Polar Instruments
Speedstack Coupon Generator

Introduction
The Speedstack Coupon Generator product will quickly and simply generate controlled impedance test coupons from existing Speedstack projects.

Recommendations
During the period that you become familiar with the Coupon Generator features we would recommend that you include the generated coupon alongside your existing coupon so that results can be compared during the measurement stage.

Prerequisites
The Coupon Generator will work with Speedstack v3.00 and above. If you are using an earlier version please contact your Polar Representative for upgrade information.

System Requirements

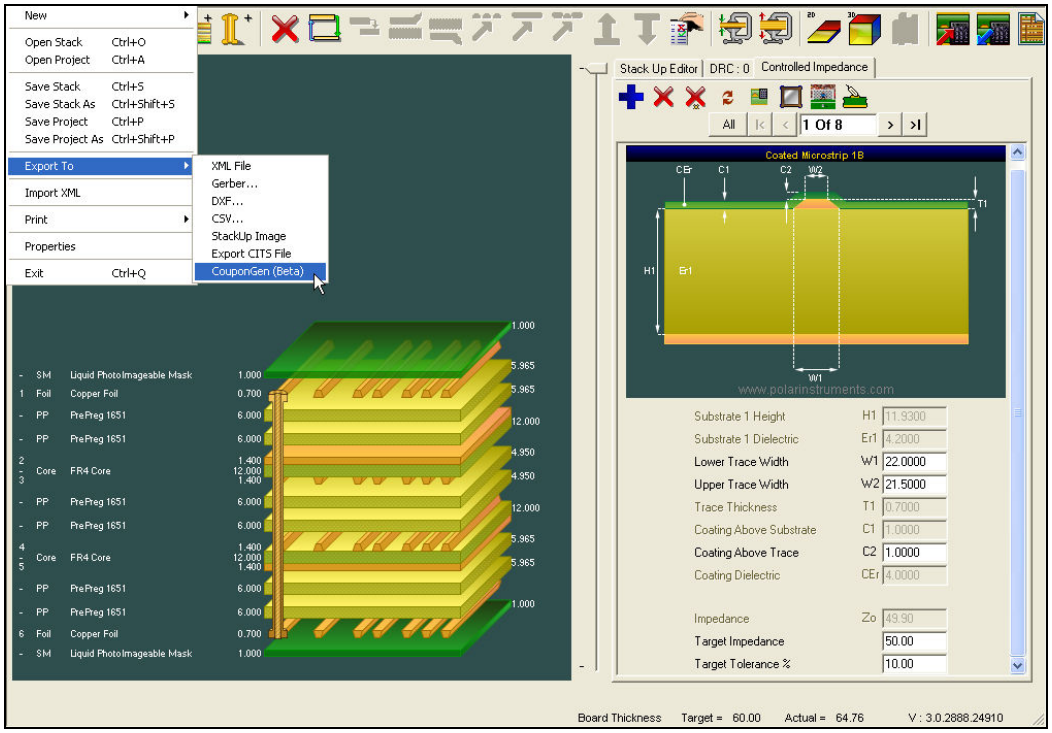
Computer	PC compatible
Processor	1GHz Intel Pentium III or equivalent
Operating system	Windows 2000, Windows XP (preferred) Microsoft .NET 2.0 Framework
System memory	1GB minimum recommended
Hard disk space	50MB
Video	SVGA (1280 x 1024 or higher)
	Mouse recommended

Installation
Run the setup.exe installation found with the downloaded zip file. The Coupon Generator application makes use of the Microsoft .Net Framework v2.00 and if this is not found on your PC it will be installed during Coupon Generator installation.

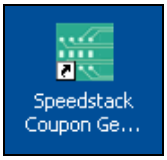
Licensing
The Coupon Generator is protected by a FLEXlm license, and will only run if a valid license can be located. The license feature required within the license file is SPEEDSTACK_CG. Consult your Polar representative for installation/activation directions.

Getting Started

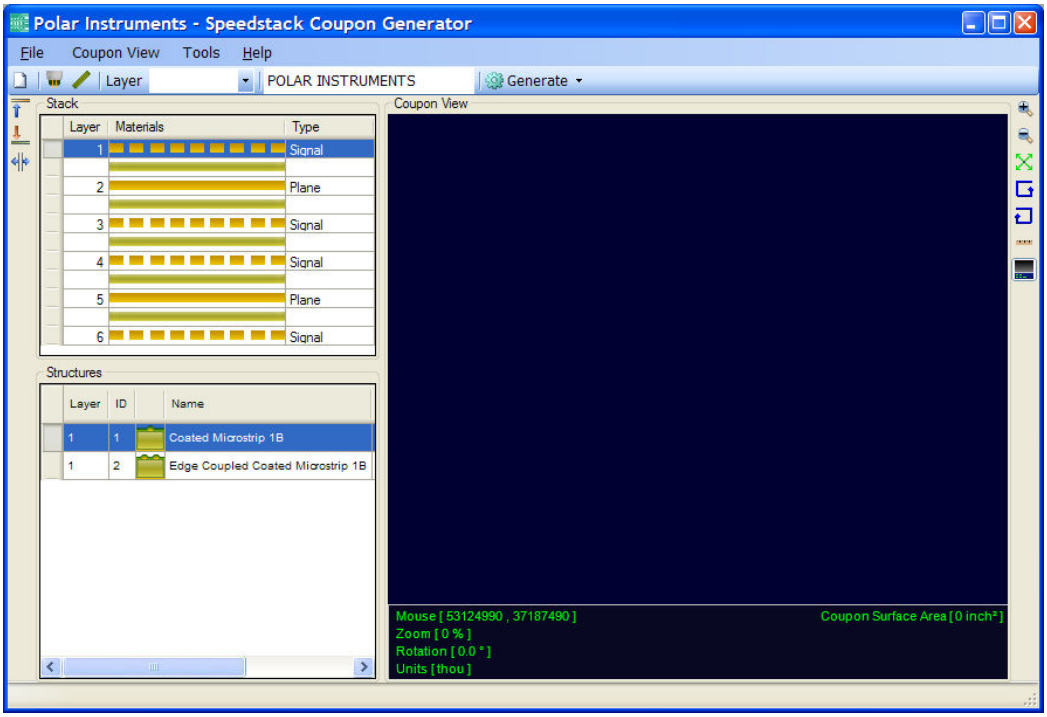
1. Once a project has been completed within Speedstack, regardless of whether it has been produced by the Stack Editor or Autostack, use the File|Export|Coupon Gen command to export the stack up and impedance information



2. Start the Speedstack Coupon Generator



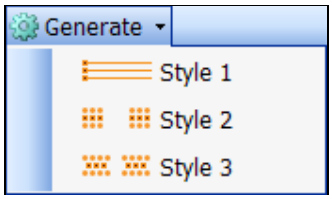
3. From within the Coupon Generator, use the File|Import|Speedstack option to import the Speedstack information. The screen will be updated with the stack up and impedance requirements.

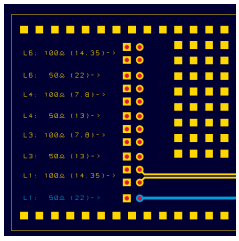


Coupon Properties

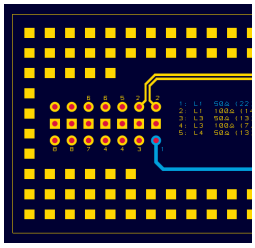
Note: when using Speedstack v3.0 it is essential to match the units of Speedstack with the Coupon Generator prior to using the Import option.Changing the units within the Coupon Generator is achieved by the Coupon Properties option

4. Select one of the three coupon styles from the Generate drop-down menu.

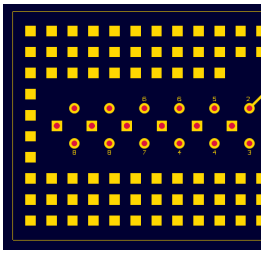




Style 1



Style 2

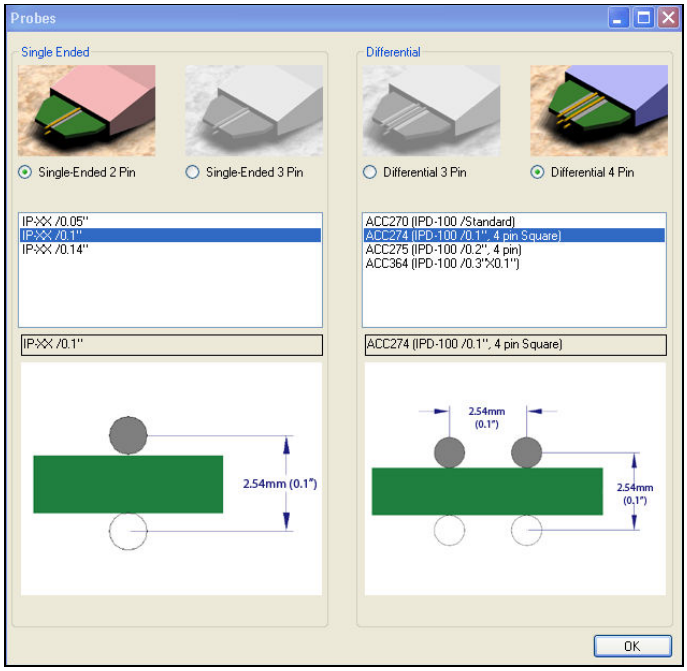


Style 3

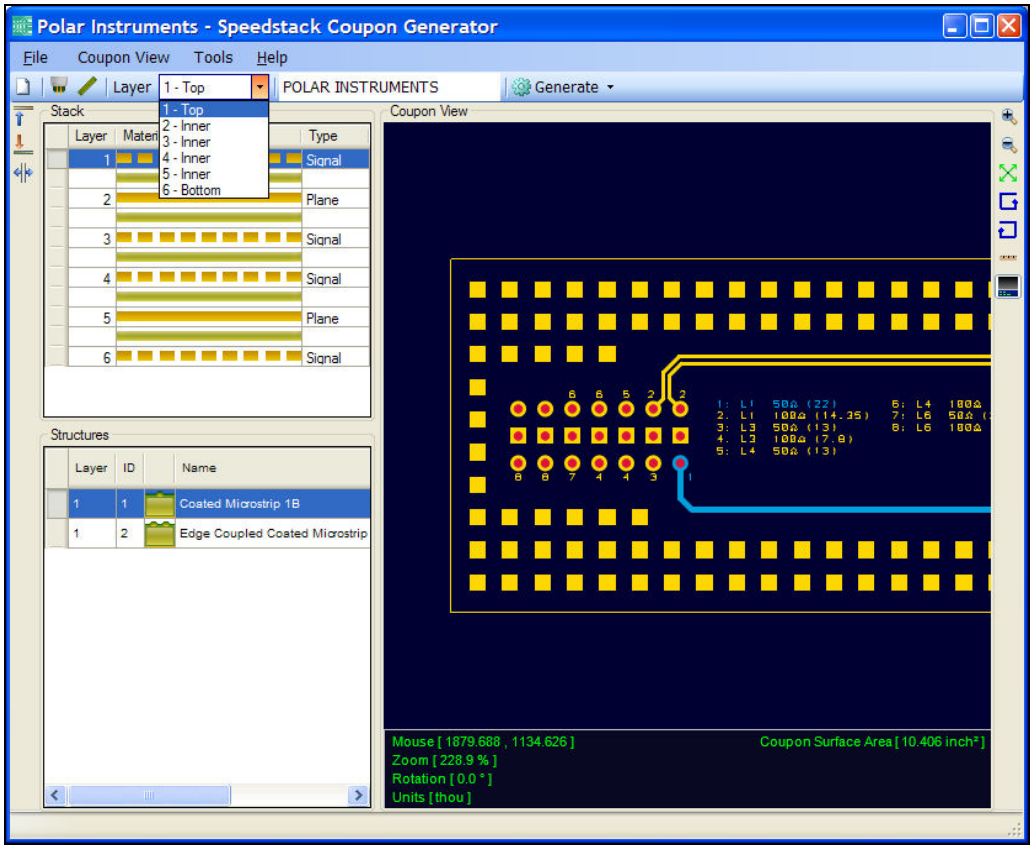
Define Probes

If the probe selections are unsuitable for the coupon style the Coupon Generator displays a warning. If necessary, change the probe allocation from within the Define Probes dialog.

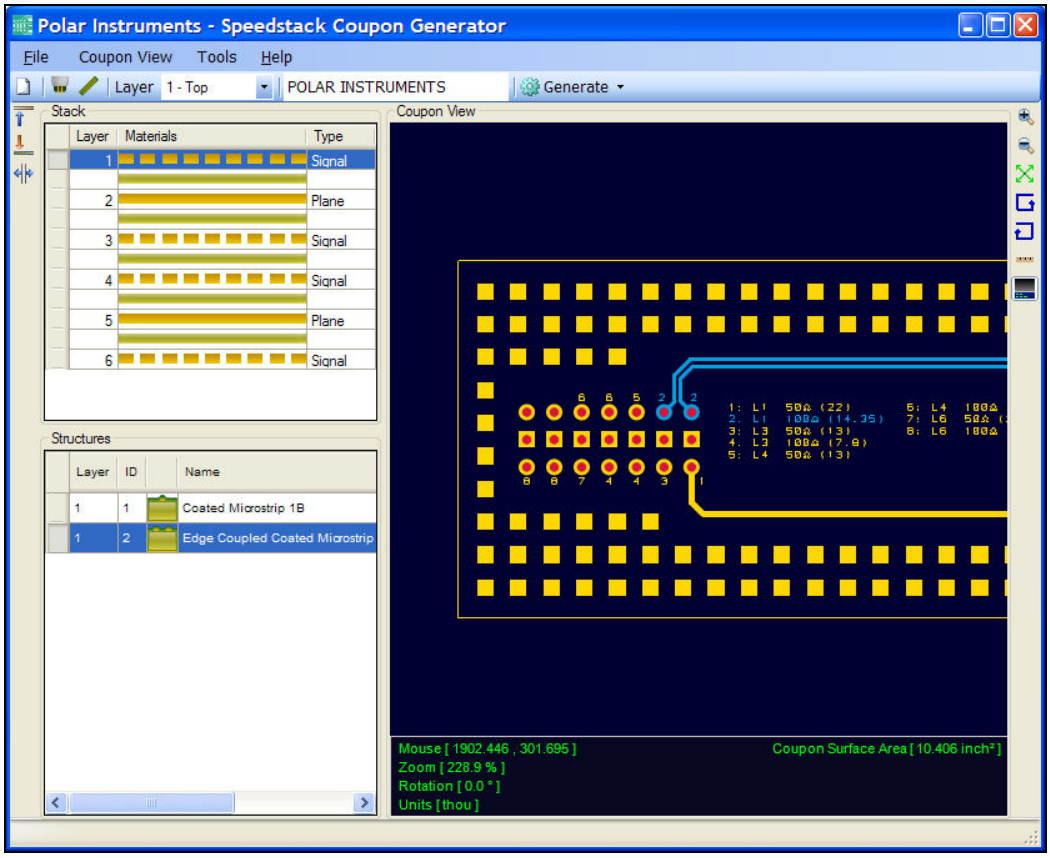
Use the Define Probes dialog to select from single-ended and differential probes



5. Once the coupon has been successfully generated it is possible to review each coupon electrical layer. This is achieved by selecting the appropriate layer within the Stack data.

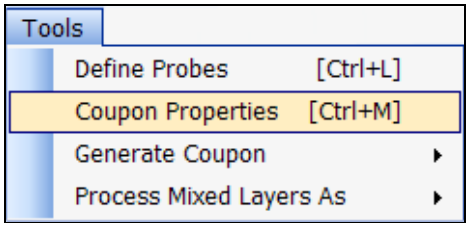


6. Impedance structure data may be highlighted by selecting the appropriate structure from the Structures pane

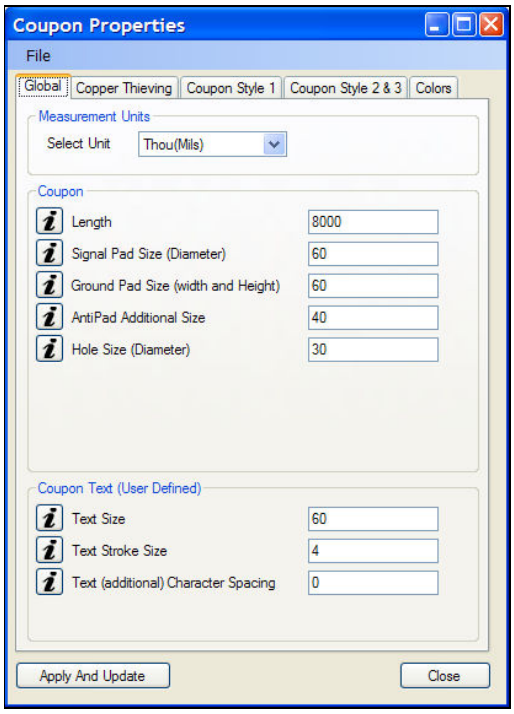


7. The Coupon Generator provides extensive pan and zoom facilities so that the coupon layers may be closely reviewed. See User Interface Guidelines section at the end of this document.

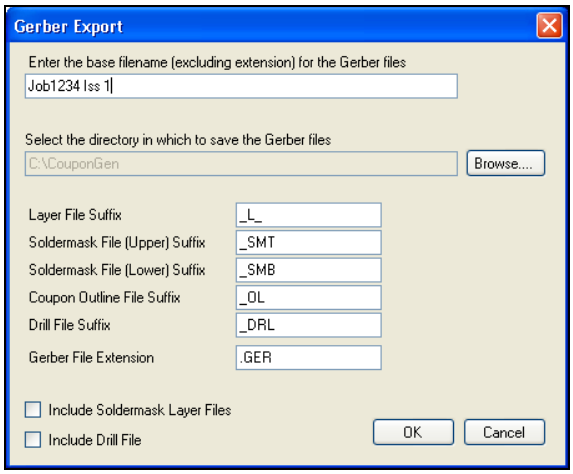
8. Coupon Properties can be used to change the appearance of the generated coupon, for instance the coupon text data and text size.



9. Within the Coupon Properties dialog use the Apply and Update option to view the changes as each parameter is altered. Coupon configurations may be stored and reloaded at a future time.



10. The Coupon Generator provides for exporting the finisheded coupon as a complete set of Gerber and NC Drill data files. These files may be imported into a CAM system for inclusion on the manufacturing panel.



Special Notes

Mixed layers: When importing stacks that contain mixed signal / ground layers you will be prompted to choose how these layers will be processed by the Coupon Generator. It may be necessary to produce more than one coupon to support the various uses of a mixed layer. This option may need to be used in conjunction with the Remove Structure facility. If you wish to switch the way a Mixed layer in handled during a session use the Tools|Process Mixed Layer As option. It is important to check the impedance structure reference layers within the coupon when processing mixed layers.

Coplanar structures: When using coplanar structures on stack ups that do not include reference plane layers please check the interconnection of the ground strips.

Broadside Coupled Structures: Speedstack v3.00 does not current export all the information required for broadside-coupled structures. This has been resolved with Speedstack v3.2.

User Interface Guidelines

1) To drag / pan the coupon view: hold left-mouse button and move mouse

2) To zoom in/out from the cursor point – scroll mouse wheel

3) To zoom in/out from the centre of the view – use + / – keys

4) Zoom extents – Home key

5) Rotate view – Page up / Page Down

6) Ruler Tool
   a. Left mouse button – Place Point 1
   b. Right mouse button – Place Point 2
      i. Can zoom out and into area to place Point 2 (if originally out of view)
      ii. Can reposition both points after they have been placed using respective buttons.
      iii. Esc Key – clears both points.
      iv. Shift-Key constrains mouse (relative to Point 1 in 45/90 degree angles)

7) Click on a structure in the structure list to highlight structure in Coupon View

8) Coupon Properties dialog settings can be reset via the File menu at the top of the dialog.

9) To remove a structure from the list, select and right-click on it to bring up the remove option. (Regenerate after removing any structures)

10) If changing units, sometimes the coupon will be out of view. Either click on Zoom Extents button or hit the Home key.

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