

**GLOSSARY of Printed Circuit Design and Manufacturing**

No.	GLOSSARY	Meanings
1	GC-Prevue	A CAM file viewer and printer made by Graphiccode . The freeware version can store Gerber and NC Drill files within a file (.GWK extension), which makes it extremely useful for sharing electronic data: Because it is free, anyone can download and use it for importing Gerber files in a logical sequence, displaying them in perfect register , annotating (adding labels to the filenames to describe their use and position in the stackup) and viewing them, saving all that and then passing the resulting .GWK file on to another for examination. Besides merely looking at the files or printing them, GC-Prevue has features for measuring objects' size and relative distance from each other. To my (John Childers') knowledge, GC-Prevue is the only free Gerber viewer that sets-up and saves Gerber data in a single file. Other free Gerber viewers require one to set up the Gerber files each time and won't allow saving the set-ups unless one buys an upgrade. (From the viewpoint of a printed circuit designer serving engineers or customers, this inability to save set-ups makes the competing free Gerber viewers completely useless for sharing Gerber data.)
2	Gerber file	ASCII data file used to control a photoplotter . Named after H. Joseph Gerber, founder of Gerber Scientific Co., who invented the original vector photoplotter
3	glob top	A blob of non-conductive plastic, often black in color, which protects the chip and wire bonds on a packaged IC and also on a chip on board . This specialized plastic has a low coefficient of thermal expansion so that ambient temperature changes will not rip loose the wire bonds it is designed to protect. In high-volume chip on board production, these are deposited by automated machinery and are round. In prototype work, they are deposited by hand and can be custom-shaped; however, in designing for manufacturability, one assumes a prototype product will "take- off" and ultimately have high market demand, and so lays out chip on board to accommodate a round glob top with adequate tolerance for machine-driven "slop-over".
4	hard copy	A printed or plotted form of an electronic document (computer data file).
5	header	The portion of a connector assembly which is mounted on a printed circuit.
6	hole	In a semiconductor, the term used to describe the absence of an electron; has the same electrical properties as an electron except that it carries a positive charge
7	HPGL	Hewlett-Packard Graphics Language, a text-based data structure of pen-plot files which are used to drive Hewlett-Packard pen plotters. Although Hewlett-Packard no longer makes pen plotters, the large-format dot matrix printers which replaced them can also be driven by HPGL.
8	hybrid	Hybrid circuit. Any circuit made by using a combination of the following component manufacturing technologies: monolithic IC , thin film , thick film and discrete component.
9	IC	Integrated Circuit .
10	integrated circuit	1)miniaturized electronic circuit that has been manufactured as a chip ( die ). 2)A packaged chip
11	IPC	The Institute for Interconnecting and Packaging Electronic Circuits, the final American authority on how to design and manufacture printed wiring. In 1999, IPC changed its name from Institute of Interconnecting and Packaging Electronic Circuits to IPC. The new name is accompanied with an identity statement, Association Connecting Electronics Industries
12	laser photoplotter	(also "laser plotter") A photoplotter which simulates a vector photoplotter by using software to create a raster image of the individual objects in a CAD file, then plotting the image as a series of lines of dots at very fine resolution. A laser photoplotter is capable of more accurate and consistent plots than a vector photoplotter.
13	lead	(pronounced "leed") —A terminal on a component.



**Shenzhen hopetime industry Co.,Limited**

**Email:sales@hopetimepcb.com Website:www.hopetimepcb.com**

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14	liquid photoimageable solder mask (LPI)	A mask sprayed on using photographic imaging techniques to control deposition. It is the most accurate method of mask application and results in a thinner mask than dry film solder mask. It is often preferred for dense SMT.
15	LPI	stands for Liquid PhotoImageable. Refers to liquid photoimageable solder mask.