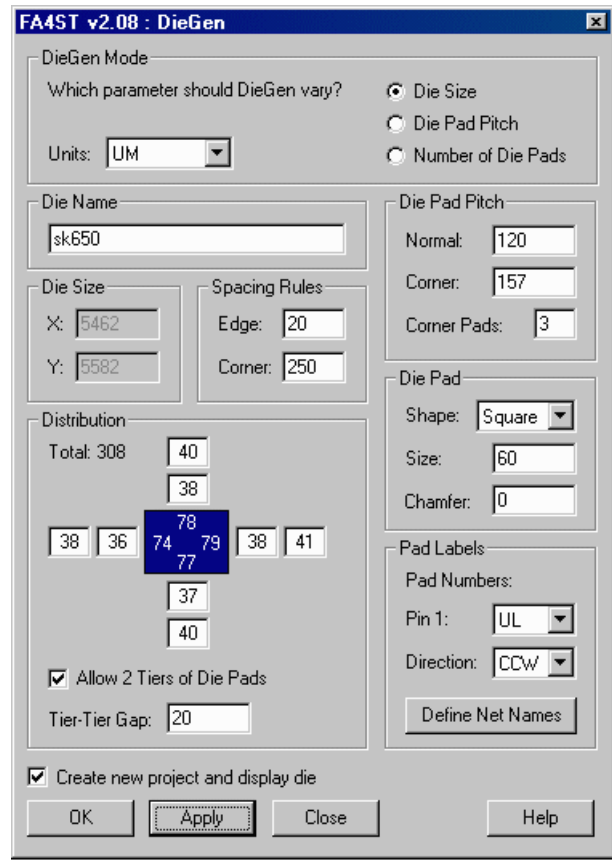
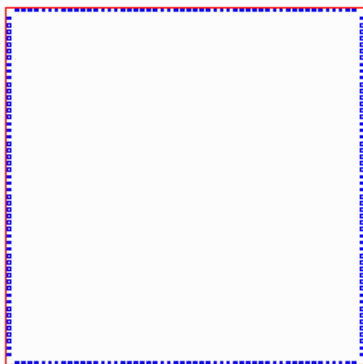


DieGen

Synthesizing a Reference Die

There are many occasions where the package design must begin before the exact die layout details are available. FA4ST's DieGen module can quickly synthesize a die based on you inputs: die pad size, die pad pitch, clearance from the corners and number of die pads per side.

DieGen can build both a single row of die pads and staggered die pads. DieGen takes into account proper die pad layout rules such as increasing the die pad pitch near the corners of the die to reduce the chance of bond wire crossing.



The DieGen Dialog Box

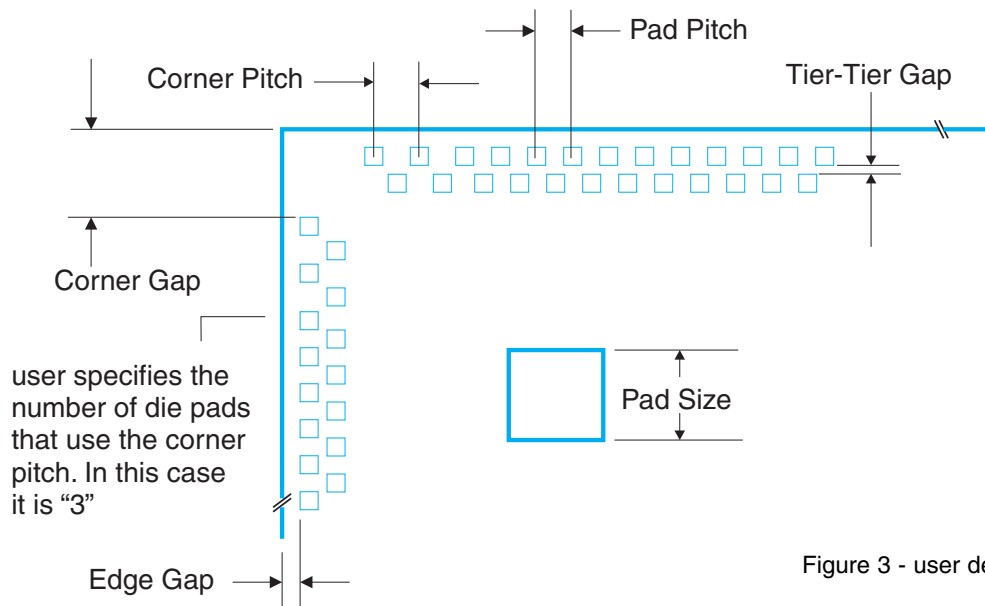


Figure 3 - user defined die parameters.

Assigning and Distributing Power and Ground Nets

If you automatically create a large die for purposes of designing your package you are still faced with the need to assign some portion of the pads as ground and power nets.

You must do this whenever the package will incorporate rings - otherwise you cannot realistically deal with the wirebonds that go to the rings.

To do this manually will take quite a lot of time. DieGen does this for you in seconds.

DieGen allows you to define multiple power and ground nets and assign a percent of the die pads to each net. For example, suppose you know that you have 680 die pads of which 15% should be VSS, 12% should be VCC and 8% should be VCC_INT. You can set this up in DieGen and it will distribute these evenly around the die. You can even specify that they should only go into the outer row of die pads. The remainder of the die pads will be assigned to IO.

Moving, Adding and Deleting Die Pads

If the arrangement of die pads requires some modifications you can easily do this.

The user can move any die pad to a new location. You can delete a die pad or you can copy an existing die pad in order to add more die pads.

You can change a die pad's net name manually using the **PadEdit** utility function. You can re-number the entire set of die pads using the **DPNum** function. You can create an AIF file that reflects all of your changes using the **AIFOut** function.

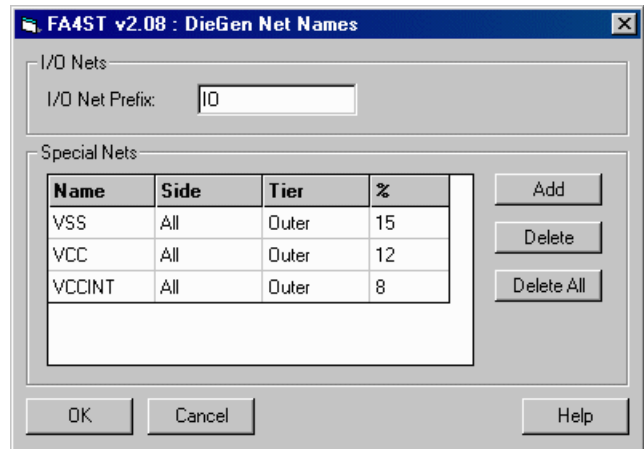


Figure 4 - the DieGen dialog box for assigning power ground and even no connect nets to die pads.

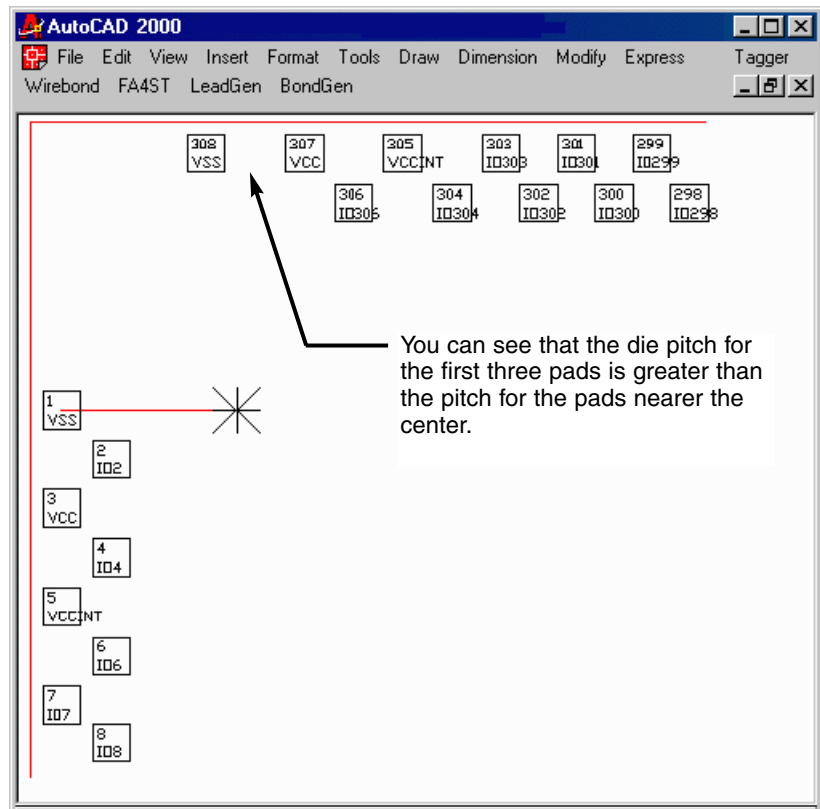


Figure 5 - DieGen has distributed the VCC, VSS and VCCINT pads in the outer row of pads evenly around the device.