GLOSSARY of Printed Circuit Design and Manufacturing

No.	GLOSSARY	Meanings
1	package	1) Decal or printed wiring board component. 2) A type of PCB component which contains a chip and acts to make a convenient mechanism for protecting the chip while on the shelf and after attachment to a PCB. With its leads soldered to a printed circuit board, a package serves as the electrical conduction interface between the chip and the board. An example is a DIP .
2	panel	material (most commonly an glass/epoxy-copper laminate known as core) sized for fabrication of printed circuit boards. Panels come in many, many sizes, the most common being 12" by 18" and 18" by 24". Subtract 1/2" to 1" margins (check with your board house) from the panel size to arrive at the space available for printed circuitry
3	panelize	1. To lay up more than one (usually identical)printed circuits on a pans. Individual printed circuits on a panel need a margin between them of 0.3". Some board houses permit less separation. 2. Lay up multiple printed circuits (called modules) into a sub-panel so that the sub-panel can be assembled as a unit. The modules can then be separated after assembly into discrete printed circuits.
4	part	1. Component. 2. A decal in a PWB file or drawing. 3. A symbol in a schematic.
5	Passive component	A device which does not add energy to the signal it passes. Examples: resistor, capacitor, inductor. (Contrast with active component)
6	PC board	Printed Circuit board
7	PCB	Printed Circuit Board
8	PCB database	All of the data fundamental to a PCB design , stored as one or more files on a computer.
9	PCB design	1. The creation of artwork for the manufacture of bare PCBs . 2. The artwork so created. 3. A computer file (for example, an Altium Designer file with the extension .PcbDoc) from which artwork can be generated as data files (CAM files). Also called PCB layout.
10	PCB designer	One who creates the artwork for printed circuit boards. For you recruiters out there who are asked to find one, and for anyone else interested, here is a plain English description for a Printed Circuit Board Designer . Hint: It is not the same as an electrical engineer.
11	PCB design service bureau	A business engaged in PCB design as a service for others, especially electrical engineers. The word bureau is French for desk, or office, and this service is indeed performed from an office while sitting at a desk. Also called PCB design shop
12	PCB layout	PCB design .
13	PCMCIA	Personal Computer Memory Card International Association
14	photoplotter	Device used to generate artwork photographically by plotting objects (as opposed to copying an entire image at once as with a camera) onto film for use in manufacturing printed wiring
15	pin	1. A terminal on a through-hole component. [Derived from its physical shape on through-hole components, which predated SMT.] Also called lead. 2. In the term "pin count," pin refers to a terminal on any component, whether through-hole or SMT

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16	pin-out	Pin-number assignment, the relation between the logical inputs and outputs of an electronic device and their physical counterparts in the PCB package . pin-outs will involve pin numbers as a link between schematic and PCB design (both being computer generated files). In more complicated packages, they may also involve pin names. Even for devices with only two pins and no polarity, such as resistors, the netlist extracted from a schematic will have a pin 1 and pin 2 for each resistor, even though the schematic might not show a pin number label as such. (The visibility in the schematic of the pin numbers can be turned on or off at will, but the significance of the pin number assignment is still there in the schematic and subsequently, through the netlist extracted from it, the PCB database.) For CAD CAE electronics to work at all, the pin-outs for the PCB database must agree with the schematic.
17	PI	Polyimide. (Also Pi)
18	plasma	A highly-ionized gas containing an approximately equal number of positive ions and negative electrons. Thus, as a whole it is electrically neutral, though conductive and affected by magnetic fields.
19	plated-through hole	A hole in a PWB with metal plating added after it is drilled. Its purpose it to serve either as a contact point for a through-hole component or as a via. In PCB vernacular and documentation, the spelling of the word through is sometimes shortened to thru .
20	Plastic Leaded Chip Carrier	An SMT chip package that is rectangular or square- shaped with leads on all four sides. The leads are spaced at 0.050 inches, so this package is not considered fine-pitch.
21	populate	Install (place, attach and solder) components onto (a printed wiring board). (Slang) Also known as " stuff ." This can refer to a single component, as in the acronym used in schematics "DNP", which means "Do Not Populate"
22	Pos	An abbreviation for Position used by GC-Prevue
23	position	A type of index for an aperture in an aperture list which is a number from 1 to the number of apertures in the aperture list. Position 1 is linked to D code D10, 2 is D11 and so on. Positions appear only in aperture lists, and never in a Gerber file . Cadstar aperture lists use the column heading Position to mean D code. Abbreviated "Pos" in GC-Prevue
24	positive	noun A developed image of photoplotted film, where the areas selectively exposed by the photo plotter appear black, and unexposed areas are clear. Board houses work from positives, and a photo plotter produces positives, thus one set of positives is all the film that is needed to produce a printed wiring board . modifier (of a printed wiring image) Representing copper as black areas and absence of copper as clear areas. Typical of images of routed layers of a PWB.
25	PQFP	Plastic Quad Flat Pack. See QFP .
26	primitive	(Found in CAD software programs and documentation) 1. Some CAD software documentation (especially Altium Designer) extends this term to mean any object in a CAD database--graphics, text or otherwise; so this could be a group of graphic objects if manipulated as a unit, eg. a PCB decal . It may also mean an indivisible graphic object, i.e. a graphical object which may have component parts, but which can not have those parts separated out as individual entities. It can also refere to a parameter or text string.Examples of this in PCB CAD: wire segment, route, pad or padstack, text string. 2. Any geometric shape such as a circle, polygon or square. 3. A function, operator, or type which is built into a programming language (or operating system), either for speed of execution or because it would be impossible to write it in the language. Primitives typically include the arithmetic and logical operations (plus, minus, and, or, etc.) and are implemented by a small number of machine language instructions.