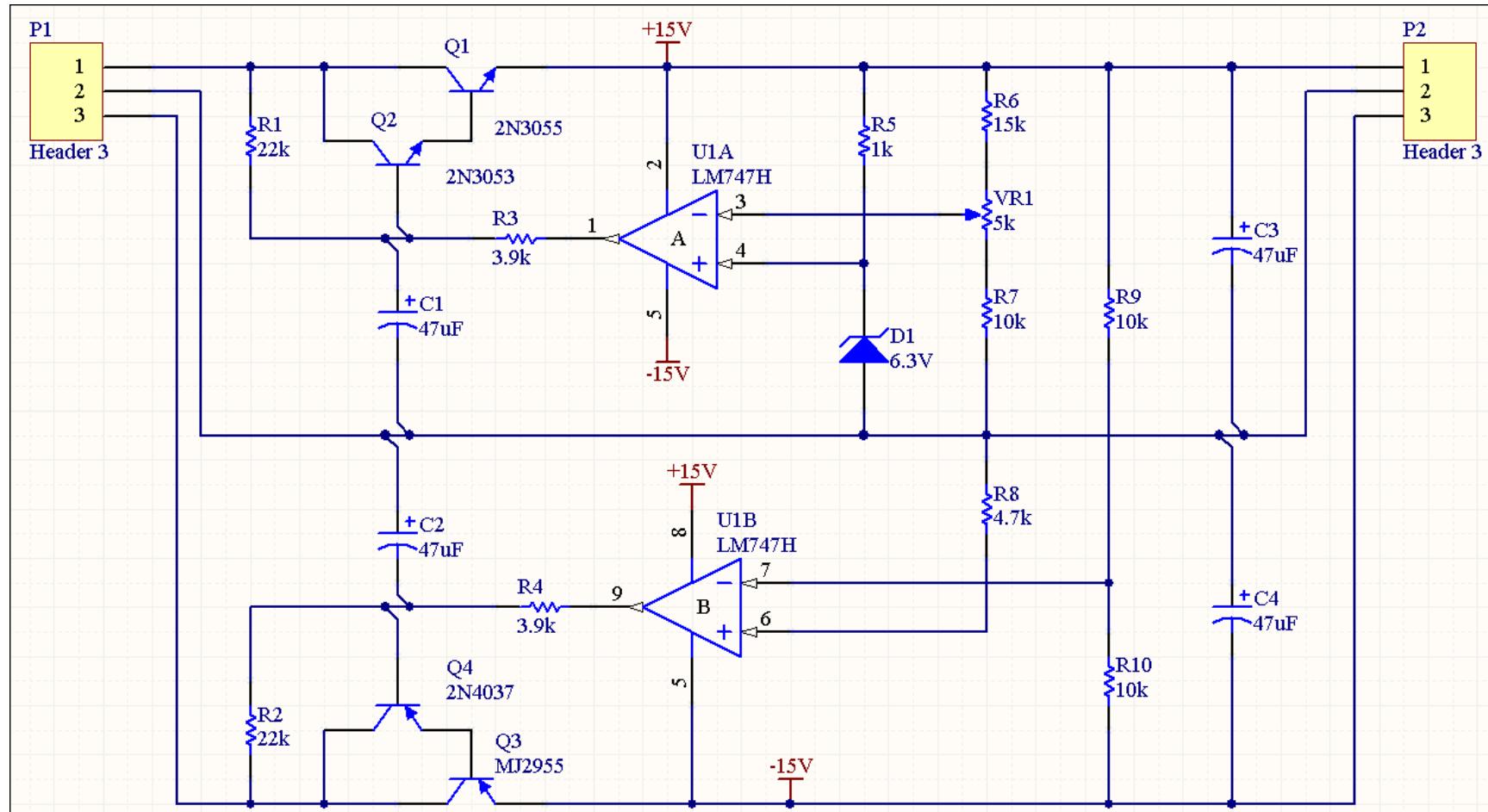
# 操作練習一電路圖



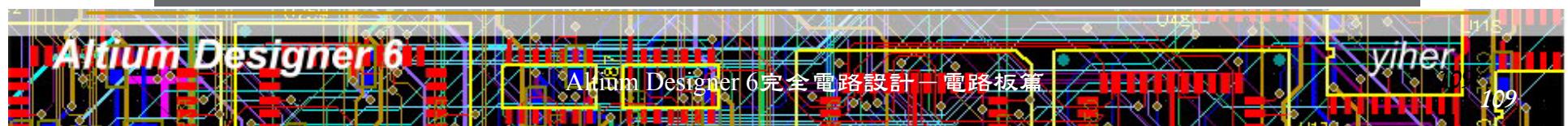
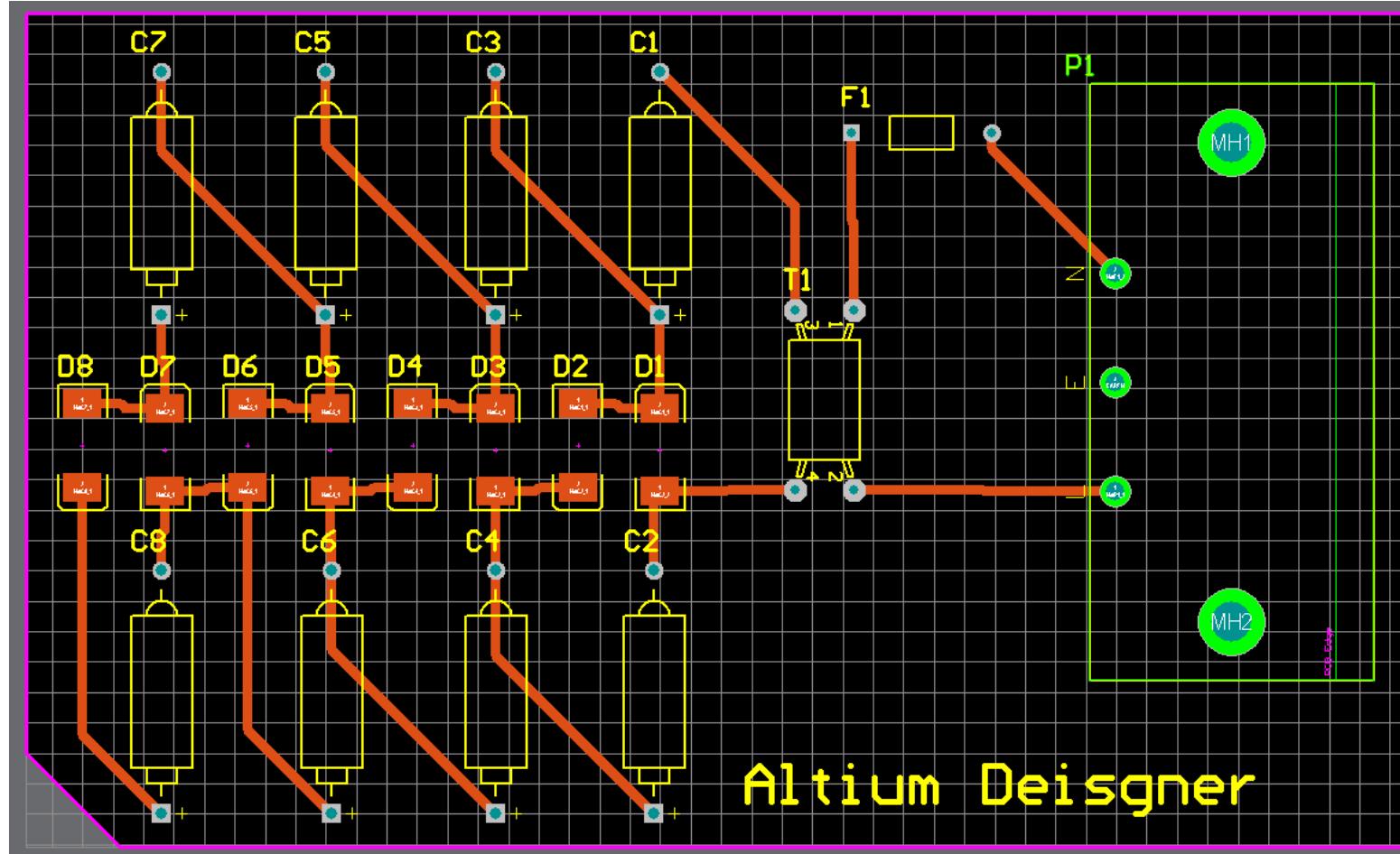
# 操作練習一電路板設計參考



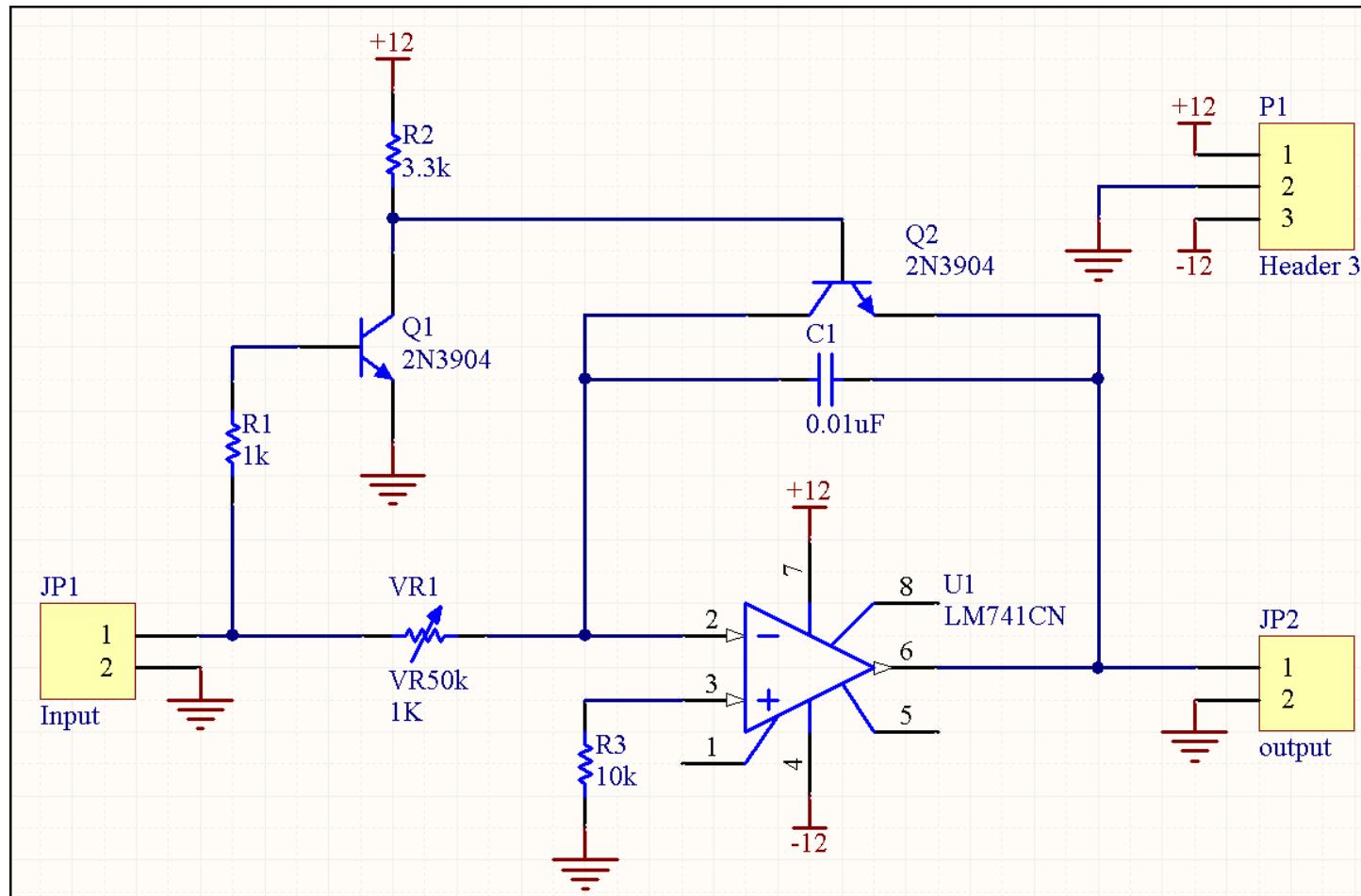
# 操作練習二電路圖



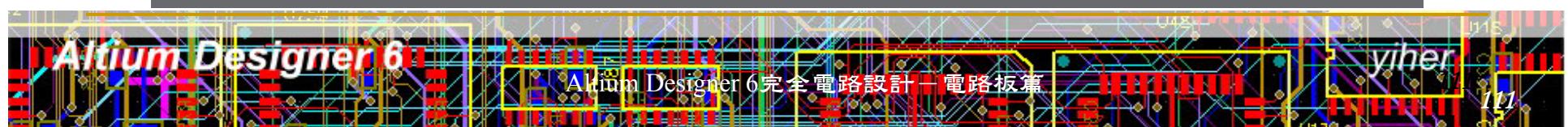
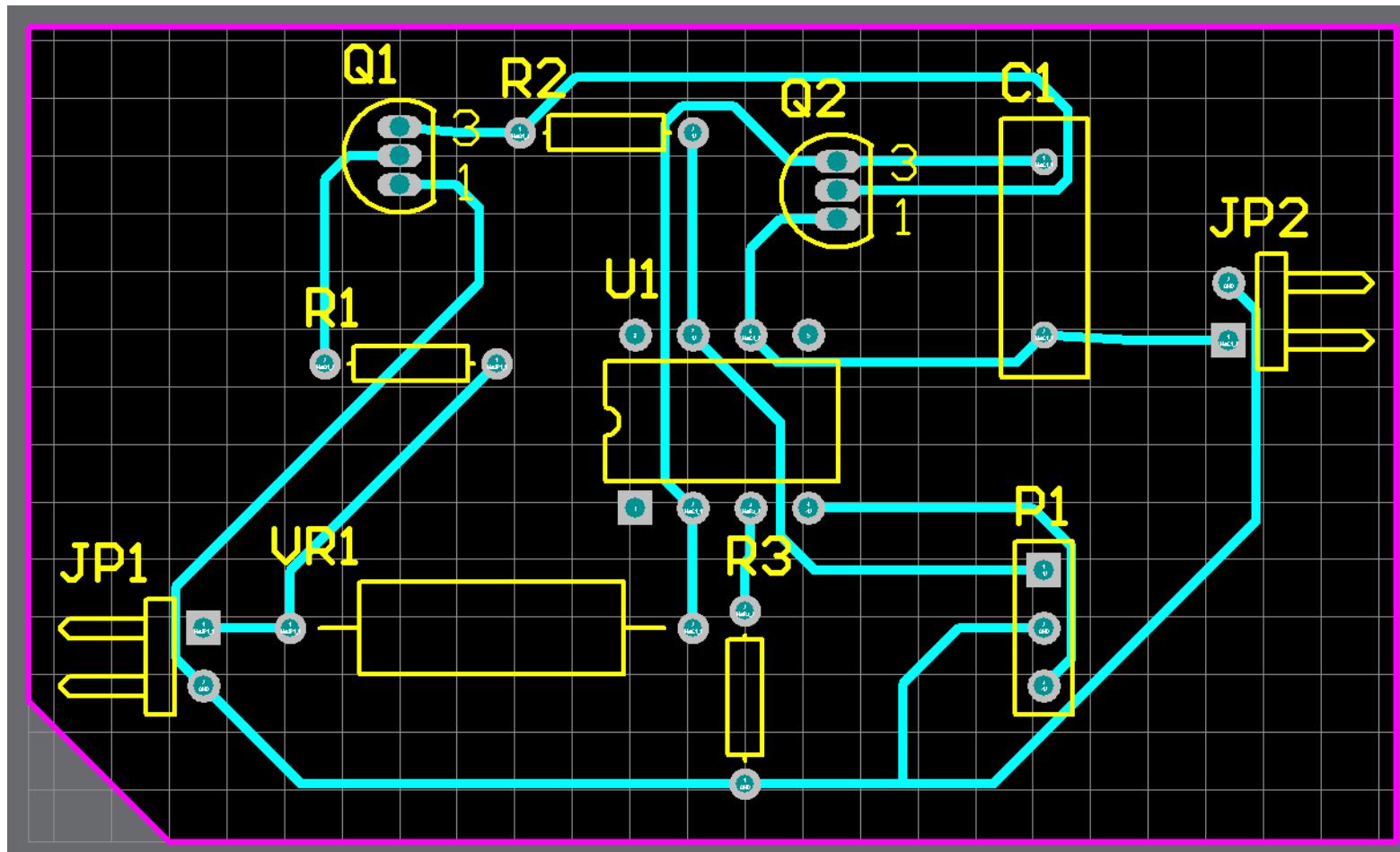
# 操作練習二 電路板設計參考



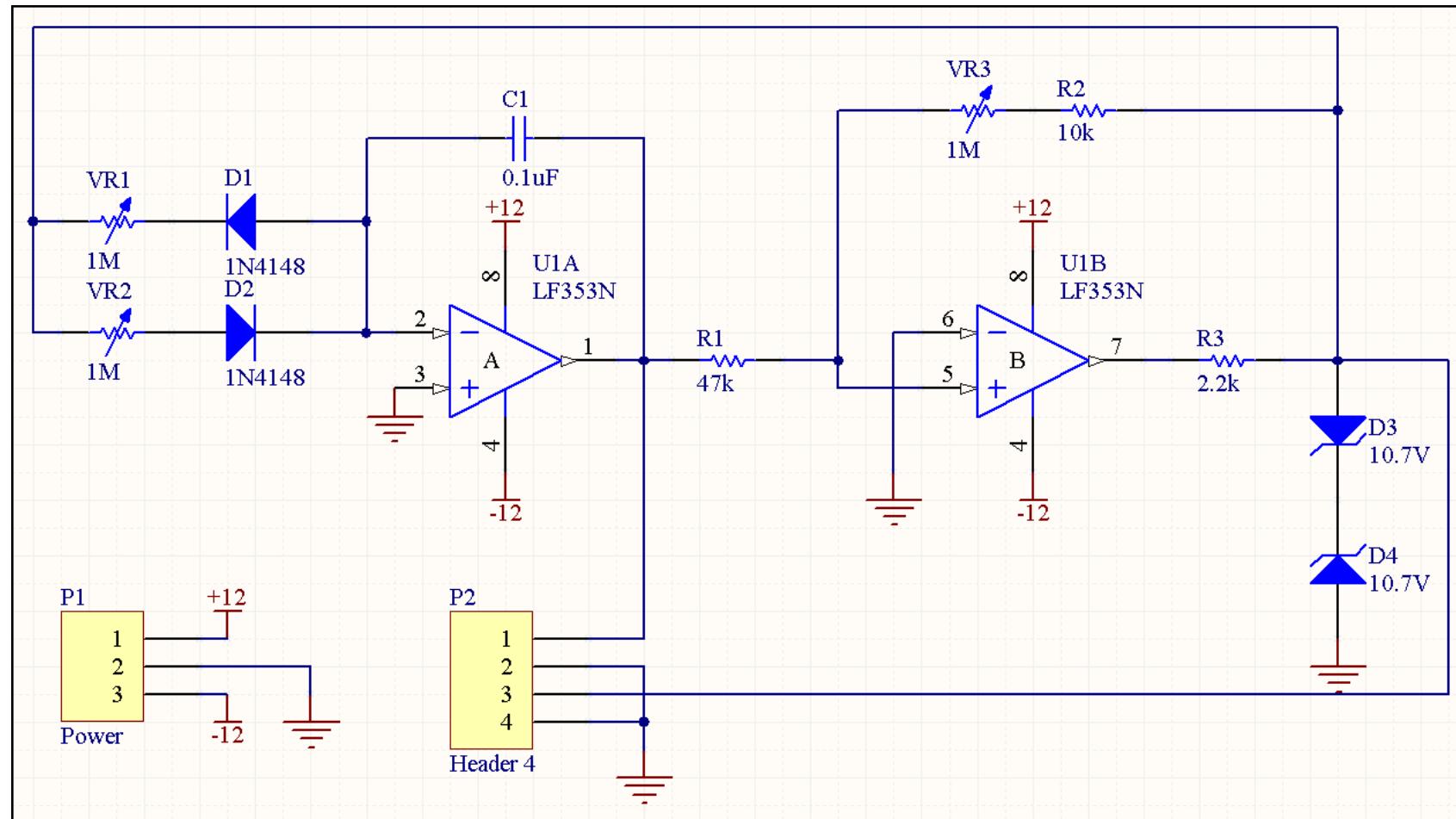
# 操作練習三電路圖



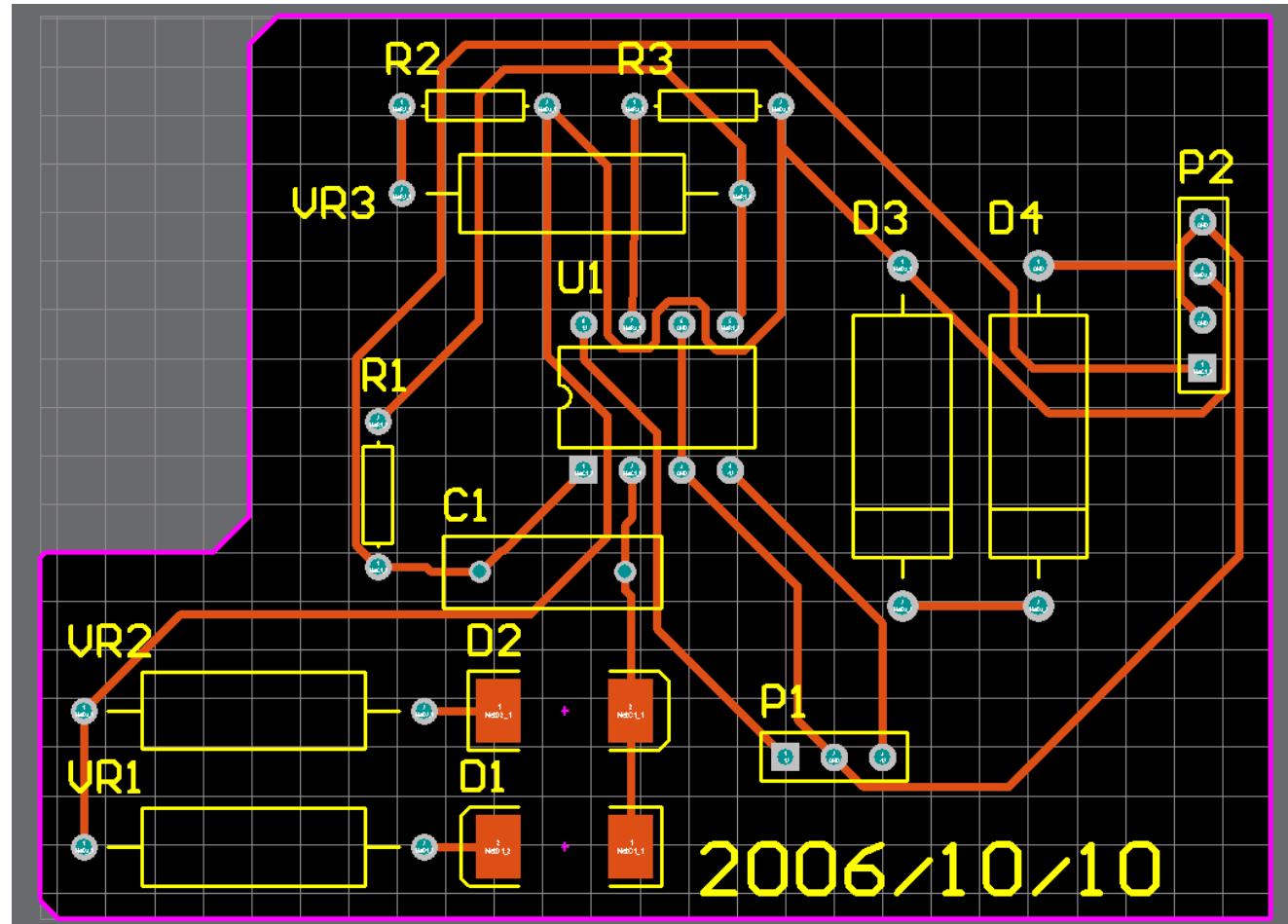
# 操作練習三 電路板設計參考



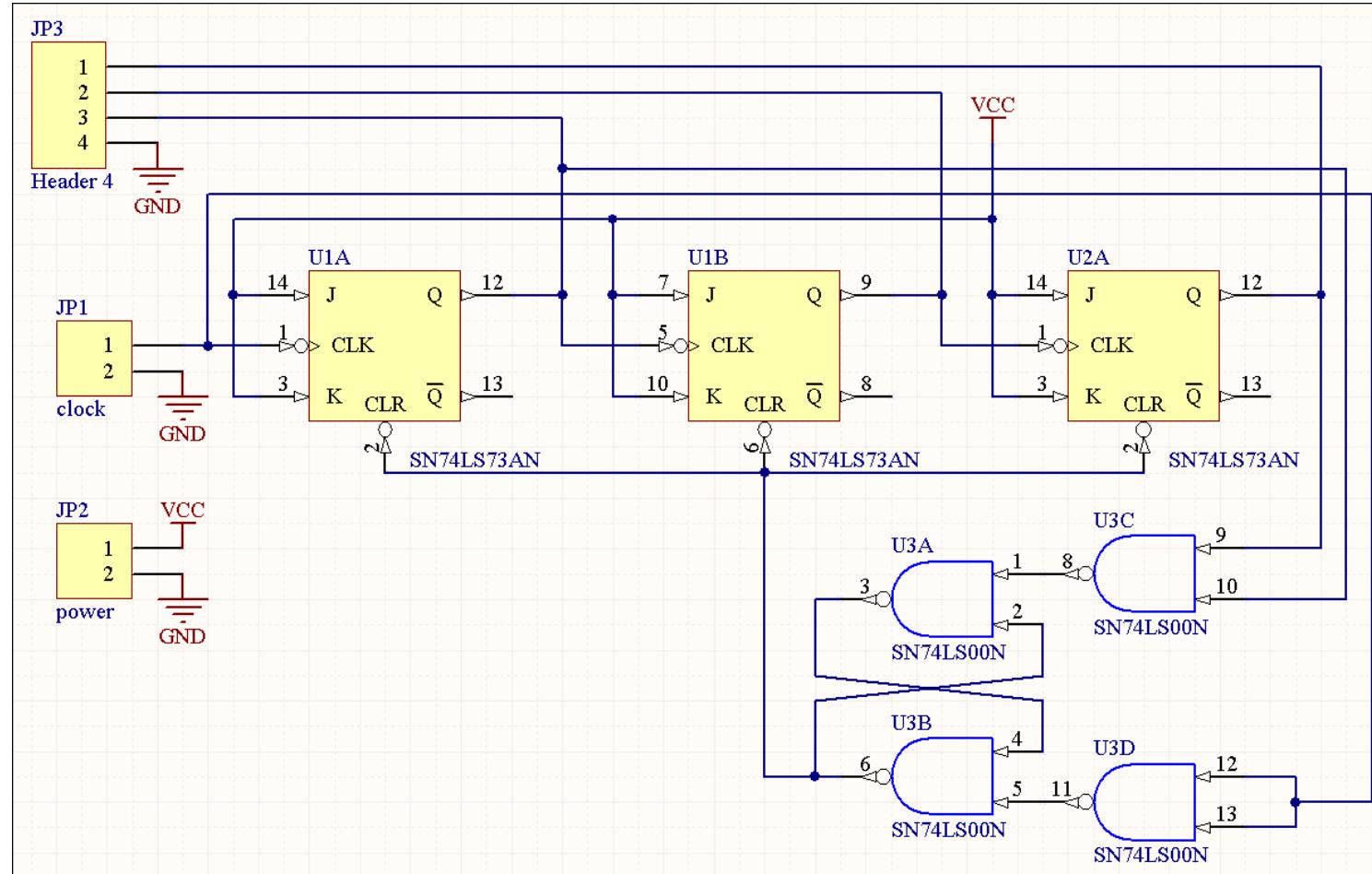
# 操作練習四電路圖



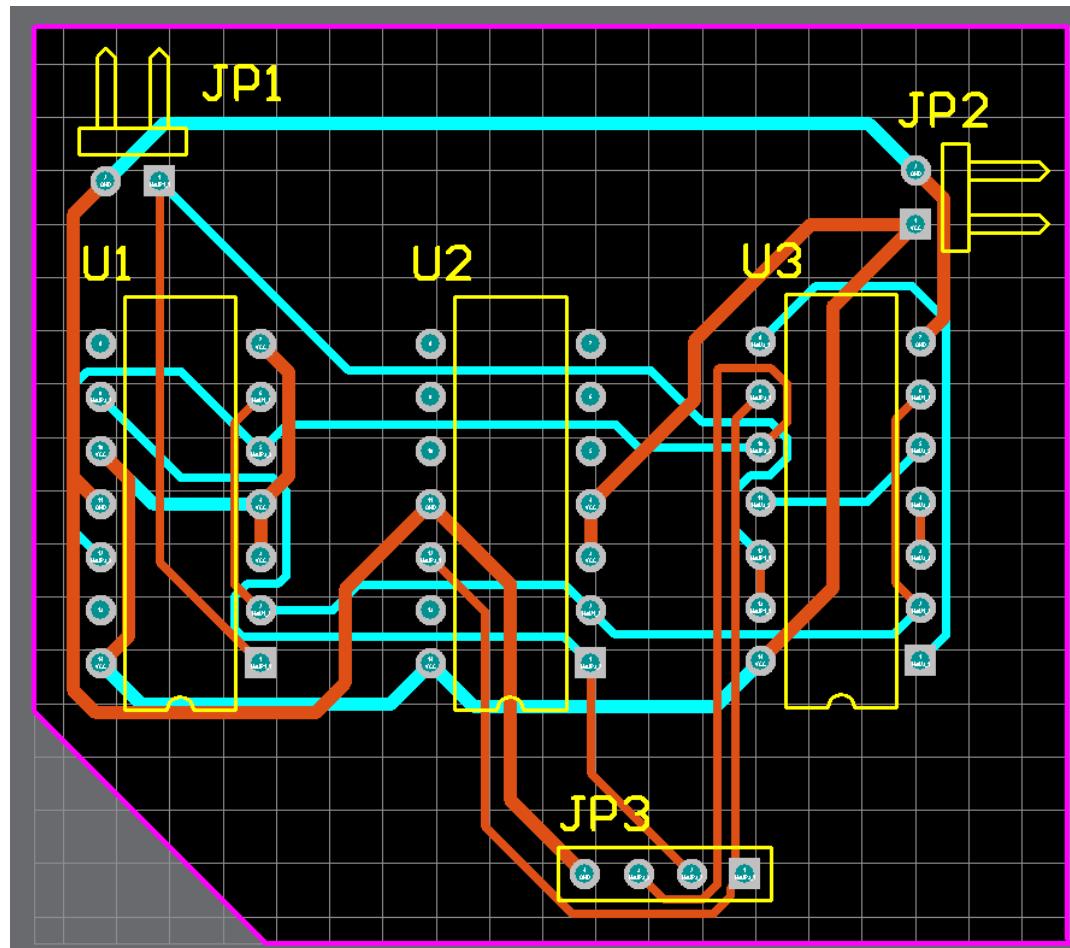
# 操作練習四 電路板設計參考



# 操作練習五電路圖



# 操作練習五 電路板設計參考



# 本章結束

## 再見

