CADSTAR Routing Matrix

CADSTAR Place and Route Editor is available in several bundles to offer a scalable solution for your design needs. The matrix below describes the features associated with each CADSTAR Place and Route Editor bundle:

Category	Feature	XR2000 L4/L6	XR2000 S	XR2000 HS	XR5000 HS
Placement	Align components during move	✓	✓	✓	✓
Placement	Move tracks with component and reroute after move	✓	✓	✓	✓
Placement	Move, rotate, swap component with online DRC, push-aside and springback	✓	✓	✓	✓
Routing	Acid trap removal	✓	✓	✓	✓
Routing	Activ-45 'one click' routing	✓	✓	✓	✓
Routing	Angled autorouting (45-degree or free angle)	✓	✓	✓	✓
Routing	Auto-save best results when autorouting	✓	✓	✓	✓
Routing	Bus routing (track following)	✓	✓	✓	✓
Routing	Change via on-the-fly during interactive route	✓	✓	✓	✓
Routing	Comprehensive design rule checks (grid, placement, routing, manufacturing)	✓	✓	✓	✓
Routing	Copper pour and edit with automatic repour	✓	✓	✓	✓
Routing	Copy / paste and move multiple selection (component, route, via, etc.)	✓	✓	✓	✓
Routing	Equispace orthogonal tracks between obstacles	✓	✓	✓	✓
Routing	Fanout with smart BGA pad avoidance	✓	✓	✓	✓
Routing	Freehand route and tidy ('sketch' mode)	✓	✓	✓	✓
Routing	Grid controls (route, via, testpoint)	✓	✓	✓	✓
Routing	Interactive track lengthening (accordion)	✓	✓	✓	✓
Routing	Layer bias control (X, Y, unbiased, anti-track)	✓	✓	✓	✓
Routing	Layer routing (assign net to specific layer)	✓	✓	✓	✓
Routing	Measure separation	✓	✓	✓	✓
Routing	Memory pattern autorouter	✓	✓	✓	✓
Routing	Miter tool (45-degree or arced corners)	✓	✓	✓	✓
Routing	Online DRC for routing	✓	✓	✓	✓
Routing	Optimal spacing (enhanced track, pad and via spacing rules)	✓	✓	✓	✓
Routing	Print current view	✓	✓	✓	✓

Category	Feature	XR2000 L4/L6	XR2000 S	XR2000 HS	XR5000 HS
Routing	Push-aside and springback routes	✓	✓	✓	✓
Routing	Refine routing (rip-up and retry) to reduce track length and number of vias	✓	✓	✓	✓
Routing	Remote selection to/from schematics and PCB layout	✓	✓	✓	✓
Routing	Reports (nets, testpoints, variants, assignments, attributes, board status, etc.)	✓	✓	✓	✓
Routing	River router (free angle, shortest path)	✓	✓	✓	✓
Routing	Routability analysis for prerouting assessment	✓	✓	✓	✓
Routing	Route with / without errors and design rule check (clearance display factor)	✓	✓	✓	✓
Routing	Routing wizard	✓	✓	✓	✓
Routing	Straight or curved routes	✓	✓	✓	✓
Routing	Switch end when routing	✓	✓	✓	✓
Routing	Teardrop tools	✓	✓	✓	✓
Routing	Testpoints (allocate pads/vias or generate testpoint items)	✓	✓	✓	✓
Routing	Tidy route	✓	✓	✓	✓
Routing	Track length report (dynamic or on click)	✓	✓	✓	✓
Routing	Trunk routing (pairs, busses, etc.)	✓	✓	✓	✓
Routing	Unmiter tool - simplifies rework for faster design changes	✓	✓	✓	✓
Routing	Unroute errors tool	✓	✓	✓	✓
Routing	Variant support	✓	✓	✓	✓
System	Automatic security backup	✓	✓	✓	✓
System	Autorouting layer limit	4/6 Layers	Unlimited	Unlimited	Unlimited
System	Key remapping for customization of the GUI	✓	✓	✓	✓
System	Lowlight non-selected items	✓	✓	✓	✓
System	Mirror view	✓	✓	✓	✓
System	Scripting interface for customization of the P.R.Editor application	✓	✓	✓	✓
System	Window manipulation with strokes	✓	✓	✓	✓
Analysis	IBIS model support		✓	✓	✓
Analysis	Simulation library manager		✓	✓	✓
Constraint	Auto-generate pin pairs		✓	✓	✓
Constraint	Busses in tree view with bus-level constraints		✓	✓	✓
Constraint	Color-coded results measured against constraints		✓	✓	✓
Constraint	Constraint manager (spreadsheet data entry)		✓	✓	✓
Constraint	Create, edit and apply high-speed topologies		✓	✓	✓

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Constraint	Define differential pairs with constraints		✓	✓	✓
Constraint	Graphical topology viewer		✓	✓	✓
Constraint	Library reload (device and simulation models)		✓	✓	✓
Constraint	Net classes in tree view		✓	✓	✓
Constraint	Set nominated driver / receiver		✓	✓	✓
High-speed	Allocate / create device models (pin types)		✓	✓	✓
High-speed	Characteristic impedance calculator		✓	✓	✓
High-speed	Differential pair routing		✓	✓	✓
High-speed	Differential pair routing - match skew and lengthening		✓	✓	✓
High-speed	Routing information display for interactive routing (length)		✓	✓	✓
High-speed	High-speed reports (length, skew, differential pairs, max vias, etc.)		✓	✓	✓
High-speed	Interactive track lengthening to constraints		✓	✓	✓
High-speed	Length checks (pin-based including pin length groups)		✓	✓	✓
High-speed	Lengthen during autorouting		✓	✓	✓
High-speed	Lengthening wizard (size, style, mode, spacing, etc.)		✓	✓	✓
High-speed	Locate differential pairs		✓	✓	✓
High-speed	Manual route to length constraint		✓	✓	✓
High-speed	Ordered/controlled net topology		✓	✓	✓
High-speed	Routing constraint indicators		✓	✓	✓
High-speed	Shield route (adjacent reference lines)		✓	✓	✓
High-speed	Skew groups (generic or to user-defined base)		✓	✓	✓
High-speed	Virtual branch points (e.g., H-tree topologies)		✓	✓	✓
High-speed	Wire bond pin length support		✓	✓	✓
High-speed	Z0 and Zdiff planning (impedance templates)		✓	✓	✓
Analysis	Characteristic impedance based on field solver results			✓	✓
Analysis	Crosstalk based on formulae (field solver results used in formula)			✓	✓
Analysis	Delays based on formulae (field solver results used in formula)			✓	✓
Analysis	Field solution from layer stack			✓	✓
Analysis	Overshoot based on formulae (field solver results used in formula)			✓	✓
Analysis	New fast field solver (supporting trapezoid, circle, triangle			✓	✓
Constraint	Crosstalk per aggressor results in the spreadsheet			✓	✓
High-speed	Delay (time) based routing			✓	✓

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High-speed	Routing information display for interactive routing (delay)			✓	✓
High-speed	Lengthen during autorouting (delay)			✓	✓
High-speed	Locate crosstalk			✓	✓
High-speed	Resolve crosstalk			✓	✓
High-speed	Deviation (%) control – delay			✓	✓
High-speed	Deviation (%) control – length			✓	✓
High-speed	Routing information display for interactive routing (impedance, overshoot, crosstalk)			✓	✓
High-speed	Measure length to pin				✓
Constraint	Graphical Topology Editor				✓
High-speed	Impedance balanced routing				✓
Routing	Angled autorouting (free angle)				✓
Routing	Pull tight (90º, 45º, 0º)				✓
Routing	Rules by area				✓
Routing	Same net spacing controls				✓
Routing	SMD pad special vias				✓
Routing	Snap vias legal				✓
Routing	Rules based spiral via creation				✓
Routing	Split power plane creation				✓