

PCB DESIGN SOLUTIONS COMPARISON GRID

OrCAD, ALLEGRO L, ALLEGRO XL, ALLEGRO GXL SERIES (SPB 16.0)

PCB EDITOR FEATURE SUMMARY	OrCAD PCB DESIGNER/BASICS	ALLEGRO PCB DESIGN L	ALLEGRO PCB DESIGN XL	ALLEGRO PCB DESIGN GXL
Limited database (layers, components, connections)	Basics	n/a	n/a	n/a
Unlimited database	Designer	•	•	•
Netlist/crossplace/crossprobe	•	•	•	•
Padstack and symbol editor	•	•	•	•
Customizable/automated drill legend/NC output	•	•	•	•
Multiple via sizes, blind/buried via support	•	•	•	•
Autoplacement/Quickplace/Floorplanner	•	•	•	•
Dynamic shapes with real-time plowing and healing	•	•	•	•
2-D drafting and dimensioning	•	•	•	•
Gerber 274X, 274D artwork output generation	•	•	•	•
Multiple UNDO/REDO	•	•	•	•
Valor ODB++, ODB++(X) and universal viewer	•	•	•	•
HTML-based reports	•	•	•	•
Exposed copper DRC	•	•	•	•
Interactive routing/etch editing	•	•	•	•
Automatic silkscreen generation	•	•	•	•
Split plane support	•	•	•	•
SKILL runtime, macro, and script support	•	•	•	•
Variant Editor (Design Entry HDL)	n/a	•	•	•
Variant assembly drawing creation	•	•	•	•
Variant bill-of-materials generation	•	•	•	•
IFF import	•	•	•	•
CAD interfaces – DXF (Ver.14), IDF (Ver. 2 and 3)	•	•	•	•
PCB interfaces – PADS (Ver.5), P-CAD (Ver.8), OrCAD Layout	•	•	•	•
Constraint manager (physical, spacing, properties, and DRC)	•	•	•	•
Manual testprep	•	•	•	•
Length, parallelism, and differential pairs rule support		PCB Performance Option	•	•
Pin-pair multi/matched nested group support		PCB Performance Option	•	•
Real-time DRC and routing of differential pairs and length rules		PCB Performance Option	•	•
Interactive delay tuning		PCB Performance Option	•	•
Complex physical design rule checking (no electrical)		PCB Performance Option	•	•
Group routing		PCB Performance Option	•	•
Measure parasitic		PCB Performance Option	•	•
Advanced trace glossing		PCB Performance Option	•	•
Database-driven design reuse modules		PCB Performance Option	•	•
Technology files		PCB Performance Option	•	•
Design-for-assembly rule checking		PCB Performance Option	•	•

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Automatic testprep		PCB Performance Option	•	•
Constraint manager (physical, spacing, electrical (routing), properties and DRC)		PCB Performance Option	•	•
Allegro PCB Router high-speed routing alignment (6U)		PCB Performance Option	•	•
Real-time DRC of delay and crosstalk rules		PCB Performance Option	•	•
Constraint regions and technology file support		PCB Performance Option	•	•
Automatic line width adjustment for impedance rules		PCB Performance Option	•	•
eXtended net support (x-nets)		PCB Performance Option	•	•
Layer set rules and routing support		PCB Performance Option	•	•
Via array/shielding		PCB Performance Option	•	•
SKILL development		PCB Performance Option	•	•
Delay, crosstalk, and impedance routing support			•	•
Constraint manager (physical, spacing, electrical (all), properties and DRC)			•	•
Z-axis delay support			•	•
Extended timing path support			•	•
Group routing (space control)			•	•
Dynamic phase control for differential pairs			•	•
Dynamic design-for-assembly analysis (real-time feedback)			•	•
Display and spread segments over voids			•	•
Back-drilling support			•	•
Hierarchical flow planning				•
Interconnect data abstraction				•
Global route engine				•
PCB design partitioning technology		PCB Partitioning Option*	PCB Partitioning Option	PCB Partitioning Option
Bi-directional IFF interface			PCB RF Option	PCB RF Option
RF geometry and circuit creation/editing			PCB RF Option	PCB RF Option

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PCB ROUTER FEATURE SUMMARY	OrCAD PCB DESIGNER/BASICS***	ALLEGRO PCB DESIGN L	ALLEGRO PCB DESIGN XL	ALLEGRO PCB DESIGN GXL
6 signal layer limit	•	•	n/a	n/a
256 signal layer limit	n/a	Router Auto/Interactive Option	•	•
Shape-based or gridded autorouting	•	•	•	•
SMD fanout	•	•	•	•
Trace width by net and net classes	•	•	•	•

*PCB Performance Option required

*** No PCB Router technology is included in the OrCAD PCB Designer Basics suite

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Staggered pin support	•	•	•	•
45-degree ECO routing	•	•	•	•
Memory pattern routing (SMD or through-hole)	•	•	•	•
Interactive via search	•	•	•	•
Interactive routing with shoving and plowing	•	•	•	•
Interactive floorplanning	•	•	•	•
Autoplacement	n/a	n/a	•	•
Online design rule checking	•	•	•	•
Flip, rotate, align, push, and move components	•	•	•	•
Placement density analysis	•	•	•	•
Router support for PCB design partitioning files	n/a	•	•	•
Allegro PCB Router ADV 6U or 256U		Router Performance Option**	•	•
Layer set rules and routing support		Router Performance Option**	•	•
Signals on specific layers		Router Performance Option**	•	•
Width and clearance rules by layer		Router Performance Option**	•	•
Via rules by net and/or net class		Router Performance Option**	•	•
Net and/or net class rules by layer		Router Performance Option**	•	•
Crosstalk violation report		Router Performance Option**	•	•
Trace length violation report		Router Performance Option**	•	•
Blind and buried via support		Router Performance Option**	•	•
Via under SMD pad checking		Router Performance Option**	•	•
Automatic wire bonding		Router Performance Option**	•	•
Plural vias		Router Performance Option**	•	•
Stacked vias		Router Performance Option**	•	•
Enhanced via fanout		Router Performance Option**	•	•
Allegro PCB Router DFM 6U or 256U		Router Performance Option**	•	•
Automatic trace spreading		Router Performance Option**	•	•
Automatic via reduction		Router Performance Option**	•	•
Automatic miter 90 to 45		Router Performance Option**	•	•
Automatic test point generation		Router Performance Option**	•	•
Test point specific clearance rules		Router Performance Option**	•	•

*PCB Performance Option required

** Router Auto/Interactive Required

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Allegro PCB Router HP 6U or 256U		PCB Performance Option	•	•
Minimum, maximum, and matched length rules		PCB Performance Option	•	•
Crosstalk controls on same and adjacent layers		PCB Performance Option	•	•
Virtual pins, which can be moved during autorouting		PCB Performance Option	•	•
Parallelism controlled by length and gap		PCB Performance Option	•	•
Differential pair routing		PCB Performance Option	•	•
Automatic net shielding		PCB Performance Option	•	•
Design rules by area		PCB Performance Option	•	•
Online display of length tolerance		PCB Performance Option	•	•
Global violation indicator		PCB Performance Option	•	•
Dynamic display of available length		PCB Performance Option	•	•
Automatic single net routing		PCB Performance Option	•	•
Multiple net/bus routing		PCB Performance Option	•	•
Relative delay rules		PCB Performance Option	•	•
Z-Axis delay support (PCB Editor integration)		PCB Performance Option	•	•
Extended timing path support (PCB Editor integration)		PCB Performance Option	•	•
Pin-pair multi/matched nested group support (PCB Editor integration)		PCB Performance Option	•	•

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FRONT-END OPTIONS SUMMARY	OrCAD PCB DESIGNER/BASICS	ALLEGRO PCB DESIGN L	ALLEGRO PCB DESIGN XL	ALLEGRO PCB DESIGN GXL
Allegro Design Entry HDL-or-Allegro Design Entry CIS	OrCAD Capture	•	•	•
Constraint Manager (Allegro Design Entry HDL only)	n/a	n/a	•	•
Part Developer/Component Management	CIS Option	•	•	•
Allegro Design Entry HDL Rules Checker	n/a	n/a	•	•

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